ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ISSN (online) : 2249-7137

ACADEMICIA

An International Multidisciplinary Research Journal





South Asian Academic Research Journals
A Publication of CDL College of Education, Jagadhri
(Affiliated to Kurukshetra University, Kurukshetra, India)

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ACADEMICIA

An International Multidisciplinary Research Journal

Editor-in-Chief: Dr. B.S. Rai

Impact Factor : SJIF 2021 = 7.492

Frequency: Monthly

Country : India

Language : English

Start Year : 2011

Indexed/ Abstracted: Scientific Journal Impact Factor (SJIF2020 - 7.13),

Google Scholar, CNKI Scholar, EBSCO Discovery, Summon (ProQuest), Primo and Primo Central, I2OR, ESJI, IIJIF, DRJI, Indian Science and ISRA-JIF

ISSN (online) : 2249 –7137

and Global Impact Factor 2019 - 0.682

E-mail id: saarjjournal@gmail.com

VISION

The vision of the journals is to provide an academic platform to scholars all over the world to publish their novel, original, empirical and high quality research work. It propose to encourage research relating to latest trends and practices in international business, finance, banking, service marketing, human resource management, corporate governance, social responsibility and emerging paradigms in allied areas of management including social sciences, education and information & technology. It intends to reach the researcher's with plethora of knowledge to generate a pool of research content and propose problem solving models to address the current and emerging issues at the national and international level. Further, it aims to share and disseminate the empirical research findings with academia, industry, policy makers, and consultants with an approach to incorporate the research recommendations for the benefit of one and all.

SR. NO.	PARTICULAR	PAGE NO.	DOI NUMBER
1.	AN OVERVIEW ONWORK LIFE BALANCE Anshu Chauhan	1-6	10.5958/2249-7137.2021.02625.2
2.	AN EVALUATION OF BLOCKCHAIN CONSENSUS ALGORITHMS Dr. Shambhu Bhardwaj	7-13	10.5958/2249-7137.2021.02626.4
3.	THE USE OF SLANGISMS IN SPEECH Gimadetdinova Viktoriya	14-16	10.5958/2249-7137.2021.02605.7
4.	THE EAST IN THE WORKS OF L. TOLSTOY Khusenova Dilfuza	17-20	10.5958/2249-7137.2021.02610.0
5.	<i>o</i> -FERROTSENIL BENZOIC ACID MOCHEVINA AND DETERMINATION OF BIOSTIMULATORY PROPERTIES OF COMPOUNDS WITH THOMACHEVINA DERIVATIVES	21-26	10.5958/2249-7137.2021.02609.4
6.	Askarov I.R, Madrakhimov G.N, Khojimatov M.M A STUDY OF BLOCKCHAIN APPLICATION FOR DECENTRALIZED IOT DEVICE OWNERSHIP Gulista Khan	27-33	10.5958/2249-7137.2021.02627.6
7.	AN OVERVIEW ON BRAND LOYALTY AND CUSTOMER LOYALTY Vivek Devvrat Singh	34-39	10.5958/2249-7137.2021.02628.8
8.	THE USE OF OFFICE-RELATED WORDS IN HISTORICAL SOURCES Sadinova Nafisa Usmanovna	40-44	10.5958/2249-7137.2021.02608.2
9.	MECHANISMS OF IMPORT SUBSTITUTION POLICY IN THE REGION Akmal Abdulazizovich Abduvokhidov, Alisher Burkhanov Khodjimuratovich Bekzod Bakhtiyarovich Toshboev, Yusufaliyev Olimjon Abdurahmonovich, Dostonbek Bakhodir ogli Eshpulatov	45-59	10.5958/2249-7137.2021.02603.3
10.	INTERNET MARKETING AS AN IMPORTANT FACTOR IN DEVELOPING BUSINESS Madieva Zukhra Iskandarbekovna	60-68	10.5958/2249-7137.2021.02606.9
11.	THE YANGTZE RIVER'S REGIONAL WATER FOOTPRINTS: AN INTERREGIONAL INPUT-OUTPUT APPROACH Dr. Vipin Jain	69-74	10.5958/2249-7137.2021.02629.X
12.	A BRIEF REVIEW ON THE THOMPSON CONSTANT- VELOCITY JOINTS IN THE 4 WHEELER Dr. Pavankumar Singh	75-80	10.5958/2249-7137.2021.02630.6
13.	SCIENTIFIC AND THEORETICAL IMPROVEMENT OF ORGANIZATIONAL AND ECONOMIC MECHANISMS OF INNOVATIVE MANAGEMENT OF INDUSTRIAL ENTERPRISES IN THE CONDITIONS OF ECONOMIC GLOBALIZATION O.S. Nazarmatov	81-88	10.5958/2249-7137.2021.02607.0

14.	PARALINGUISTIC MEANS AND THEIR ROLE IN THE ORGANIZATION AND UNDERSTANDING OF A LITERARY TEXT Shevchenko Elena	89-92	10.5958/2249-7137.2021.02602.1
15.	STUDY OF HYDROGEN-BONDED COMPLEXES USING AB- INITIO CALCULATIONS B. Khudaykulov, H.Hushvaktov, A.Jumabaev, A.Absanov,	93-99	10.5958/2249-7137.2021.02604.5
	M. Kurdashov		
16.	AN OVERVIEW ON THE BIOLOGICAL FAMILY AND THE BENEFITS OF LOTUS	100-105	10.5958/2249-7137.2021.02631.8
	Harveer Singh Cheema		
17.	THERMAL ANALYSIS OF RECIPROCATING COMPRESSORS PARTS	106-113	10.5958/2249-7137.2021.02632.X
	Mahir Hussain		
18.	KINETIC LAWS OF THE REACTION OF OBTAINING NANO- CARBON AND HYDROGEN FROM THE PROPANE-BUTANE FRACTION	114-124	10.5958/2249-7137.2021.02611.2
	N.I. Fayzullayev, Sh.B. Djanikulov		
	MODERN METHODS OF TEACHING HISTORY		
19.	Normuratova Lobar Jurayevna, Muminova Iroda Nizomovna, Jurayeva Mahbuba Kholmuradovna, Mavlonova Bashorat Abdivaliyevna	125-129	10.5958/2249-7137.2021.02619.7
	UVAYSI'S ROLE IN EPIC WRITING		
20.	Iqboloy Adizova	130-138	10.5958/2249-7137.2021.02620.3
21.	REVIEW OF ARTICLE 17 AND PRACTICE OF MANUAL SCAVENGING IN INDIA	139-144	10.5958/2249-7137.2021.02633.1
	Pradeep Kashyap		
22.	UNITED STATES FIGHT'S AGAINST TERROR	145-150	10.5958/2249-7137.2021.02634.3
	Amit Verma	145-150	
23.	DEVELOPMENT OF ALGORITHM AND PROGRAMS FOR TWO-DIMENSIONAL FILTERING PROBLEMS OF INCOMPRESSIBLE LIQUIDS	151-157	10.5958/2249-7137.2021.02621.5
	Dilmurod Tuhtanazarov		
	ON THE POETRY OF OMON MATJON	150 172	10 5050/2240 5125 2021 22/22 5
24.	Pirnazarova Manzura Matnazarovna	158-162	10.5958/2249-7137.2021.02622.7
25.	DEVELOPMENT OF AN ORDER FLOW MANAGEMENT INFRASTRUCTURE IN THE FORMATION OF A RELIGIOUS DATABASE	163-172	10.5958/2249-7137.2021.02624.0
	Alimjon Dadamuxamedov		
26.	MODERN APPROACHES TO PERINATAL DISEASE IN DIABETES IN PREGNANT WOMEN	173-179	10.5958/2249-7137.2021.02623.9
	Karimov R.X, Tursunov X.Z, Ruzmetova D.T		

27.	THE PRACTICE OF HUMAN TRAFFICKING IN BANGLADESH Amit Verma	180-185	10.5958/2249-7137.2021.02635.5
28.	LAW OF INDIAN COPYRIGHT B. R. Maurya	186-191	10.5958/2249-7137.2021.02636.7
29.	THE IMPORTANCE OF ALTERNATIVE SCHOOLS AND ALTERNATIVE EDUCATION	192-195	10.5958/2249-7137.2021.02613.6
	Charos Turabovna Kadirova		
30.	THE CONCEPT OF "VIOLENCE", TYPES OF FAMILY PRESSURE AND ITS SOCIAL SIGNIFICANCE	196-202	10.5958/2249-7137,2021.02614.8
	Kholida Omonqul-qizi Ziyaeva		
31.	CONCEPT AND APPLICATIONS OF SMART EDUCATION IN THE DEVELOPED COUNTRIES OF THE WORLD	203-207	10.5958/2249-7137.2021.02612.4
	Dilfuza Muratjanovna Abidova		
32.	A STUDY OF THE IMPACT ATTENUATOR	208-213	10.5958/2249-7137.2021.02637.9
	Mahir Hussain		
33.	STATE-OF-THE-ART, LIMITATIONS, AND DIFFICULTIES IN ANAEROBIC SEWAGE TREATMENT	214-220	10.5958/2249-7137.2021.02638.0
	Dr. S.R.Ali		
34.	AMARANT - SOME FLAVONOIDS AND THEIR BIOLOGICAL ACTIVITY	221-224	10.5958/2249-7137.2021.02689.6
	I.R.Asqarov, N.X. Tuktaboyev, N.T. Yulchieva		
35.	EMBRYOGENESIS OF GALLS COTTON NEMATODE MELOIDOGYNE INCOGNITA ACRITA (TYLENCHIDA, HETERODERIDAE) Badalkhodjaev Ikramiddin, Kambarov Sardor, Kholmirzaeva Gulshoda	225-235	10.5958/2249-7137.2021.02691.4
	TOLERANCE IS AN IMPORTANT FACTOR OF THE		
36.	INTERNATIONAL CONSENT	236-240	10.5958/2249-7137.2021.02615.X
	Shayakubov Shomansur Shakabilovich		
37.	AN OVERVIEW ON TEEN PREGNANCY IN CURRENT TIMES	241-246	10.5958/2249-7137.2021.02639.2
	Dr. Astha Lalwani		
38.	CAUSES OF ANAEROBIC DIGESTION FOAMING - A REVIEW	247-253	10.5958/2249-7137.2021.02640.9
	Navneet Kumar Vishnoi		
39.	THE SYNTHESIS OF (N-METYLOL-(1-CARBOXIFER-ROTSENIL) CARBOXAMIDE)	254-259	10.5958/2249-7137.2021.02690.2
	I.R.Asqarov, Z.X. Abduraimov, N.Q.Tulakov		
40.	PATRIOTIC EDUCATION OF STUDENTS IN PRIMARY SCHOOLS	260-263	10.5958/2249-7137.2021.02680.X
	Bayniyazova Gulbaxar Muratbayevna		

41.	HISTORY OF KARAKALPAKS AND KAZAKHS ON THE VOLGA-YOYAK COAST	264-267	10.5958/2249-7137.2021.02681.1
	G. Madiyarova, N. Satimova		
42.	BRIDGING SKILL GAP BETWEEN INDUSTRY AND ACADEMIA – A STUDY ON EMPLOYABILITY SKILLS OF POST GRADUATE STUDENTS (AN ICSSR SPONSORED PROJECT SPONSORED UNDER IMPRESS SCHEME)	268-284	10.5958/2249-7137.2021.02692.6
	Dr Catherine Nirmala, Ms Sabina Joan Dsouza		
43.	DISTRIBUTION OF RURAL SETTLEMENTS IN THE HIGH HIMALAYAN REGION: A CASE STUDY OF HAR KI DUN	285-294	10.5958/2249-7137.2021.02698.7
	D. K. Shahi		
44.	FRONTLINE NEWSPAPERS COVER THE CONTRIBUTION OF UZBEK INDUSTRY TO VICTORY DURING WORLD WAR II	295-298	10.5958/2249-7137.2021.02682.3
	Atabaeva Nigora Mahmudjanovna		
45.	DEVICE FOR AUTOMATING TECHNOLOGICAL PROCESSES Karaboyev Ibragim Turdiyevich, Ilyosov Shohruh Bakhtiyor Ogli,	299-303	10.5958/2249-7137.2021.02683.5
	Panjiyev Davron Shokir Ogli		
46.	WORKING WITH RETIRES, DIRECT, POLYLIA, POLYGON, ARC, CIRCLE, CLOUD, SPLINE, COMMANDS IN AUTOCAD PROGRAM	304-308	10.5958/2249-7137.2021.02684.7
	Ilyosov Shohruh Bakhtiyor Ogli, Karaboyev Ibragim Turdiyevich		
47.	INVESTIGATING CITIZENS' SENSE OF SECURITY IN TEHRAN	309-320	10.5958/2249-7137.2021.02693.8
	Mohammad Reza Haghighat Nia, Dr.Seyed Jamaluddin Daryabari		
48.	STUDY OF SUITABLE SITES FOR TOURISM DEVELOPMENT IN THE GORI GANGA WATERSHED KUMAUN HIMALAYA BY USING REMOTE SENSING AND GIS	321-328	10.5958/2249-7137.2021.02695.1
	D. S. Parihar		
49.	THE STUDY OF THE CHASSIS OF FOUR WHEELER Shri Bhagwan	329-334	10.5958/2249-7137.2021.02641.0
50.	THE BRIEF REVIEW ON THE USE OF NUCLEAR METHODS	335-339	10.5958/2249-7137.2021.02642.2
	Harish Kumar		
51.	INCREASING THE EFFECTIVENESS OF STUDENTS 'INDEPENDENT WORK IN DEVELOPING THE SUBJECT "DRAWING GEOMETRY"	340-343	10.5958/2249-7137.2021.02685.9
	Gaziev Nabihon, Soliev Doniyor, Toychieva Mavjuda		
52.	STUDYING METHAPHORICAL TERMS IN COMPUTER DISCOURSE ANALYSES	344-347	10.5958/2249-7137.2021.02686.0
	Lobar Usmanova Abduvasilovna		
53.	INVESTIGATION OF THE SITTING PROCESS OF SLANTED TOOTED TRANSMISSION	348-352	10.5958/2249-7137.2021.02687.2
	A.F.Raximjonov, S.S.Umarov, M.M.Mirzaabdullayev		

54.	SPEECH APPREHENSION OF FIRST YEAR ENGINEERING STUDENTS IN THE PANDEMIC ERA: BASIS FOR AN INTERVENTION PROGRAM Genesis G. Genelza	353-371	10.5958/2249-7137.2021.02694.X
55.	EXAMINING THE EFFICIENCY OF DIFFERENT KINDS OF SOLAR STILLS Ravindra K Jain	372-377	10.5958/2249-7137.2021.02643.4
56.	CRITIQUE OF THE INDIAN BHAKTI MOVEMENT Poonam Chauhan	378-384	10.5958/2249-7137.2021.02644.6
57.	IMPACT OF WASTES OF "NAVOIAZOT" OPEN JOINT STOCK COMPANY ON LIVING ORGANISMS AND THEIR MITIGATING WAYS Saydullayeva Aziza Akbar kizi, Qalandarova Dilobar Davronovna	385-388	10.5958/2249-7137.2021.02688.4
58.	WAYS AND FUNCTIONS OF STUDENTS SPEECH DEVELOPMENT Rano Khayrullayeva Lokman kizi	389-393	10.5958/2249-7137.2021.02616.1
59.	IMPORTANT COMPONENTS OF MODERN ENTREPRENEURIAL FEMALE PSYCHOLOGY Rakhmonova Mavluda Khasanovna	394-397	10.5958/2249-7137.2021.02617.3
60.	PREVENTION OF DIVORCE BY PREPARING YOUNG PEOPLE FOR FAMILY LIFE Gafforova Dilfuza Juraevna	398-401	10.5958/2249-7137.2021.02618.5
61.	PERCEPTION OF SCHOOL COMMUNITY ON INTRODUCING ACTIVITY-BASED ORAL ENGLISH FOR STUDENTS IN GOVERNMENT SCHOOL SYSTEM	402-418	10.5958/2249-7137.2021.02696.3
62.	Dona Malini Wijayalatha Munasinghe SMART DUBAI – A CITY THAT LEADS TO HAPPINESS AND PROSPERITY Shamsieva Iroda Makhmudovna	419-423	10.5958/2249-7137.2021.02697.5
63.	POWER AND COST REVIEW OF TRANSCEIVER DESIGN Prashant Kumar	424-430	10.5958/2249-7137.2021.02645.8
64.	BASED UPON BLOCK CHAIN AND ITS CONTEXT Dr. Vipin Jain	431-438	10.5958/2249-7137.2021.02646.X
65.	ACMELOLOGICAL APPROACH TO PEDAGOGICAL EDUCATION OF A PHYSICAL EDUCATION TEACHER Utepbergenov A.K	439-442	10.5958/2249-7137.2021.02703.8
66.	ARCHITECTURE OF HISTORICAL CITIES OF UZBEKISTAN Arziyev Dilshod Amriddinovich, Saidkhonova Umida Ziyodullayevna, Gadayeva Shaxzoda Bahromovna, Shaumarova Dilnoza Abduhabirovna	443-445	10.5958/2249-7137.2021.02704.X
67.	CARTOONS AND THEIR IMPORTANCE IN KIDS' DEVELOPMENT IN PRESCHOOL PERIOD Kurbonova Mekhrangiz Khurshedovna, Ibrohimov Maksud Mirsalim ogli, Bultakova Nilufar Shokir qizi, Ochilova Maftuna Doniyor Qizi	446-449	10.5958/2249-7137.2021.02705.1

68.	PROFESSIONAL IDENTITY AND GENDER ISSUE IN CREATIVE FIELDS Tushti Sharma	450-457	10.5958/2249-7137.2021.02647.1
69.	GENDER INEQUALITY IN INDIA: AN OVERVIEW Sourabh Batar	458-464	10.5958/2249-7137.2021.02648.3
70.	INNOVATIVE TECHNOLOGIES IN FOREIGN LANGUAGE TEACHING METHODOLOGY	465-467	10.5958/2249-7137.2021.02699.9
71.	Mahbuba Mirzayevna APPLICATION OF PEDAGOGICAL TECHNOLOGIES IN THE EDUCATION SYSTEM	468-470	10.5958/2249-7137.2021.02700.2
72.	Kalekeeva Tamara Turkmenbaevna EVOLUTION HISTORY OF LANGUAGE TESTING AND ASSESSMENT Kamola Muradkasimova	471-474	10.5958/2249-7137.2021.02701.4
73.	A REVIEW PAPER ON BIODEGRADATION PRODUCTS Ankit Kumar	475-480	10.5958/2249-7137.2021.02649.5
74.	A REVIEW PAPER ON ACIDS AND BASES Dr. S.R.Ali	481-486	10.5958/2249-7137.2021,02650.1
75.	ENVIRONMENTAL TRENDS IN MODERN ARCHITECTURAL DESIGN Vetlugina A.V, Dobronravova E.A, Fomenko N.N	487-491	10.5958/2249-7137.2021.02706.3
76.	HISTORY OF CENTRAL ASIAN ARCHITECTURE Gadayeva Shaxzoda Bahromovna, Saidkhonova Umida Ziyodullayevna, Arziyev Dilshod Amriddinovich, Shaumarova Dilnoza Abduhabirovna	492-494	10.5958/2249-7137.2021.02707.5
77.	DEVELOPMENT TRENDS OF NON-STATIONARY TRADE FACILITIES Elmurodov Samidullo Salim ugli, Matniyazov Zafarbek Erkinovich, Rasul-Zade Lobar Ulmasovna, Tajibaev Jurat Khamroevich	495-503	10.5958/2249-7137.2021.02708.7
78.	FORMATION OF ECOLOGICAL-AESTHETIC THINKING IN STUDENTS Nurullayeva Sh.O	504-507	10.5958/2249-7137.2021.02709.9
79.	A REVIEW PAPER ON STATE OF SOLIDITY Amit Kumar	508-513	10.5958/2249-7137.2021.02651.3
80.	AN OVERVIEW OF WIND ENERGY IN JAPAN Dr. Varun	514-519	10.5958/2249-7137.2021.02652.5
81.	MODERN ASPECTS OF EPIDEMIOLOGY AND PATHOGENESIS OF BRONCHIAL ASTHMA Matniyozova Zaynab Tukhtaboyevna	520-524	10.5958/2249-7137.2021.02720.8

82.	UNIVERSAL PHILOSOPHIES IN ABDULLA ORIPOV'S LYRICS Ganiev Ilhom Muzaffarovich	525-533	10.5958/2249-7137.2021.02718.X
83.	METAPHORICAL IMAGE AND ITS SPECIFIC NATURE Berdieva Zebo Uralovna	534-540	10.5958/2249-7137.2021.02719.1
84.	A REVIEW ON DEEP LEARNING FOR VISUAL UNDERSTANDING Ramesh Chandra Tripathi	541-546	10.5958/2249-7137.2021.02657.4
85.	A REVIEW STUDY ON BENEFITS OF TURMERIC Dr. Bajrang Lal	547-553	10.5958/2249-7137.2021.02653.7
86.	PREPARATION OF FUTURE PRIMARY SCHOOL TEACHERS FOR INTELLECTUAL ACTIVITY Turakulov X.A, Toraqulova I.X, Rakhmatova F.A	554-556	10.5958/2249-7137.2021.02710.5
87.	PROBLEM EDUCATION IS A WAY TO ACTIVATE EDUCATIONAL ACTIVITY	557-562	10.5958/2249-7137.2021.02711.7
88.	Dobronravova E.A, Vetlugina A.V, Fomenko N.N SOME ASPECTS OF THE PROJECT-BASED ANALYSIS OF PUBLIC FACILITIES Matniyazov Zafarbek Erkinovich, Makhmadiyarova Aziza Umar kizi	563-567	10.5958/2249-7137.2021.02712.9
89.	A REVIEW STUDY ON EGG & EGG-DERIVED FOODS Kuldeep Mishra	574-580	10.5958/2249-7137.2021.02655.0
90.	EDUCATION AND YOUTH CRIME: A REVIEW OF THE EMPIRICAL LITERATURE Mohita Verma, Ruby Sharma	581-586	10.5958/2249-7137.2021.02656.2
91.	HEMODYNAMIC PROFILE OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND OBSTRUCTIVE SLEEP APNEA SYNDROME Radjabova Gulchekhra Bahodirovna, Ganieva Shakhzoda Shavkatovna	587-591	10.5958/2249-7137.2021.02717.8
92.	METHODS OF APPLICATION OF MULTIMEDIA TECHNOLOGIES AND INTERACTIVE METHODS IN THE CLASSROOM OF THE UZBEK LANGUAGE Elmuradova Mahbuba Juraqobilovna	592-596	10.5958/2249-7137.2021.02721.X
93.	PEDAGOGICAL INNOVATIONS IN THE MODERN EDUCATION SYSTEM Hasanova Gulixan Beshimovna, Murodova Shaxlo Sattorovna	597-600	10.5958/2249-7137.2021.02722.1
94.	A REVIEW STUDY ON ANTIOXIDANT POTENTIAL AND HEALTH BENEFITS OF CUMIN Dr. Bajrang Lal	601-606	10.5958/2249-7137.2021.02654.9
95.	A CLINICAL REVIEW OF MICRONUTRIENTS IN HIV INFECTION Dr. Chinky Sharma	607-612	10.5958/2249-7137.2021.02658.6

96.	CONSTRUCTIVE APPROACH TO DIFFICULT PEDA-GOGICAL CONFLICTS	613-617	10.5958/2249-7137.2021.02713.0
	Burieva Nilufar Rasulovna		
97.	DECODING GEOMETRIC PROPERTIES OF MUQARNAS BASED ON ARCHITECTURAL SCROLL	618-628	10.5958/2249-7137.2021.02714.2
	Shakhboz Mustafoev		
00	STUDY OF FARADEY'S LAW OF ELECTROMAGNETIC INDUCTION IN PHYSICAL EXPERIENCE	(20, (22	10.5958/2249-7137.2021.02715.4
98.	Muminov Bahriddin Saidumarovich, Sattorov Murodbek Rustamovich	629-633	10.3750/2247-1131/2021/02113/4
	A REVIEW ON OPEN GOVERNMENT AND DEMOCRACY		
99.		634-640	10.5958/2249-7137.2021.02659.8
	Dal Chandra Gautam		
100.	REVIEW PAPER ON SMART HELMET USING GSM AND GPS TECHNOLOGY	641-646	10.5958/2249-7137.2021.02660.4
	Arpit Jain		
101.	SOCIO-ECONOMIC FACTORS AND CONDITIONS OF CIVILIZATIONAL DEVELOPMENT	647-651	10.5958/2249-7137.2021.02732.4
	Ilhom Yorievich Toirov		
102.	ABOUT THE PECULIARITIES OF THE METHODOLOGICAL FEATURES OF THE UZBEK PUBLICIST MIKROTEXTS	652-657	10.5958/2249-7137.2021.02738.5
	Muyassarkhan Khalilova		
103.	IN THE WORK OF YUSUF HAMADONI "THE CRITERION OF LIFE" ("RUTBAT-UL-HAYAT"), A MYSTICAL APPROACH TO THE ISSUE OF HUMAN	658-661	10.5958/2249-7137.2021.02739.7
	Nunnanova Gulzoda Bekpulatovna		
	·		
104.	A STATE OF THE ART REVIEW ON IMPACTS OF ABORTION	662-668	10.5958/2249-7137.2021.02661.6
	B. R. Maurya		
105.	A REVIEW ON THE OCCUPATIONAL HEALTH AND SOCIAL SECURITY OF UNORGANIZED WORKERS IN THE CONSTRUCTION INDUSTRY	669-673	10.5958/2249-7137.2021.02662.8
	Rahul Rathore		
104	TOPICS AND SPECIFIC FEATURES OF ALISHER NAVOI'S PROSE WORKS	674 670	10.5958/2249-7137.2021.02725.7
106.	Sanobar Abdurahmanova, Mominjon Sulaymanov,	674-679	10.3730/42-7-/13/.2021.02/23./
	Goyibboeva Rayhonoy Ahmadjonovna		
107.	THE EMERGENCE OF BADMINTON SPORTS AND THE STAGES OF ITS FORMATION	680-682	10.5958/2249-7137.2021.02726.9
	Norov Sherzot		
108.	A STUDY OF INITIAL PROBLEMS IDENTIFIED IN PRIMARY EDUCATION	683-691	10.5958/2249-7137.2021.02744.0
	Vakhidova M.V		
109.	AN OVERVIEW OF SOCIAL MEDIA ON CONSUMER BUYING INTENTION	692-697	10.5958/2249-7137.2021.02663.X
	Disha Rahal		

110.	A REVIEW OF RECENT HUMAN RESEARCH ON COFFEE AND HEALTH Dr. Piyush Khajuria	698-704	10.5958/2249-7137.2021.02664.1
111.	GENDER DIFFERENCE OF PEDAGOGY Gafforov Kxasan Shuxratovich	705-708	10.5958/2249-7137.2021.02733.6
112.	NEW PEDAGOGICAL TECHNOLOGIES IN TEACHING FOREIGN LANGUAGES	709-712	10.5958/2249-7137.2021.02734.8
113.	Gulnoza Nematiloyevna Shodiyeva CHARACTERISTICS OF PRODUCTIVE SKILLS IN TEACHING FOREIGN LANGUAGE Nosirova Rano Azizovna, Beknazarova İroda Yormamatovna, Rabbimova Yulduz Karshiboyevna	713-715	10.5958/2249-7137.2021.02735.X
114.	SCOPE OF BLOCKCHAIN: A REVIEW Arpit Jain	716-722	10.5958/2249-7137.2021.02665.3
115.	AN OVERVIEW OF THE USAGE OF ARTIFICIAL INTELLIGENCE-BASED INTRUSION DETECTION METHODS	723-728	10.5958/2249-7137.2021.02666.5
116.	Dr. Vinay Kumar Mishra THE ROLE AND UTILIZING OF WEB BASED ONLINE EXAMINATION SYSTEM IN ALL EDUCATIONAL AREAS Dr. Pooja, Nodirbek Yuldashev	729-737	10.5958/2249-7137.2021.02727.0
117.	QUALIFICATION OF FRAUD AND WAYS TO AVOID ONLINE BANKING FRAUDS: A STUDY FROM UZBEKISTAN AND INDIAN PERSPECTIVE Khurshida Mirziyatovna Abzalova, Dr. Bhupinder Singh	738-744	10.5958/2249-7137.2021.02728.2
118.	LABOR AND EMPLOYMENT OF WOMEN IN THE ECONOMYTHE PROBLEM WITH SUPPLY Nafisa Shonazarovna Abduxalilova	745-748	10.5958/2249-7137.2021.02729.4
119.	AN OVERVIEW OF WAL-MART, AMAZON AND ITS SUPPLY CHAIN Vipin Jain	749-755	10.5958/2249-7137.2021.02667.7
120.	REVIEW ON SOCIAL MEDIA AND HIGHER EDUCATION M.P. Singh	756-761	10.5958/2249-7137.2021.02668.9
121.	THE ART OF JEWELERY-MAKING IN ANCIENT KHOREZM Oydin Sobirjanovna Kambarova	762-765	10.5958/2249-7137.2021.02731.2
122.	TESTING THE HUMAN PAPILLOMAVIRUS IN THE PRIMARY SCREENING OF THE CERVICAL DISEASE Doniyorbek Shuxratbekovich Khasanov, Dilfuzahon Zakirzhanovna Mamarasulova	766-769	10.5958/2249-7137.2021.02740.3
123.	SOME ASPECTS OF INTERACTION OF THE INTERNAL AFFAIRS AND UNITS OF THE NATIONAL GUARD IN PUBLIC SECURITY Timur Shavkatovich Sadullaev	770-775	10.5958/2249-7137.2021.02741.5

124.	IMPACTS OF ACID RAIN ON ENVIRONMENT	776-781	10.5958/2249-7137.2021.02669.0
124.	Dr. S.R.Ali	770-761	
	AN OVERVIEW OF FACEBOOK		
125.	Vibhor Jain	782-788	10.5958/2249-7137.2021.02670.7
126.	INCREASING PEDAGOGICAL EFFICIENCY OF ECONOMIC INCENTIVES IN HIGHER EDUCATION OF UZBEKISTAN	789-794	10.5958/2249-7137.2021.02723.3
	Ochilova Gavharbonu Farkhodovna		
127.	"IMPROVING USING MULTIMEDIA TECHNOLOGY IN MUSIC LITERACY OF SECONDARY SCHOOL STUDENTS"	795-798	10.5958/2249-7137.2021.02724.5
	Ochilov Zayniddin Saypiddinovich		
128.	THE ARTICLE EXAMINES THE FEATURES OF THE ARCHITECTURAL ORGANIZATION OF THE SCHOOL OF THE NEW DIRECTION USING THE EXAMPLE OF THE IRKUTSK SMART SCHOOL	799-803	10.5958/2249-7137.2021.02742.7
	Temur Khidoyatov, Tatyana Nazarenko, Dildor Begmatova, Kamol Allayarov		
129.	PROSPECTS FOR DEVELOPMENT OF BIM TECHNOLOGIES IN UZBEKISTAN	804-808	10.5958/2249-7137.2021.02743.9
	Buronov Nizomjon Sobirovich		
130.	EMOTIONAL INTELLIGENCE: A REVIEW	809-815	10.5958/2249-7137.2021.02671.9
130.	Rashmi Mehrotra	007-013	1010/200/22/5/10/2011020/11/5
131.	THE BRIEF REVIEW ON THE GEARBOX FAILURE IDENTIFICATION	816-822	10.5958/2249-7137.2021.02672.0
	Mahir Hussain		
132.	ACMELOGICAL MECHANISMS OF PROFESSIONAL AND CREATIVE DEVELOPMENT OF THE FUTURE TEACHER	823-827	10.5958/2249-7137.2021.02736.1
	Dawkeeva Aydin Oralbaevna		
133.	IMMEDIATE AND LONG-TERM RESULTS AND PROSPECTS OF RECONSTRUCTIVE AND RESTORATIVE SURGERY OF THE LIVER AND EXTRA HEPATIC BILIARY TRACTS	828-833	10.5958/2249-7137.2021.02737.3
	Turakulov U.N, Akbarov M.M, Saatov R, Matkarimov Sh. U		
134.	DIFFERENT TYPES FAILURE IN GEARS-A REVIEW Anurag Srivastava	834-838	10.5958/2249-7137.2021.02679.3
	A REVIEW OF BACTERIA-BASED SELF-HEALING CONCRETE		
135.	Rahul Rathore	839-844	10.5958/2249-7137.2021.02674.4
136.	A REVIEW STUDY ON NOVEL & EMERGING PROXIMAL SOIL MOISTURE SENSORS	845-851	10.5958/2249-7137.2021.02675.6
	Vineet Kumar		
137.	THE EFFECT OF PUBLIC KNOWLEDGE ON HIGHWAY PROCUREMENT AUCTION BIDDING	852-857	10.5958/2249-7137.2021.02676.8
	Mohit Rastogi		
138.	INDEPENDENCE OF JUDICIARY IN INDIA	858-864	10.5958/2249-7137.2021.02677.X
130.	Vipin Jain	_	

	1 ,		
139.	A REVIEW ON CYBERCRIMES AGAINST THE WOMEN	865-870	10.5958/2249-7137.2021.02678.1
140.	Pradeep Kashyap THE BRIEF REVIEW ON THE SINGLE CLUTCH PLATE Mahir Hussain	871-874	10.5958/2249-7137.2021.02673.2
141.	ROSEHIP PHYTONEMATODES (ROSA CANINA L.) IN THE NORTHERN REGIONS OF THE SURKHANDARYA REGION OF UZBEKISTAN Soatov Sardor Akvarovich, Bekmurodov Abdujabbor Sattorovich	875-877	10.5958/2249-7137.2021.02745.2
142.	COMPARATIVE ANALYSIS OF THE RELIGIOUS MOVEMENTS MENTIONED IN MOTURIDI'S WORKS "TA'WILAT AHL AS-SUNNAH" AND "KITAB AT-TAWHID" Sodikov Jurabek Sobirboyevich	878-882	10.5958/2249-7137.2021.02755.5
143.	COMMENTS ON FAKHRUL ISLAM AL-PAZDAVI'S "USUL" Gaybullaev Saidahmadkhan Samatkhonovich	883-887	10.5958/2249-7137.2021.02756.7
144.	THE METHODS OF HARVESTING AND STORAGE OF MELONS PRODUCTS Mirzayeva Mutabar Azamovna, Abdukarimova Dinara Nuritdinovna	888-892	10.5958/2249-7137.2021.02754.3
145.	HISTORICAL FUNDAMENTALS OF THE ESTABLISHMENT AND DEVELOPMENT OF ARTILLERY INTELLIGENCE Makhsudov Odiljon Arifjanovich, Khamdamov Alisher Samijonovich	893-898	10.5958/2249-7137.2021.02746.4
146.	POETRY OF IKRAM OTAMUROD PATRIOTIC LINES IN THE POEMS OF THE POET Norboyeva Zarina, Shohida Karomova	899-904	10.5958/2249-7137.2021.02747.6
147.	SOCIAL FACTORS OF LIFESTYLE FORMATION Boymurodov Zoxid Shokirovich	905-909	10.5958/2249-7137.2021.02748.8
148.	GENESIS AND EVOLUTION OF THE CITY OF BUKHARA Ruziev Khoshim Ruzievich, Khaitov Sunnatjon Istamovich, Togboev Khushnud Iskandarovich	910-913	10.5958/2249-7137.2021.02750.6
149.	CHALLENGES OF LINGUO-PRAGMATIC ASPECT OF GENDER DISCOURSE IN LITERARY TEXT Raximova Gulchexra Obidjonovna	914-922	10.5958/2249-7137.2021.02751.8
150.	PERSONAL SPIRITUALITY OF ECONOMIC REFORM EFFECT ON APPEARANCE Ismoilova Gulhayo Kamol qizi	923-926	10.5958/2249-7137.2021.02752.X
151.	FACTORS TO ENSURE THE BALANCE OF CONTINUOUS EDUCATION AND TRAINING IN RENEWING UZBEKISTAN Mallayeva Feruza Radjabliyevna	927-931	10.5958/2249-7137.2021.02753.1
152.	ENHANCING ESP LEARNERS' COMMUNICATIVE COMPETENCE THROUGH ROLE-PLAYING TASKS Kadyrkhodjayeva Dilnoza Bakhtiyor qizi	932-939	10.5958/2249-7137.2021.02749.X

1.50	"MODERN ENDOGENOUS REGIMES AND EVOLUTION OF THE EARTH'S CRUST OF UZBEKISTAN"	940-949	10.5958/2249-7137.2021.02702.6
153.	Akhmadjon Tukhtasinov, Davron Khusanbayev, Dilshot Atabayev, Chingiz Mukhammedrakhimov		10.0900/2249-1131/2021/02/0

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW ONWORK LIFE BALANCE

Anshu Chauhan*

*Assistant Professor,
Department of Finance & Marketing,
Teerthanker Mahaveer Institute of Management and Technology,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: anshu.management@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02625.2

ABSTRACT

Both academics and businesspeople have lately been interested in work-life balance. Almost everyone who works in a professional capacity is interested in this topic. Part of the reason for this broad interest is because it reflects on all areas of life. For individuals who believe that working is the most important goal in life, their job becomes the center of their existence. People, on the other hand, have limited time and must engage in a variety of activities in addition to their work. Many mistakes may occur in both if there isn't a balance between the two. Work-life balance is examined in the context of the organization in this research. This research has the potential to help working individuals rethink their perspectives on work-life balance, as well as executives acquire fresh perspectives on how to deal with such an issue.

KEYWORDS: Business, Life, Organization, Work-Life Balance, Working.

1. INTRODUCTION

Work-life balance is described as a person's capacity to balance work and family obligations, as well as other non-work duties and hobbies. Work-life balance encompasses not just the relationships between work and family functions, but also other aspects of life. The notion of work-life balance is chosen in this research owing to its broader connections. Scholars have characterized work-life balance in a variety of ways. Some definitions will be given in order to expand our views. Work-life balance, according to Greenhouse (2002), is described as contentment and well-functioning at work and at home with a minimum of role conflict. In cultures where money is primarily produced and dispersed via labor markets, work-life balance is defined as the connection between the institutional and cultural times and places of work and non-work, the topic solely to work and family, and instead presented the idea of "life balance" from a broader viewpoint.

Scholars defined life balance as satisfying demands in the three main areas of life: job, family, and personal life. Work necessitates work hours, work intensity, and the percentage of time spent working. Job hours are taken away from family time, and excessive work intensity or pressure may lead to tiredness, anxiety, or other physiological problems that impair the quality of home and family life[1][2]. Family needs encompass topics such as individual duties (e.g., father, mother, etc.), family obligations (e.g., childcare, home tasks, etc.), and caring for elderly relatives and children. Aside from family and work life balance, there are additional demands in work life balance such as vacations, sports, and personal development programs. Job–life

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

balance does not imply an equal distribution of time between work, family, and personal obligations. Work-life balance is also highlighted in literature as a subjective phenomenon that varies from person to person. In this sense, work-life balance may be defined as intelligently distributing available resources such as time, thinking, and labor among the many aspects of life. While some people believe in the concept of "working to live" and view work as the goal, others believe in "living to work" and place work at the center of their lives.

1.1.The Factors That Influence Work-Life Balance:

Work-life balance is influenced by a variety of factors. The topics in the literature that are most closely linked to work-life balance are put together here

1.1.2. Individual:

The most significant factor of work-life balance is the person. Rosen man and Friedman, two American cardiologists, identified two kinds of personality based on cardiac diseases and individual behaviors: type A and type B. Type A people are more energetic, work-oriented, passionate, and competitive, while Type B people are calm, patient, balanced, as well as right-minded. It might be claimed that since type A is more focused on work, there would be a detrimental impact on work-life balance. Work holism, on the other hand, is a kind of compulsive behavior that wreaks havoc on work-life balance. While it comes to work, holism means being addicted to it, staying at a job for a long time, overworking, and being preoccupied with work even when not at work. Workaholics suffer from alienation, family difficulties, and certain health issues since life isn't all about work. Alcoholics and workaholics, according to Porter (1996), ignore their families, friends, relatives, and other social duties[3].

1.1.3. Family:

The pressures that one encounters in family life which have an impact on life balance include work load demands, family role expectations, and assistance to be provided to the spouse. Marriage, childbirth, and caring for the elderly at home, according to the research, all have an impact on work-life balance since they need additional family obligations. Those who must care for a kid or the elderly may be forced to put their careers at risk by reducing their working hours, which may be stressful. Those without children or elderly relatives at home, on the other hand, have a less severe work-life balance.

1.1.4. Workplace Management:

The work environment is more successful than the home environment in resolving work-life balance. Both his employment and the facility in which he works put a strain on his time, effort, and mental ability. One of the topics managers concentrate on when trying to improve organizational efficiency is increasing employee organizational loyalty.

1.1.5. Social Situation:

The social environment is another factor that influences work-life balance. Individuals, particularly in nations with culturally collectivist features, have obligations to specific social groupings to which they belong.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.2. Work-Life Imbalance's Consequences:

When one of an individual's responsibilities at work or in the family creates stress, and this stress impacts the individual's other roles, it is called stress-based conflict. When people's conduct at work and at home is discordant and contradictory, it causes behavior stress.

1.3. Personal Consequences:

Work-life balance has an impact on an individual's general well-being, producing issues such as discontent with life, persistent sorrow, and the use of drugs or alcohol.

1.4. Implications for the Family:

The organization wants individuals to devote more time to their job, while the family expects him to fulfill his duties as well. Those who are unable to maintain a work-life balance are likely to have a variety of issues in their families, including reduced family satisfaction, less participation in family responsibilities, and so on.

1.5. Organizational Consequences:

Those whose familial and social requirements are not being addressed in a timely manner naturally choose to sacrifice their working hours in order to meet their personal needs.

1.5.1. From an organizational standpoint:

Family-friendly organization structure including human resource applications have lately been on the executive agenda in order to reduce the negative effects of work-family conflict on working people. Flexible working hours, a child care and senior care program, home working, and job sharing are all part of the organizational approach. Workplace initiatives that support workers' family lives help to achieve work-life balance. Employees will be motivated, their attendance will be reinforced, and their efficiency will improve as a result of these initiatives. One approach for achieving work-life balance is to utilize flexible working hours. Employees who work flexibly, for example, must complete a specific amount of hours each week. Allowing workers to work from home, away from the conventional workplace, is another option[4], [5].

1.6. Health-Care Costs and Stress-Related Illnesses Reduced:

Work/life programs are becoming a smart option to help reduce the number of health care claims as companies concentrate more on the high expense of health care. According to the American Institute on Stress, 1 million employees miss work owing to stress-related issues, and American businesses lose more than 5 million workdays each year due to sickness, with more than half of those days being attributable to stress. "72 percent of all employees questioned had three or more stress-related diseases 'somewhat or very often,'" according to a 1992 research by Northwestern National Life Insurance Co. 19 However, quantitative measures alone cannot tell the whole picture of work/life programs. The positive but difficult-to-measure aspects of work/life initiatives—corporate reputation, public relations, better community relations, greater employee loyalty, including enhanced recruitment—should also be examined to make a strong case for work/life policies or practices[6], [7].

1.7. Benefits that are good for the whole family:

"Working in family-friendly companies has a major effect on the lives and careers of business professionals."

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

20 According to a study of more than 30 studies on work/life balance conducted between 1997 and 2003, the number of companies offering family-friendly perks has risen significantly. According to the Society for Human Resource Management's Benefits Survey, the number of companies providing family-friendly benefits continues to rise. 21 The top five family-friendly perks, according to the study, are:

- Dependent care flexible spending accounts (71 percent of respondents).
- Work-from-home opportunities (55 percent of respondents).
- Family leave in addition to the federal Family and Medical Leave Act (FMLA) mandated leave (39 percent of respondents).
- Working from home on a part-time basis (34 percent of respondents).
- Workweeks that are crammed (31 percent of respondents).
- Is your company's culture ready for work-life balance initiatives?
- 1.8. "Organizational culture is a common thread that connects the reasons why work/life advantages go underutilized.

Before launching work/life initiatives, it's critical to determine if the company's culture is receptive to and supportive of such efforts. The process of evaluating cultural preparedness may be as formal as utilizing an employee survey evaluation or as simple as an organization's considered judgment. The following points may help you decide if your company is ready to start implementing work/life initiatives. Work/life programs, like other change efforts, need top management backing. Furthermore, it is beneficial to have a "company culture that encourages workers to look at business in a completely new manner and supports and welcomes employees as people with goals outside the office" in order for the work environment to be ready for work/life advantages[8].

Another factor to consider is life cycles. When addressing the business strategy of work/life initiatives, Sandra Burud, Ph.D., principal of Bright Horizons Family Solutions, says that "people need various things at different periods of their lives." "Everything was standardized and synchronized in the manufacturing days. that's when the initial benefits package was created. Burud says, "It doesn't fit anymore." "Employers are also recognizing that work should be inherently fascinating and fulfilling to workers, and these are the people who create the greatest work," she adds. It is the manager's responsibility to stay out of the way. Work/life efforts are impacted by the shift from extrinsic to intrinsic rewards." Equality, which has been highlighted as a significant issue, is one of the difficulties of work/life efforts from both the company and employee perspectives. in terms of work/life balance initiatives When creating work/life programs, it's critical to think about the programs' goal and who they're intended to help. Do the work/life programs, for example, benefit all workers or are they geared toward employees who are parents or who are caring for aging parents?

Another factor to consider when assessing organizational preparedness for work/life programs is workers' perceptions of the organization's support. Thompson, Beauvais, and Lyness of the City University of New York and the University of Rhode Island looked at the connections between an organization's work/family culture, the extent to which employees used work/life benefits, the extent of work/family conflict, and the employees' intention to stay with their company in a 1999

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

study. 13 The researchers developed a series of questions to start measuring supportive work/life culture, trying to address perceived guidance and supervision, negative career consequences for going to devote time to family concerns, and organizational time needs and expectations that interact with family responsibilities, in order to determine an organization's culture readiness for work/life initiatives. More work/family advantages linked to higher commitment, less work/family conflict, and less desire to quit, according to the research. Surprisingly, the study's findings corroborated anecdotal evidence that a friendly work/family culture is connected to positive work attitudes and perceived management support, as well as a lower likelihood of leaving the company[9].

1.9. In the world of humanitarian aid, finding a work-life balance may be difficult.

The needs of an aging population in the next decade are increasing the existing high competition for competent people on whom relief groups rely. "Not only will there be fewer young, eager, and free-to-travel individuals who will want to be convinced that agencies are caring, 'best-practice' employers, but older staff with families and other commitments will have more skills and experience, and thus different priorities for their work/life balance." 26 As a result of the pull of family obligations at home, organizations that offer relief services may have growing difficulties hiring and keeping workers. Furthermore, the difficulties of balancing work and family life will undoubtedly affect recruitment, retention, and willingness to serve in difficult environments. Given these considerations, non-profits and humanitarian organizations whose goals and services are essential in many areas of the globe may have an even larger need for work/life programs to attract and retain employees[10].

2. DISCUSSION

Particularly during tough economic times, work/life initiatives have the ability to substantially increase employee morale, decrease absenteeism, and retain organizational expertise. In today's global economy, when businesses are under pressure to save costs, it is up to the human resource professional to grasp the importance of work/life balance and promote work/life initiatives. Work/life programs provide a win-win situation for employees whose members of the family and friends are called to serve their country, single moms trying to raise their children as well as make a living, Generation X and Y employees who value their personal time, couples struggling to manage dual-career marriages, and companies losing critical knowledge because once employees leave for other opportunities.

3. CONCLUSION

In this paper, researchers looked at the literature on work-life balance and suggested a more integrated work-life balance paradigm. Before developing an integrative definition, we reviewed several conceptualizations of work-life balance. Work-life balance was defined as a high level of role participation in both work and non-work life, with minimal conflict between work and non-work social obligations. Work-family balance is achieved when one is able to devote the necessary time to each element of one's life and does not reflect difficulties in one area of one's life on another. Along with employment, life as a whole consists of many other elements. Those who have found a balance in these areas are on their path to achieving life balance, which eliminates any imbalance.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERNCES:

- **1.** Anuradha and M. Pandey, "Impact of work-life balance on job satisfaction of women doctors," *Probl. Perspect. Manag.*, 2016, doi: 10.21511/ppm.14(2-2).2016.07.
- **2.** S. Karkoulian, J. Srour, and T. Sinan, "A gender perspective on work-life balance, perceived stress, and locus of control," *J. Bus. Res.*, 2016, doi: 10.1016/j.jbusres.2016.04.053.
- **3.** P. Y. Wong, N. F. Abdullah Bandar, and J. Saili, "Workplace factors and work-life balance among employees in selected services sector," *Int. J. Bus. Soc.*, 2017.
- **4.** S. Haider, S. Jabeen, and J. Ahmad, "Moderated mediation between work life balance and employee job performance: The role of psychological wellbeing and satisfaction with coworkers," *Rev. Psicol. del Trab. y las Organ.*, 2018, doi: 10.5093/jwop2018a4.
- **5.** "PENGARUH WORK-LIFE BALANCE DAN BURNOUT TERHADAP KEPUASAN KERJA," *None*, 2017, doi: 10.35797/jab.5.003.2017.16718.
- **6.** R. K. Pradhan, L. K. Jena, and I. G. Kumari, "Effect of Work–Life Balance on Organizational Citizenship Behaviour: Role of Organizational Commitment," *Glob. Bus. Rev.*, 2016, doi: 10.1177/0972150916631071.
- **7.** A. Taşdelen-Karçkay and O. Bakalım, "The mediating effect of work–life balance on the relationship between work–family conflict and life satisfaction," *Aust. J. Career Dev.*, 2017, doi: 10.1177/1038416216682954.
- **8.** J. Johari, F. Yean Tan, and Z. I. Tjik Zulkarnain, "Autonomy, workload, work-life balance and job performance among teachers," *Int. J. Educ. Manag.*, 2018, doi: 10.1108/IJEM-10-2016-0226.
- **9.** M. Mas-Machuca, J. Berbegal-Mirabent, and I. Alegre, "Work-life balance and its relationship with organizational pride and job satisfaction," *J. Manag. Psychol.*, 2016, doi: 10.1108/JMP-09-2014-0272.
- **10.** M. J. Sirgy and D. J. Lee, "Work-Life Balance: an Integrative Review," *Applied Research in Quality of Life*. 2018, doi: 10.1007/s11482-017-9509-8.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN EVALUATION OF BLOCKCHAIN CONSENSUS ALGORITHMS

Dr. Shambhu Bhardwaj*

*Associate Professor,
Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: shambhu.bhardwaj@gmail.com

DOI: 10.5958/2249-7137.2021.02626.4

ABSTRACT

Cryptocurrencies have exploded in popularity, and underlying them is an innovative technology known as blockchain: a distributed digital ledger in which bitcoin transactions are recorded once they have been validated. Many clients or "validators" inside the cryptocurrency's peer-to-peer network verify transactions within a ledger using one of many different consensus methods for addressing the issue of dependability in a network containing multiple faulty nodes. The Proof of Work (PoW) and Proof of Stake (PoS) algorithms are the most commonly used consensus algorithms; however, there are additional consensus algorithms that employ alternate PoW and PoS implementations, as well as hybrid implementations and even entirely new consensus methods. We compare and contrast traditional consensus algorithms with some of its contemporaries that are presently in use in contemporary blockchains in this article. Our investigation focuses on the algorithmic steps performed by each consensus algorithm, as well as the algorithm's scalability, the manner by which validators are compensated for their time spent confirming blocks, and the system's security concerns. Finally, we discuss our findings as well as some potential future trends in blockchain consensus algorithms.

KEYWORDS: Blockchain, Consensus Algorithms, Consensus, Cryptocurrency, Network.

1. INTRODUCTION

A blockchain is an open, distributed ledger that can efficiently and permanently record transactions between two parties. The most well-known example is Bitcoin, which was developed in 2008 by a person or group operating under the pseudonym "Satoshi Nakamoto"[1]. The aim of the initial Bitcoin whitepaper was to enable the development of a peer-to-peer form of electronic currency, allowing online payments to be transferred directly from one party to another without going through a banking institution. This is accomplished in Bitcoin's implementation by time stamping every transaction on the peer-to-peer (P2P) network and hashing them into a growing chain of transaction blocks[2]. Validators, or "miners," do the hashing. Validators are peers in the network that contribute in the production of new blocks. All transactions inside the chain are trusted as genuine if no one validator or group of validator controls more than 25% of the computer power required to hash these blocks.

Particular the possibility for an infinite number of validators in any given P2P network, consensus methods are required for any collaboration between them. The Proof of Work (PoW) method used by Bitcoin is the most commonly used of these; however, there are a variety of alternative ways for a network to reach agreement, including the algorithms discussed later in this paper.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.1. The Consensus Problem:

In distributed computing, consensus is a challenge in which nodes within the system must come to an agreement despite the existence of defective processes or misleading nodes[3].

1.1.1. The Byzantine Generals Problem:

The Byzantine Generals Issue is a communication breakdown problem. To put it another way, how can each node (also known as a general) in a system be confident that the data it receives is accurate[4]. The scenario of n Byzantine generals ready to assault a fort is presented in the original problem. Each general has the choice of attacking the fort or retreating; however, all generals must agree on the same plan of action, since a half-hearted assault would be catastrophic. To make things worse, the generals are separated by a great distance and can only communicate via messengers, who may or may not deliver their messages, and some of these generals are traitors who will deliberately try to mislead the others.

1.1.2. Byzantine Fault Tolerance (BFT):

When nodes may produce arbitrary data, Byzantine Fault Tolerance (BFT) is a category of replication algorithms that aims to address the issue of achieving consensus[5]. BFT can ensure a system's safety (the probability that something bad will happen in the system) and liveness (the chance that something good will happen in the system) if no more than $\lfloor (n-1) \div 3 \rfloor$ replicas are defective throughout its lifespan, where n is the total number of replicas in the system. BFT can tolerate up to 33% of nodes that aren't working. In order to guarantee safety and liveness in a system, up to (3f+1) replicas are often needed, where f is the total number of defective replicas contained inside such system; however, at least one known BFT implementation is able to decrease this to (2f+1) necessary replicas.

1.1.3. Delegated Byzantine Fault Tolerance (dBFT):

Delegated Byzantine Fault Tolerance (dBFT) is a variation of regular Byzantine Fault Tolerance. This fault tolerance method, described in the NEO whitepaper, divides clients in a P2P system into two categories: bookkeepers and regular nodes[6]. Ordinary nodes do not participate in the consensus process; instead, they vote (thus the name "delegated") on which bookkeeping node to endorse. The successfully chosen bookkeeper nodes are subsequently included in the consensus process. A random bookkeeper node is chosen at random to broadcast its transaction data to the whole network in this procedure. At least 66 percent of the other bookkeepers believe that the transaction data is correct, and it is permanently committed to the blockchain, and a new cycle of consensus is begun with a bookkeeper chosen at random.

Because there are now over 1,500 active cryptocurrencies that are actively traded on the worldwide market, and because a new coin may be produced at any time, a cryptocurrency's market cap determines its "high-profile" in this context. Despite the fact that crypto currency market prices are always fluctuating, this ranking scheme was found to be the most equitable in sorting the currencies and the algorithms that power them.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.2. High-Profile Consensus Algorithms:

TABLE 1: TOP TEN CRYPTOCURRENCIES BY MARKET CAP (IN BILLIONS) AS ON 23-09-2018

Currency	Consensus	Market
Name	Algorithm	Сар
Bitcoin	Proof of Work	\$ 157.3 B
Ethereum	Proof of Work ¹	\$ 95.7 B
Ripple	Ripple Protocol Consensus Algorithm	\$ 37.1 B
Bitcoin Cash	Proof of Work	\$ 21.4 B
Cardano	Proof of Stake	\$ 11.8 B
Stellar	Stellar Consensus Protocol	\$ 8.3 B
NEO ²	Delegated Byzantine Fault Tolerance	\$ 8.2 B
Litecoin	Proof of Work	\$ 8.1 B
EOS	Delegated Proof of Stake	\$ 6.5 B
NEM	Proof of Importance	\$ 5.7 B

1.2.1. Proof of Work (PoW):

According to the Bitcoin whitepaper, the PoW method operates by looking for a value that has a hash beginning with a number of zero bits when hashed. This is done by appending a nonce (doing work) to the original value until the resulting hash has the required amount of zero bits. Once this nonce is discovered and the proof of work is fulfilled, the block cannot be altered without repeating all of the work for that block and all subsequent blocks.

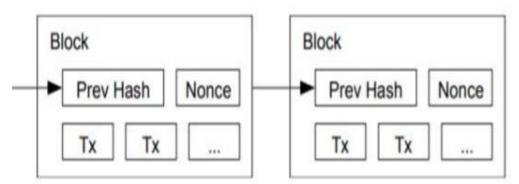


Figure 1. Visualization of two blocks within a PoW Blockchain

With the exception of the initial block produced by the system (the "genesis block"), all blocks contain a hash that consists of the preceding block's hash plus the nonce needed to generate the requisite zero bits, as shown in figure 1. The genesis block is an exception since it has no prior block to reference: its hash is all zeros.

1.2.2. Ripple Protocol Consensus Algorithm (RPCA):

The Ripple Protocol Consensus Algorithm (RPCA), as its name suggests, is a consensus algorithm utilized solely by the Ripple cryptocurrency and was created especially to solve latency problems that other algorithms have. According to the whitepaper, RPCA performs the following functions:

• Prior to a new consensus round, each server collects all valid transactions and places them in a public list known as the "candidate set."

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Each server compiles all candidate sets discovered on its "Unique Node List," which is a collection of other Ripple servers to whom the server has access.
- In a sequence of one or more rounds, each server votes on the validity of each transaction.
- In the final round, any transactions that get at least 80% "yes" votes are recorded to the public ledger and the ledger is closed.

1.2.3. Proof of Stake (PoS):

Proof of Stake (PoS) is a hybrid system in which PoW is used for currency minting and PoS is utilized for the majority of network security[7]. The age of each currency is taken into account in a PoS system in the form of "coin-days." This idea is easily illustrated with an example: ten coins held for ten days equals 100 coin-days. When these coins are used in a transaction, their age is depleted and reset to zero. Unlike in a PoW system, where the chain with the greatest work is considered the main chain, in a PoS system, the chain with the maximum consumed coin age is considered the main chain. A validator pays himself (and therefore consumes his coin age) for the privilege of minting a new block for the network under the PoS method. The system determines the goal amount that a validator must contribute in order to mint a new block under the following conditions:

proofhash< coins× age × target

1.2.4. Stellar Consensus Protocol (SCP):

The Stellar Consensus System (SCP) is a decentralized consensus protocol in which nodes in the network do not have to trust the whole network but may select which nodes to believe. The notion of a "quorum slice," which was originally established by this protocol, refers to a collection of nodes that trust each other[8]. A quorum slice is a subset of a quorum that convinces one specific node of agreement, while a quorum is a collection of nodes sufficient to achieve an agreement. SCP begins with a "nomination procedure," in which fresh, candidate values are proposed for agreement. Each node that gets these values will vote for one of these values, resulting in one value receiving the majority vote. The "ballot protocol" is deployed once the nomination procedure has been properly completed. During this phase, nodes begin voting on whether or not to commit or cancel the values chosen in the previous phase. If a group of nodes cannot come to an agreement, the value is transferred to a higher-valued ballot and voted on again.

1.2.5. Delegated Proof of Stake (dPOS):

Stakeholders choose to elect any number of witnesses to produce blocks in a Delegated Proof of Stake (dPOS) system[9]. The roster of witnesses is shuffled at each maintenance interval, and each witness is given a chance to produce a block at a set rate of one block every n seconds, where n is determined by the implementation. Witnesses are compensated for each block produced; but, if they fail to produce a block after being elected, they may be voted out in subsequent elections. Blocks are generated every three seconds by authorized producers on the EOS blockchain, and the list of those producers is randomized every 21 blocks. If a producer has not generated a block in the last 24 hours, they are removed from consideration until they inform the blockchain of their desire to resume block production.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

2. LITERATURE REVIEW

Traditional consensus algorithms are compared and contrasted by Bach et al. with some of their contemporaries now in use in modern blockchains [10]. Their research focuses on each consensus algorithm's algorithmic processes, the system's scalability, how validators are rewarded for their time spent confirming blocks, and the algorithm's security issues. Finally, they explain their results as well as possible prospective blockchain consensus algorithm tendencies.

Nguyen et al. provide an overview of Blockchain consensus methods that have been investigated and are currently being utilized in a variety of well-known applications [3]. According to them, the problem of transforming a low-trust centralized ledger maintained by a single third-party to a high-trust decentralized ledger held by multiple organizations, or verifying nodes, has been solved by Blockchain. A major addition to Blockchain's work is the consensus mechanism, which defines how all nodes in the validating network agree to add a new block. There are two types of blockchain algorithms. The first is proof-based consensus, in which nodes joining the verifying network must show that they are better prepared to do the adding task than the others. Voting-based consensus is the second kind of consensus, which requires network nodes to exchange their results of verifying a new block or transaction before making a final decision.

3. DISCUSSION

3.1. Comparisons:

According to Zheng et al., Table 2 provides a simple comparison of different methods [11]. Because it is difficult to offer exact figures regarding how much energy each implementation uses owing to complicating variables such as processor efficiency and type, energy saving is only provided a general yes-no-partial answer. Table 3 provides information about algorithms that the authors did not include in their work.

TABLE 2: CONSENSUS ALGORITHM CHARACTERISTICS: PART I

Algorithm Name							
Property	PoW	PoS	PBFT ¹	DPoS	Ripple		
Energy	No	Partial	Yes	Partial	Yes		
Saving							
Tolerated	< 25%	<51%	< 33.3%	< 51%	<20%		
power of	computing	stake	replicas	validators	faulty		
adversary	power				nodes		

TABLE 3: CONSENSUS ALGORITHM CHARACTERISTICS: PART II

Algorithm Name					
Property	DBFT	SCP	PoI		
Energy Saving	Yes	Yes	Yes		
Tolerated power	< 33.3%	Variable	<50% importance		
of adversary	replicas				

3.1.1. Security:

Tolerated adversary power is defined in Tables 2 and Table 3 as the amount of control an attacker must have over the network in order to effectively attack it. For example, in order to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

fabricate transactions using the PoW method, an attacker would need to possess at least 25% of the processing power in the system. To fabricate transactions using the PoS algorithm, an attacker would need to possess at least 51 percent of the network's stake. When it comes to attacker potential, the Stellar Consensus Protocol is an anomaly. Because of SCP's usage of quorum slices, a client may select which other clients it trusts. This implies that an attacker might theoretically gain control of a significant part of the network but still be unable to alter the blockchain inside a limited number of trusted groups. On the other hand, rather than the whole quorum, an attacker may influence the quorum slices inside the network. In any of these hypothetical situations, there is no simple answer.

3.1.2. Scalability:

The theoretical maximum number of transactions per second (TPS) that a cryptocurrency can achieve is listed in this section. As shown in Table 4, while the algorithm that underlies a cryptocurrency ultimately dictates the maximum TPS that can be achieved, there is still some variance between networks that use the same protocol.

TABLE 4: TRANSACTIONS PER SECOND FOR SELECTED CRYPTOCURRENCIES

Cryptocurrency	Protocol	TPS
Name		
Bitcoin	PoW	7
Ethereum	PoW	15
Ripple	RPCA	1500
Bitcoin Cash	PoW	60
Cardano	PoS	7
Stellar	SCP	1000
NEO	DBFT	10000
Litecoin	PoW	56
EOS	DPoS	~millions
NEM	PoI	4000

3.2. Limitations:

The difficulty in obtaining correct transaction per second statistics for each blockchain network, as well as energy consumption estimates for the less popular blockchains, are the most apparent drawbacks of this study (i.e. not Bitcoin or Ethereum). TPS statistics were often derived from third-party sites covering the subject, or, in the case of the NEM network, from marketing materials. These figures are not entirely reliable and should only be used to get a sense of what a network may be capable of in theory.

4. CONCLUSION

The Proof of Work method, which is by far the most common consensus algorithm in use across cryptocurrencies, will ultimately be replaced by newer, more efficient algorithms, according to the early results in this paper. The Ethereum network, which has been preparing a transition to Proof of Stake for at least the past year, is the most visible example of this. If Ethereum completes its shift to a PoS system, an in-depth comparison of the new system to the existing one would be an excellent starting point for future study. If the transfer fails, a more in-depth examination of RPCA and SCP may be undertaken, since both protocols seek to provide a worldwide network.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- **1.** P. K. Kaushal, A. Bagga, and R. Sobti, "Evolution of bitcoin and security risk in bitcoin wallets," 2017, doi: 10.1109/COMPTELIX.2017.8003959.
- 2. P. Waelbroeck, "An Economic Analysis of Blockchains," CESifo Work. Pap. Ser., 2018.
- **3.** G. T. Nguyen and K. Kim, "A survey about consensus algorithms used in Blockchain," J. Inf. Process. Syst., 2018, doi: 10.3745/JIPS.01.0024.
- **4.** J. Wang, "A simple Byzantine Generals protocol," J. Comb. Optim., 2014, doi: 10.1007/s10878-012-9534-3.
- **5.** T. Distler, C. Cachin, and R. Kapitza, "Resource-Efficient Byzantine Fault Tolerance," IEEE Trans. Comput., 2016, doi: 10.1109/TC.2015.2495213.
- **6.** Y. Hu, Y. Xiong, W. Huang, and X. Bao, "KeyChain: Blockchain-based key distribution," 2018, doi: 10.1109/BIGCOM.2018.00027.
- 7. N. Houy, "'It will cost you nothing to 'kill' a proof-of-stake crypto-currency," Econ. Bull., 2014, doi: 10.2139/ssrn.2393940.
- **8.** D. Mazieres, "The Stellar consensus protocol: A federated model for Internet-level consensus. url:https://www.stellar.org/papers/stellar-consensusprotocol.pdf," Stellar Dev. Found., 2016.
- **9.** X. Fan and Q. Chai, "Roll-DPos: A randomized delegated proof of stake scheme for scalable blockchain-based Internet of Things systems," 2018, doi: 10.1145/3286978.3287023.
- **10.** L. M. Bach, B. Mihaljevic, and M. Zagar, "Comparative analysis of blockchain consensus algorithms," 2018, doi: 10.23919/MIPRO.2018.8400278.
- **11.** Z. Zheng, S. Xie, H. Dai, X. Chen, and H. Wang, "An Overview of Blockchain Technology: Architecture, Consensus, and Future Trends," 2017, doi: 10.1109/BigDataCongress.2017.85.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE USE OF SLANGISMS IN SPEECH

Gimadetdinova Viktoriya*

*Lecturer,
Department of Metodology Russian Language,
Ferghana State University, UZBEKISTAN
Email id: viktoriya@gmail.com

DOI: 10.5958/2249-7137.2021.02605.7

ABSTRACT

This article describes a class of speech varieties whose members are traditionally called "slang" or "argo" in a large and long-standing literature. Despite the size of this literature, the characteristics of these speech variants remain unclear to those who intend to study them. The thing called "slang" has traditionally been reduced to repertoires that are considered samples of the subject, without taking into account either "a" reflexive processes by which samples of the subject are separated from other discursive forms of behavior, or "b" socio-interpersonal processes by which slang expressions undergo changes in form and meaning for different members of the linguistic community. This article explores these reflexive social processes using examples from a large number of languages and historical periods. He offers a comparative basis for studying the forms of social life that such discursive behavior allows or displaces.

KEYWORDS: Slang, Internet, Deviant, Lexical Borrowing, Meta-Discourse.

INTRODUCTION

Slang is the ideological basis of reasoning about language, defining the class of deviant registers of the language. Ideology can exist with varying degrees of intensity, ubiquity, and institutional strength in a language community. It is intensified when this speech diversity increasingly acquires the status of a basic register, a standard in relation to which others are normatively assessed as deviating or not conforming to standards. When a basic standard is considered to be set, a relatively uniform set of meta-discursive criteria of norm and deviation becomes available as intuition for individuals exposed to standard-setting institutions. The broader the standard is assumed in various social practices, the more "natural" its meta-discursive criteria seem to the users of the language and the more they attract attention to discourses that deviate from them [1].

In these conditions, the question "What is slang?" is often considered simply as a question about the characteristics of the subject discourse, usually words and utterances designated by the term slang. The more the object discourse becomes noticeable, the easier it is to collect a large number of slang words and try to study their structural properties or explore their use in discourse and social interaction.

Such a study reveals a lot about the characteristics of the slang repertoire, as I will show below, but we cannot answer the question "What is slang?" by taking the object discourse repertoire as a starting point, both for general reasons that I have outlined elsewhere, which ensure that repertoire-oriented reductionism fails for every register formation in all known languages, as well as for others more specific to the case of slang.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The incompleteness of the repertoire perspective is painfully obvious, and its causes are well known. There are changes in the slang repertoire that cannot be explained by simply referring to the structural properties of slang words. Slang is a "passing language" (to use a nineteenth-century term) in more than one sense. Expressions enter and exit the current slang very quickly.

Many expressions also cross the boundaries of the repertoire over time, so expressions that began as slang abbreviations, for example, English telephone, bicycle, pub, bus, often fall into the standard language, sometimes even replacing the terms from which they originated.

Example: billboard

Meaning: a free-standing structure designed to accommodate large-sized advertisements.

Origin: from the English Billboard < bill 'billboard, poster' and board 'board, shield'.

Spelling: the spelling of the billboard is recorded by the"Russian Spelling Dictionary" of the Russian Academy of Sciences.

Declension: the word changes in cases as a noun of the second (according to school grammar) declension: billboard, billboard, etc.

Thus, the repertoire-oriented approach does not reveal the nature of slang as a social formation. It is also an incomplete method of analysis, since slang expressions cannot be distinguished from the rest of the language without using metapragmatic judgments about norms and deviations as identification data. These data can be found not in slang expressions, but in discursive and other metasemiotic actions that distinguish such expressions from others and typify their social index values, and after analyzing them in the form of data, they find out whether and for which groups and in what period some expressions took place or are still considered slang expressions, thereby differentiating group-centric positions of social assessment.

Although the term slang describes the speech repertoire, its use indicates the relationship between social groups. To say that a statement is slang or contains a slang expression means to take a metapragmatic position that evaluates its speaker as a deviation from the intended standard. Such a position may or may not correspond to the social laws of evaluation. In the least restricted usage, the term slang can be used as a term of open disparagement for almost any form of speech simply to dismiss it. But there are cases when one person's judgment that a statement is slang is reproduced in the metapragmatic judgments of other speakers. Under these conditions, any meta-discursive use of the term slang places its bearer in the ideological basis for reasoning about varieties of registers, where the relationship between standard and deviant object discourses determines group social relations between their bearers.

The most obvious of these tropes is the image of personification. If we turn to the data of metapragmatic judgments, we will find that expressions that are registered as a repertoire of slang are usually described using words predictable from persons, including adjectives that describe character logical attributes, for example, casual, informal, rude, cool or modifiers. Which classify the slang repertoire into social categories, for example, teenage slang, doctor's slang, military slang. Some examples of sports- related slang expressions: to clout the sphere, the initial sack, to slam the pill, the dexter meadow. The slangism rain check is also taken from the sports theme (the ticket stub to the stadium, giving the right to come to the game postponed due to rain). Then this unit got into the service sector and into the daily life of Americans. In a situation where it is not possible to accept an invitation or an offer, the speaker expresses a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

request or promise to do something another time as follows: I'll take a rain check on that or I'll give you a rain check on that [2, p. 23].

Slang ideologies usually transform the slang repertoire into systems of stereotypical social indexers, through which certain types of social characters are associated with slang expressions and, thus, can be populated and discussed using slang expressions, including characters symbolizing membership in certain social groups or exclusion from them. Despite the apparent simplicity, the creation of characters is a very multi-layered image that indicates a change in relations between groups.

Therefore, slang is used in this article not just as the name of a type of speech, but as a term, the use of which indexes the relationship between discourses and their carriers. This question becomes especially important when in the last section we turn to discourses of the type that was once called slang, but now their carriers give completely different meta-discursive and characterological formulations, and the basic term slang is becoming increasingly inappropriate for understanding social indexical terms. Effects mediated by their use.

There are many genres of slang meta-discourse - popular or authoritative, mediated by print or electronic means, which spread representations of certain types of speech in public life. Some of them use the term slang to characterize the repertoire and speakers, clearly delineating the socio-characterological boundaries around the facts of speech variations. Others simply embed slang expressions into discursive actions that are not officially related to slang, for example, movies, advertising, humor, but nevertheless use slang stereotypes in a more implicit way; Recognition of critical characters by the audience is often a condition for the success of these projects. This is especially important in the commercial sector, where product marketing strategically relies on the ability of the target audience to identify themselves with social personalities that can be populated even more fully through the acquisition of product logos. [3]

Meta-discourses that typify slang using the word slang are sharply different from the more implicit patterns of metapragmatic typing, as in the case of statements that simply react to usage as if it were substandard or deviant in some way, or statements indicating evaluative awareness to register a contrast in reaction to a certain pattern of slang usage by switching to a retaliatory slang response.

REFERENCES

- **1.** Andreeva GR. Lexico-semantic features of a special slogan: on the material of the English language: dis. ... Cand. philol. sciences. M., 2004.177p.
- **2.** Belousov VN. New "Pygmalion", or Russian language in Russian media. URL: http://www.gramota.ru (date of access March 14, 2001).
- **3.** Egoshina NB. Study of the user's perspectives for lexicography of non-standard lexics and professional languages. Proceedings of higher educational institutions. Series. Humanitarian sciences. 2011; 2 (4): 270-275.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE EAST IN THE WORKS OF L. TOLSTOY

Khusenova Dilfuza*

*Department of Methodology of Russian Language, Ferghana State University, UZBEKISTAN Email id: khusenovad@mail.ru

DOI: 10.5958/2249-7137.2021.02610.0

ABSTRACT

In article influence of philosophy of the East on L.Tolstoy's creativity is analyzed. Studying of works of the well-known philosophers, and also acquain-tance to customs, a life and religion of the people of the Caucasus had huge val-ue in Tolstoy philosopher's formation. Philosophical treatises, numerous religious and ethical essays, articles, exten-sive philosophical correspondence—all this allows to consider Lev Tolstoy identityas the outstanding wise man of Russia recognized around the world.

KEYWORDS: East Philosophy, L.Tolstoy, Religious and Ethical System, Philosophi- Cal Heritage.

INTRODUCTION

The huge interest in Tolstoy around the world remains relevant today. To continue the study of the artist of the word - a person of universal significance - means using his letters, diary entries, finally, his works and all his creativity in the synthesis of the universal literary process. Only a few writers become recognized classics during their lifetime and are known to the whole world – such was the Russian writer Count Leo Tolstoy (1828-1910). By the end of the XIX century, his name was known not only in Russia itself, where he became a favorite car, not only in the West, but also in the East. A huge role in this was played by his active correspondence with famous spiritual leaders of the Eastern world (the Hindu Mahatma Gandhi, the Egyptian Mohammed Abdo, etc.), as well as the popularization of his ideas in the Muslim press both in Arabic, Persian, and Turkic languages. [1]

Leo Tolstoy as a writer is well known as a philosopher, the author of an original religious and ethical system that sets a person up for serious independent activity. Tolstoy himself, in the last three decades of his life, sought to live according to the commandments of the doctrine he developed. The philosophical legacy of L. Tolstoy is so great that some tend to recognize him, first of all, as a philosopher and only secondarily

- Writer 1. Lev Nikolaevich's interest in the East was unusually great, he paid special attention to the East. He often turned his thoughts to the cultural sources of ancient peoples, looking for lifegiving forces in them for the future renewal of mankind. The writer saw them in the way of life of the Eastern peoples, in their traditional peacefulness and diligence, in their rich cultural heritage.2
- L. Tolstoy's interest in studying the philosophy of the East appeared early.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In 1845-46, the writer continues to study philosophy, tormented by the resolution of questions about the meaning of life, about the ways of spiritual self-perfection. Throughout his life, L. Tolstoy does not abandon his philosophical research, studies the works of ancient Chinese, Indian, Persian, and ancient thinkers, collects ancient folk wisdom, reads treatises of medieval philosophers, philosophers of the Renaissance, Modern Times and contemporary ones. L. Tolstoy had the idea of compiling books of wisdom, which were to include aphorisms and sayings of the world's greatest sages, as well as his own thoughts. On March 15, 1884, he wrote in his diary: "We need to make a reading circle for ourselves: Epictetus, Marcus Aurelius, Laotse, Buddha, Pascal, and the Gospel. It would be necessary for everyone." Subsequently, L. Tolstoy compiled several versions of such collections of wisdom: "Thoughts of wise people for every day", "Reading Circle", "The Way of Life". The writer also planned to publish. "Children's reading circle". Of course, L. Tolstoy, who was well acquainted with the philosophical heritage of mankind, could not limit himself to a list of names that were present in his original plan. The layer of world wisdom, which was primarily interested in L. Tolstoy, is associated with moral problems, practical ethics. The writer's attitude to the cited authors has not always been, of course, positive, it has changed over time. To quote some of the thinkers of L. Tolstoy resorted often, while others chose only rare sayings that supported the foundations of the religious and ethical theory he had developed. Philosophical treatises, numerous religious and ethical essays, articles, extensive philosophical correspondence - all this allows us to consider the personality of Leo Tolstoy himself as an outstanding sage of Russia, recognized throughout the world. In 1910 (in the last year of L. Tolstoy's life) secretary and friend of the writer D.P. Makovitsky wrote in his diary (dated August 16): "Last night there was a game, everyone wrote down on one sheet twelve of the greatest people, and on the second - the most beloved, excluding Christ and Tolstoy. Lev Nikolaevich and SofyaAndreevna wrote only one sheet each, they have the same beloved and great people. Lev Nikolaevich wrote: "Epictetus, Marcus Aurelius, Socrates, Plato, Buddha, Confucius, Lao-Tse, Krishna, Francis of Assisi, Mohammed." [2]

When he was 13 years old, the family moved to Kazan, an ancient city on the Volga, which in the Middle Ages was one of the centers of the Muslim state of Volga Bulgaria, which had been conquered by the Russian tsar since the 16th century, but still retained the originality of the ancient Islamic lifestyle. It was in Kazan that the grandfather of the future writer Ilya Andreevich was governor from 1815 to 1820, and his grave on the Kizic Necropolis has been preserved there to this day1. In 1844, young Tolstoy entered Kazan University at the Department of Oriental Languages of the Faculty of Philosophy (then he transferred to the Faculty of Law, where he studied for less than two years). Although not for long, Tolstoy studied Arabic and Turkic languages here under the guidance of the great scholar Mirza Kazimbek (1802-1870), one of the founders of Russian Oriental studies. It is known that literature in these classes was represented by samples of the works of Firdousi, Rumi, Saadi, Hafiz, Jami and other representatives of Tajik-Persian poetry. Leo Tolstoy, a student of the professor, could not but know such significant works of Mirza Kazimbek as "Persian Literature", "The Iranian Epic" and "The Mythology of the Persians according to Firdousi". He was fascinated by Saadi, read not only from Kazimbek, but also from the translations of S. Nazariants (1857) and Lambros (1862), and knew Firdoussi's "Shahnameh".2 since the uprising of 1848-1852 in Iran, Tolstoy has shown a keen interest in Islam and Tajik-Persian culture. Creating the "Abc", the YasnayaPolyana pedagogical journal and anthologies, he quoted ancient Persian monuments, processed them for his "Reading Circle", "Russian books for reading" in 4 parts, etc.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In 1851, the writer's elder brother Nikolai persuaded him to go together to the North Caucasus, where for almost 3 years Tolstoy lived in a Cossack village on the banks of the Terek River, traveling to Kizlyar, Tiflis, Vladikavkaz and participating in military actions (first voluntarily, then in service). The majestic nature of the Caucasus, knowledge about the life and customs of the warring parties, comprehension of the characters formed by the "spirit of the mountains" and Islam, were embodied in Tolstoy's autobiographical story "Cossacks", the stories "Raid", "Logging", as well as in the late story "Hadji Murad". Returning to Russia, the writer noted in his diary that he fell in love with this "wild land, in which two very opposite things are so strangely and poetically combined - war and freedom." To the end of his days, he pierced the memory of his friends-kunaks from the Caucasians: for example, one day a young frivolous count lost at cards, and he was threatened with a debt pit, but he was saved by the Chechen SadoMiserbiev, who completely won back his loss. But these were "mistakes of youth", but what a religious shock Tolstoy lived in the Caucasus. [3]

The famous "Sevastopol Stories" were written by Tolstoy in the Crimean War, where in Sevastopol, besieged by the British, a young officer-

The writer commanded an artillery battery, showing rare personal bravery, for which he was awarded the Order of Anna and medals. In Crimea, he knew not only the heroics and tragedies of the war, but also the customs of the Crimean Tatars, the indigenous Islamic population of this region. Moreover, some of the most important ideas that appeared in those years allow us to guess in the young officer a late Tolstoy-preacher: in the Crimea he began to dream of "founding a new religion -- a purified and practical religion of Christ. Later he corresponded with Mu-HammadAbdo (1848-1905), a well-known reformer of Islam, who became the Chief Mufti of Egypt in 1899. Communication with an Arabic scholar, a bearer of the language and traditions of the Prophet of Islam himself, became especially important for Tolstoy – after all, he himself translated hadiths into Russian and did it brilliantly with his characteristic skill. Tolstoy considered knowledge of hadiths as important for Russian readers as knowledge of the wisdom of other peoples. In the age-old wisdom that reflected the thoughts and aspirations of hundreds of generations, in the wisdom that embodied the millennia-old ideas of humanity about goodness and justice, he hoped to find an answer to the problems of modernity, and therefore he was so interested in delving into these ancient teachings and into the later writings of philosophers of the East. [4]

The beginning of Tolstoy's study with the East was laid during his lifetime. In 1905, an article by V.G. Chertkov "Tolstoy and the Japanese" was published in London in the magazine "Free Speech" (No. 6), in which for the first time part of Tolstoy's correspondence with figures of Japanese culture1 was given. By the writer's eightieth birthday, an almanac was published containing statements by a number of figures from Eastern countries about Tolstoy. In 1924, Tolstoy's biographer and friend P.I. Biryukov published an article in the magazine "Vostok" (No. 6), in which he outlined the contents of the collection "Tolstoy and the East" that he was preparing. A year later, this collection was published in German. [5] It included a part of Tolstoy's correspondence with figures from Asian countries. The collection did not include, in particular, many writings received by the writer from China, India, Japan, Iran, Turkey, Algeria, Egypt and other regions of Asia and Africa, where the plight of the masses in these countries was reflected, as well as Tolstoy's correspondence with public figures of the West, dedicated to the history of the peoples of the East and their culture. In the following years, the study of Tolstoy's

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Eastern connections continued. In 1939 A.P. Sergeenko published an incomplete version of the correspondence between Tolstoy and Gandhi. The creative history of Tolstoy's works on the East was developed for the forthcoming complete collection of his works by N.K. Gudziy, N.N. Gusev, and P.S. Popov. D.Y. Kvitko, Yang Hin-shun, V.F. Asmus, A.D. Litman wrote about Tolstoy's interest in ancient religions and philosophical teachings of the East. Valuable information about Tolstoy's translations and editions in the countries of the East is contained in the works of orientalists A.P. Barannikov, V.A. Gordlevsky, I.Y. Krachkovsky, N.I. Konrad, N.T. Fedorenko, L.D. Pozdneeva, an extensive monograph by T.L.Motyleva [6]

REFERENCES:

- **1.** Kalinikova EYa. Russianclassics and MulkRajAnana [Text]. E. Ya. Kalinnikov. Russian classics in the countries of the East. M, 1982. pp. 68-84.
- **2.** Lomunov K., Face K. face Tolstoy [Text]. Lomunov K. Lev Tolstoy in the modern world. M.: Sovremennik, 1975. pp. 308-322.
- 3. Novruzov RM. Islamic culture and creativity Tolstoy [Text]. R.M. Navruzov. M, 2005.
- 4. Shifman AI. LevTolstojiVostok [Text]. A.I. Schiffman. M. Science, 1971.
- **5.** Tolstoy LN. Full composition of writings. T.36.
- 6. Kvitkod Yu. Tolstoy's Philosophy [Text]. Ю.Квиткод. М, 1928.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

o-FERROTSENIL BENZOIC ACID MOCHEVINA AND DETERMINATION OF BIOSTIMULATORY PROPERTIES OF COMPOUNDS WITH THOMACHEVINA DERIVATIVES

Askarov I.R*; Madrakhimov G.N**; Khojimatov M.M***

*Andijan State University,
UZBEKISTAN
Email id: askarovi@gmai.com
**Andijan State University

**Andijan State University, UZBEKISTAN

***Andijan State University, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02609.4

ABSTRACT

The biological activity of the water-soluble salts of the reaction products, as well as data on the reaction of o-ferrocenylbenzoic acid with monomethylolochevin, are presented in this paper. Many scientists have researched the properties of ferrocene, one of the most important metallocenes, and have synthesized novel products since its discovery. Ferrocene-based biologically active compounds are widely employed in medicine, pharmacy, agriculture, and other industries.

KEYWORDS: Ferrocene, Cyclopendanyl Ring, O-Ferrocenylbenzoic Acid, Ferrocenocarboxylic Acid, Monomethylurea, 1-(2-Carboxyphenyl)-1'-N-Methyloxyferrocenolamide, Biological Activity.

INTRODUCTION

Many scientists have researched the properties of ferrocene, one of the most important metallocenes, and have synthesized novel products since its discovery. Ferrocene-based biologically active compounds are widely employed in medicine, pharmacy, agriculture, and other industries [1].

The Purpose Of The Study: 1- (2-carboxyphenyl) -1'-N-methyloxyferrocenolamide sodium - **AXM**, obtained on the basis of o-ferrocenylbenzoic acid, (1- (2-carboxyphenyl) -1'-N-methyloxyferrocenolamide potassium - **AXM-3**, 1- (2- carboxyphenyl) -1'-N-ferrocenylamidometankanarboxamide potassium - **AXM-4**, 1- (2-carboxyphenyl) -1'-N-ferrocenylthioamidometantiocarboxamide potassium - determination of biostimulatory properties of drugs **AXM-5**.

One-dimensional polymers of p-ferrocenylbenzoic acid with Mn (OAc) $_2 \cdot 2H_2O$ and Cd (OAc) $_2 \cdot 2H_2O$ were synthesized by Chinese scientists [2] and their structure and properties were studied. The authors [3,4] have developed a technology for the production of M-ferrocenylbenzoic acid with thiourea, methyldoldithiourea.

One of the important derivatives of ferrocene is *o*-ferrocenylbenzoic acid, whose isomers show strong acid properties compared to*p*-, *m*-ferrocenyl benzoic acids [5].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

For the first time by Uzbek chemists, the derivative of o-ferrocenylbenzoic acid with amygdalin ([(6-O- β -D -glucopyranosyl-4-O- (*o*-ferrocenyl-benzoyl) β -D -glucopyranosyl) oxy) (phenyl) acetonitrile) synthesis was performed **[6].**The reaction was carried out according to the following scheme:

Experiment Section: Compounds of *o*-ferrocenylbenzoic acid with urea and thiourea derivatives were synthesized in the Laboratory of Commodity Chemistry of Andijan State University. The reaction of *o*-ferrocenylbenzoic acid with monomethylomochevina was carried out according to the following scheme:

The reaction products are mainly formed in (I) product 98.4%, as a by-product (II) 0.4%, (III) 1.2%. The reaction products were purified using column chromatography. In the analysis of the IR spectrum of the purified compound (I), the intensive absorption in the 760 cm⁻¹ area was determined by the benzene ring, the extracellular fan-like oscillations (ρ_{CH}) by 1404 cm⁻¹, and the 1554 cm⁻¹ absorption by the ring plane (β_{CH}) and 691 the absorption peaks at cm⁻¹ represent the deformation (δ_{CCC}) oscillations of the ring, while the high-intensity peak at 1685 cm⁻¹ represents the valence (ν_{CC}) oscillations of the carbons in the ring. Deformation vibration of the cyclopentadienyl ring (δ_{CCC}) is manifested in the area of 885 cm⁻¹. The valence oscillation (ν_{CC}) of carbon atoms has an average intensity in the exchanged and unchanged rings and is located in the area of 1100 cm⁻¹, respectively. The β_{CH} oscillation of the cyclopentadienyl ring in the compound was observed in the exchanged ring at 1009 cm-1, 1260 cm-1, and 1454 cm-1 areas. The carboxyl group-specific (δ_{COH}) oscillation gives absorption lines in the 1260 cm-1 area. At 3084 cm⁻¹ represents the valence oscillation of the -NH- group. (Figure 1).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

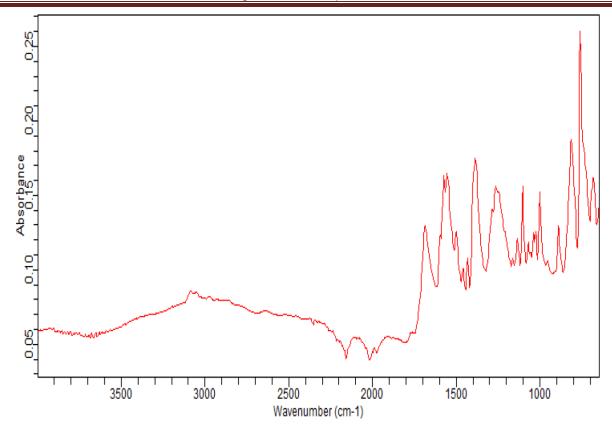


Figure 1. 1- (2-carboxyphenyl) -1'-N-methyloxyferrocenylamide

IR spectrum

Mass spectrometric analysis of 1- (2-carboxyphenyl) -1'-N-methyloxyperrocenylamide showed that FcCONHCH₂Fc 427 m/z, FcC₆H₄COOH $^+$ 307 m/z, FcC₆H₄COOH 306 m/z, Fe C₆H₄C + 273 m/s peaks were observed..

The biostimulatory properties of water-soluble sodium and potassium salts of isolated substance (I) 1- (2-carboxyphenyl) -1'-N-methyloxyferrocenolamide were obtained and studied in wheat plants. The results of the study showed that the biological activity of 10⁻⁷ M solution of sodium salt of 1- (2-carboxyphenyl) -1'-N-methyloxyferrocenolamide (AXM) was high, which had a positive effect on wheat germination from control and other analogues.

Method and survey materials. The method "Determination of seed germination and seed fertility" was determined by morphophysiological evaluation according to SS 12042-80 [7]. Five of the six samples were taken for this purpose. Initially, wheat grain samples were taken. Then each sample was treated with a separate drug (AXM, AXM-3, AXM-4, AXM-5). The samples tested were grown between 20 x 100 cm wet filter papers. Samples of treated wheat were weighed every 24 hours. In the study, the ratio of water used for fermentation to grain weight was calculated in%. Root length and grass length were measured after 24, 48, 72 hours and results were recorded [8].

Results obtained: The biostimulating properties of AXM, AXM-3, AXM-4 and AXM-5 preparations based on o-ferrocenylbenzoic acid were tested on the control (water) wheat variety Alekseevich. The results are presented in Table 1.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 1EFFECT OF AQUEOUS SOLUTIONS OF DRUGS AXM, AXM-3, AXM-4 AND AXM-5 ON THE SWELLING OF AUTUMN WHEAT OF ALEKSEEVICH VARIETY

		Grain		during	HEAT OF ALI			
	ght ,		mass		The ratio of	th	ith	3S,
	weight tion,		ation, mg		water used	length,	length,	nes
Statistical	la la	24	48	72	for budding			Forgetfulness, %
rist ica	Grain before germin mg	ITS	ITS	ITS	to grain	±	SS	get
Star	Grain before germi mg	In hours	In hours	In hours	weight,%	Root	Grass	For %
91	Control							
Average	0,36	0,12	0,08	0,11	89,94	2,60	1,56	63,66
indicator	±0.01	± 0.04	±0.03	±0.02	±6.89	±0.30	±0.08	±1.20
mulcator	AXM	_±0.04	±0.03	±0.02	10.07	±0.50	±0.00	±1.20
10-4	0,37	0,20	0,17	0,09	122,32	2,20	1,53	65,00
10-4	0,37	0,20	0,17	0,09	108,67	2,20	1,83	52,67
			0,13		,			· · · · · · · · · · · · · · · · · · ·
10-6	0,41	0,24		0,12	133,48	3,10	2,17	76,00
10-7	0,42	0,24	0,16	0,12	126,33	3,17	2,07	79,00
10-8	0,46	0,26	0,18	0,09	115,37	2,73	1,50	71,00
Average	0,41	0,23	0,16	0,09	121,23	2,80	1,82	68,73
indicator	±0.01	±0.01	±0.01	±0.01	±5.80	±0.16	±0.09	±3.62
10.1	AXM-3	0.01					I 4 -=	
10-4	0,40	0,21	0,15	0,08	113,99	2,67	1,67	61,33
10-5	0,43	0,24	0,16	0,04	102,69	2,90	1,40	60,33
10-6	0,45	0,24	0,19	0,03	101,62	2,07	1,00	64,00
10-7	0,39	0,22	0,14	0,06	108,40	2,83	1,37	67,33
10-8	0,37	0,21	0,13	0,06	108,94	2,50	1,40	50,00
Average	0,41	0,22	0,15	0,05	107,12	2,59	1,36	60,60
indicator	±0.01	±0.01	±0.01	±0.01	±3.05	±0.16	±0.08	±3.98
AXM-4								
10-4	0,46	0,26	0,18	0,09	114,64	1,23	1,50	71,33
10-5	0,40	0,23	0,21	0,08	133,87	2,57	1,83	76,33
10-6	0,38	0,21	0,13	0,11	120,71	3,83	2,00	68,67
10-7	0,41	0,24	0,19	0,09	126,78	2,83	2,17	59,00
10-8	0,41	0,21	0,16	0,05	104,62	2,33	1,67	43,67
Average	0,41	0,22	0,17	0,08	120,12	2,56	1,83	63,80
indicator	±0.01	±0.01	±0.01	±0.01	±5.11	±0.26	±0.09	±5.04
AXM-5								
10-4	0,46	0,26	0,18	0,09	114,64	2,73	2,00	57,33
10-5	0,40	0,23	0,21	0,08	133,87	2,73	1,83	67,00
10-6	0,38	0,21	0,13	0,11	120,71	2,17	1,67	48,00
10-7	0,41	0,24	0,19	0,09	126,78	3,00	2,00	59,00
10-8	0,41	0,21	0,16	0,05	104,62	2,33	2,00	70,67
Average	0,41	0,22	0,17	0,08	120,12	2,59	1,90	60,40
indicator	±0.01	±0.01	±0.02	±0.01	±5.11	±0.23	±0.07	±3.76
	_0.01						_0.07	

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The results shown in Table 1 show that the weight of wheat grains taken before the control was 0.36 mg before germination, the weight of the grain during germination was 0.12 mg after 24 hours, 0.08 mg after 48 hours and 0.11 mg after 72 hours. The ratio of water used for germination to the weight of the grain was 89.94%. It was then determined that the root length was 2.60 cm, the grass length was 1.56 cm and the yield was 63.66%.

The following results were obtained when studying the effect of 10^{-4} , 10^{-5} , 10^{-6} , 10^{-7} , 10^{-8} M concentrated solutions of drugs AXM, AXM-3, AXM-4, AXM-5 on the germination of wheat. The mean of the study results was 0.41 mg of grain weight in all variants before swelling, 0.23, 0.22, 0.22 mg after 24 hours, respectively 0.16, 0.15, 0.17, 0.17 mg after 48 hours and after 72 hours it was found to increase by 0.09, 0.05, 0.08, 0.08 mg. The ratio of water used for germination to grain weight is 121.23, 107.12, 120.12, 120.12%, root length 2.80, 2.59, 2.56, 2.59 cm and grass length 1.82, 1.36, 1.83, 1.90cm, respectively, and the average forgetfulness was found to be 68.73, 60.60, 63.80, 60.40%. Among the above solutions, it was observed that in the 10^{-6} , 10^{-7} M concentrated solutions of AXM, the forgetfulness was higher than the control by 12.34%, 15.34%, respectively.

CONCLUSION

Practical studies have shown that when applied to the germination of Alekseevich wheat, a solution of AXM with a concentration of 10^{-7} M showed high biostimulatory activity, and fertility was 15.34% higher than the control. The identified data showed that a 10^{-7} M concentrated solution of AXM could be used in agriculture to accelerate the germination of wheat.

REFERENCES

- 1. Askarov IR. "Commodity Chemistry" Monograph. Tashkent 2019.
- **2.** Hou H, Li L, Zhu Yu, Fan Y, Qiao Y. Novel "One-Dimensional Polymers Generated from *p*-Ferrocenylbenzoate: Syntheses, Structures, and Magnetic Properties" Inorganic Chemistry, Vol. 43, No. 15, 2004 4767
- **3.** Otakhonov KK, Askarov IR, Isaev YuT, Khojimatov MM. Reaction of M-ferrocenylbenzoic acid with thiourea. Universum: Technical Sciences. 2018;12(57).
- **4.** Askarov I, Khojimatov M, Abdugapparov F. Study of the reaction of *m* ferrocenyl benzoic acid with methyloldithiourea. Fergana State University FerSU. Scientific reports 5-2020.
- **5.** Rakhmanovich AI, Muydinovich KM, Nematjanovich MG. Study of interaction reaction of *o*-ferrocenylbenzoic acid with methylenediurea and biological activity of the obtained product. Universum: Chemistry and biology. 2021;12(90).
- **6.** Khojimatov MM. Synthesis of biologically active substances on the basis of ferrocene and amygdalin and their classification. Doctor of Chemical Sciences diss.-Andijan., 2021.
- 7. Yarkova NN, Fedorova VM. Seed science of agricultural plants. Textbook. Ministry of Agriculture of the Russian Federation Federal State Budgetary Educational Institution of Higher Education Perm State Agricultural Academy named after Academician D.N. Pryanishnikov. Perm CPI. Procruste. 2016.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

8. Tukhsinov M, Asronov A, Otakhanov N. Seed production and seed science of field crops. Ministry of Agriculture and Water Resources of the Republic of Uzbekistan Andijan Agricultural Institute Fergana Scientific Center "Fergana" publishing house. 1999.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A STUDY OF BLOCKCHAIN APPLICATION FOR DECENTRALIZED IOT DEVICE OWNERSHIP

Gulista Khan*

*Associate Professor, Department of Computer Science, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA

Email id: gulista.engineering@gmail.com

DOI: 10.5958/2249-7137.2021.02627.6

ABSTRACT

Blockchain is a decentralized, publicly accessible ledger that records all transactions, both financial and non-financial. The Internet of Things (IoT) is also thought to be the next big thing. The techniques for peer-to-peer identification of ownership of IoT devices in a cloud context are discussed in this paper. The review paper goes over how a device is installed by its maker (also known as Genesis) and then transmitted to a user via blockchain technology. This paper also looks at how a similar blockchain method may be used to transfer device ownership from one user to another without the need for a third party. Because it depends on the strength of consensus of good nodes to operate effectively, the methods discussed in this paper are reasonably safe against all types of malicious attacks. Blockchain offers a fantastic alternative to modern-day authentication and device interaction.

KEYWORDS: *Blockchain, Decentralized, Device, IoT, Transactions.*

1. INTRODUCTION

Blockchain is a decentralized, publicly accessible ledger that records all transactions (digital events) between two clients. Because each transaction is confirmed by a majority of the clients participating in the system, the decentralized nature is feasible. Blockchain is a read-only ledger in which information recorded once cannot be deleted[1]. This guarantees that each transaction in a blockchain has been validated and approved as a legitimate transaction by the majority of clients engaged at the time. Because of blockchain's public availability, decentralized nature, and read-only nature, it is mathematically impossible to create a fraudulent transaction and have it added to the blockchain, making it a safe, secure, and reliable method of storing and executing transactions without the involvement of a third party. Bitcoin is one of the earliest and most widely used applications of blockchain technology, resulting in the development of a massive worldwide market for anonymous transactions that is unregulated and unaffected by government intervention[2]. This is very contentious, and it often necessitates a slew of political and regulatory changes to rein in such uncontrolled financial markets. Whereas Bitcoin has been seen as very contentious, the blockchain technology that underpins it has already been accepted and used in a number of fields. The Internet of Things (IoT) is one such promising sector. This paper uses blockchain technology to suggest a method in which IoT device ownership and transfer may be carried out in a decentralized manner.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

However, Blockchain technology is now being effectively used to a variety of non-financial applications as well as financial markets. Many academics have seen blockchain's distributed peer-to-peer architecture as an innovation on par with the steam engine or the internet, with the potential to radically transform the world of business and beyond[3].

Another area where blockchain has found a surprising number of applications is the Internet of Things, often known as the next big paradigm change after the introduction of smart phones. The Internet of Things (IoT) is an emerging topic of social, economic, and technical significance that encompasses a wide range of consumer products, goods, vehicles, industrial components, sensors, and other everyday objects that, when combined with the Internet and powerful data consuming and analytics tools, will transform the way we all live, work, and play. On the other side, the introduction of IoT into the lives of a huge number of people has created major and critical difficulties that may prevent the IoT world from realizing its full potential. One of the most difficult tasks is determining who owns IoT devices in relation to the users who utilize them. The purpose of this paper is to provide a decentralized method for registering and assigning an IoT device to an owner. This system, which is mainly built on blockchain and its decentralized nature, aims to create a new system that assigns every IoT device to an owner and allows the existing owner to transfer ownership to any other user.

4.1. Blockchain and Bitcoin:

All Internet transactions now have a mediator or trusted party that validates and executes any electronic transaction[4]. They are in charge of securing, validating, and storing transactions. Third parties invest a lot of effort to prevent fraudulent transactions, which results in high transaction costs.

4.2. How does it Work:

A cryptographic proof is given by each willing party in order for two willing parties to execute any transaction via the internet. Bitcoin utilizes encryption and certificates to sign each request made by any participant, rather than relying on a third party. Each side has a "public key" and a "private key" for communication. A public key, as its name implies, is open to the public and may be seen by anybody, while a private key is intended to be kept private by the client and not shared with anyone. The owner of bitcoin must show evidence of possession of the "private key" in order to complete a transaction. Digital signatures are employed for this purpose. A hash between the private key and the transaction id is used to sign any transaction. If you re-hash this hash using the public key, you'll get the proper transaction id. As illustrated in Figure 1, every other client may verify the evidence of possession of any client's "private key."

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

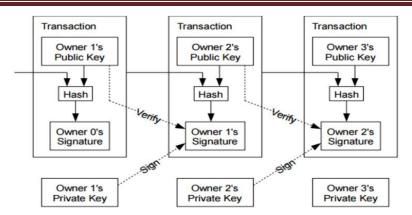


Figure 1: Transaction Flow between two Parties[5]

4.3. Why Blockchain is Required:

The correct sequencing of transactions is necessary for any financial/transactional system to function. Due to the fact that it prohibits both duplicate spending and fraudulent transactions. Each transaction reaches a node at a distinct moment in time since blockchain is a decentralized ledger. The sorting of these transactions is accomplished by grouping transactions that occur during a certain time period into "blocks." Each block in the list is connected to the one before it, creating a chain-like data structure known as Block Chain. Maintaining the order in which the blocks are added is one of the most difficult issues to solve for this kind of block addition. Fraudulent transactions may be collected and added to a block by any node on the blockchain. A malfunctioning node, for example, may generate a block of unconfirmed transactions and then broadcast them to the whole network. How does the blockchain's whole network select which block to add next? A first-come-first-served strategy would be ineffective due to differences in reception time at various locations in the network.

Blockchain addresses this issue by adding the notion of proof of work: Only when the owner of a block provides proof of work will that block be allowed into the blockchain. Any node producing a block, for example, must provide a solution to a specific mathematical problem, which will need the node's use of computer resources. One example is when a client must discover a "once" or unique value that, when hashed with transaction ids and the preceding hash of the block, generates a hash with a specified amount of leading zeroes, as illustrated in figure 2. The only option to address this issue is to use the hit-and-trial technique, which has exponential time complexity, while validating the result would only take one step of calculation and just one hash to calculate.

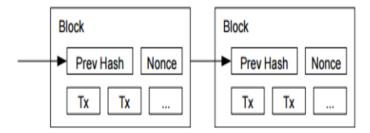


Figure 2: Proof of Work to Mitigate Double Spending[6]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Because all nodes must do proof of work before adding a block, it is theoretically impossible for fraudulent nodes to contribute blocks to the proper blockchain. To introduce an unverified transaction, a fraudulent node must mathematically race against good nodes to produce all future blocks in the proper sequence, which are being added by good nodes in parallel. This is only feasible when the bad nodes are in the majority and are coordinating with one another, which is almost impossible to achieve with millions of nodes in the network.

2. LITERATURE REVIEW

Dorri et al. go into more detail and describe the different basic components and functionalities of the smart home layer in their paper[7]. Each smart home is outfitted with a miner, an always-on, high-resource device that is in charge of all communication both inside and outside the house. A private and secure BC is also kept by the miner for regulating and auditing communications. They demonstrate the security of their proposed BC-based smart home system by carefully analyzing it in terms of the basic security objectives of confidentiality, integrity, and availability. Finally, they provide simulation results to show that the overheads imposed by their method are negligible in comparison to the security and privacy benefits it provides. The capacity to protect data and authenticate the identity of users of a service, according to Cresitello, is the most significant barrier to moving many services online[8]. The use of a password or, in rare cases, dual-factor authentication is used for online authentication. The issue with these techniques is that passwords are notoriously insecure, and dual-factor authentication often involves transmitting a code by SMS or a third-party service. The blockchain may be a solution to this issue. The ledger for a \$10 billion USD currency is managed via the blockchain. Authentication, on the other hand, may use the same cryptographic techniques. Blockchain authentication prevents someone from intentionally changing a ledger by spreading it across all network users.

Fernández et al. conduct a comprehensive study of how to adapt blockchain to the particular requirements of IoT in order to create Blockchain-based IoT (BIoT) applications[9]. The most important BIoT applications are presented after the fundamentals of blockchain are explained, with the goal of highlighting how blockchain may affect conventional cloud-based IoT applications. The present difficulties and potential improvements for various areas of the design, development, and deployment of a BIoT application are then discussed. Finally, some suggestions are made in order to guide future BIoT researchers and developers through some of the problems that must be addressed before the next generation of BIoT applications can be deployed.

3. DISCUSSION

a. De-Centralized Registration & Identification System:

First, a Certificate Issuing Authority (CIA) is introduced in this section. A CIA is an application or a node that may issue certificates (a set of public and private keys) to any asking organization[10]. The Certificate Issuing Authority may also verify a digital signature using the public key of the signing authority. When a certificate is requested, the CIA service generates a pair of public and private keys, keeps the public key in a publicly accessible storage location, and transfers the private key to the node to be saved and maintained securely. This enables the user to submit digitally signed requests to the IoT device, and only the user and only the owner of the device may do so. These queries may be cross-checked against the CIA's public key. As a result, this method may be used for peer-to-peer authentication. Whereas, CIA is nothing more than a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

single-sign-on web gateway that can be used by any program and is not controlled by any one organization, similar to how DNS servers are used today on the internet.

The different actors in the system are discussed in this section. First and foremost, the manufacturing unit or organization that produces IoT devices is discussed. In the realm of bitcoin, these companies are the equivalent of "miners." Manufacturing firms devote resources to improving the block chain's security and verifying transaction blocks for accuracy as miners. In turn, miners that participate in this system are rewarded with the ability to create genesis blocks for new devices. That is, every manufacturer has the ability to add new devices to the block chain and distribute them. Because adding new devices to the blockchain is a time-consuming operation owing to the proof-of-work scenario, the more resources a miner uses, the quicker its devices are added to the network. This also creates a rivalry between two miners (two IoT manufacturers). Finally, a user on the consumer end of these IoT devices is identified. A user is someone who purchases an IoT gadget from a manufacturer or a miner. The device's user/owner also has control over the device's ownership and may transfer it to any other user via this mechanism.

i. Genesis:

According to tradition, the first transaction in a block is a special transaction that adds a new device to the miner's current system. That is, before releasing a gadget to the market, the manufacturer must establish a block entry for that item. The maker must first contact the Certificate Issuing Authority (CIA) to get a private and public key pair for the device. The device's id is then put to the front of a block that is uploaded to the blockchain. This device addition is then propagated and confirmed over several nodes, resulting in the device being added with the miner as the owner. The miner must use a greater amount of resources in order to install devices at a quicker pace, thus supporting the security of the block chain. The connection between the blockchain and the miner may also be thought of as a symbiotic one, in which one's actions benefit the other.

ii. Registration of Ownership:

In order to become the owner of an IoT device, the user must first make a physical payment to the IoT maker. Either the IoT maker or the User contacts the CIA to get a set of public/private keys before transferring the physical device. Where the public key is kept by the CIA and the private key is sent on to the user. The IoT manufacturer now starts a digitally signed transmission to the user using its own private key. Other nodes in the block chain verify this transfer, and it is added to the chain. The user becomes the owner of the IoT device once it is added. The user sends a digitally signed request to the gadget in order to interact with it. To confirm the request's origin, the device first calls the CIA to verify the signature using the user's public key; if the signature is valid, the device executes the request. As a result, the user may communicate with the gadget using any compatible protocol and third-party software, making them independent of the intermediary manufacturer.

iii. Transfer of Ownership:

In this arrangement, any user may transfer ownership of a gadget to another user unilaterally. The receiving user must first have a CIA-registered private key and public key. After then, the transfer of one user to another takes place in the same way as a regular blockchain transaction

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

does, as previously explained. This eliminates the need for a central cloud to alter the ownership of a device.

iv. Advantages over Current Scenario:

The user is signed up to the gadget with the aid of an intermediary cloud or a centralized authority in the present situation of ownership identification. Each manufacturing company has its own cloud for this reason, which makes the sign-up and owner identification procedure easier. This method eliminates the need for a centralized authority or cloud for the registration process, making it decentralized. Because there is no central cloud, the IoT device's identification of its owner becomes totally decentralized.

Interoperability between devices from various manufacturers is a major issue in the present IoT situation. The suggested solution does away with the need for a central cloud, making interoperability much easier. A device owner may easily manage their device by signing requests with their private key, which they can provide to any third-party app. As a result, this approach minimizes the reliance on any cloud and enhances the interoperability principle upon which IoT is founded. In the present situation, the user must rely on a 3rd party cloud or the manufacturer's cloud to securely connect with their device. As a consequence, protected user data and privacy may be jeopardized. The suggested solution is fully safe, since user data is only exchanged with the device and never with a third party.

4. CONCLUSION

Blockchain, being the first fully decentralized collection of transactions, has a wide range of applications in both financial and non-financial areas. Despite the fact that it has lately acquired favor among scientists, it should not be seen as a perfect answer to all problems. There are a few disadvantages to utilizing blockchain, as with any modern technology, in terms of wasted computing resources and increased storage requirements at the node level, but these issues are small and readily solved. Because it depends on the strength of consensus of good nodes to function effectively, the system discussed in this paper is reasonably safe against all types of malicious attacks. The problems with blockchain should be addressed and their remedies integrated into the implementation before creating a comparable system. A better type of registration and authentication procedure is required as the IoT environment grows and consumers become more techno and internet oriented. The tight connection between blockchain technology and modern-day cryptography allows for better kinds of identification and registration than current alternatives. As a result, blockchain offers a fantastic alternative to modern-day authentication and device interaction.

REFERENCES

- 1. V. Gatteschi, F. Lamberti, C. Demartini, C. Pranteda, and V. Santamaria, "To Blockchain or Not to Blockchain: That Is the Question," IT Prof., 2018, doi: 10.1109/MITP.2018.021921652.
- **2.** A. Urquhart, "The inefficiency of Bitcoin," Econ. Lett., 2016, doi: 10.1016/j.econlet.2016.09.019.
- **3.** Martin Garriga, M. Arias, Alan De Rensis, R. Li, and Y. Wu, "Blockchain based Academic Certificate Authentication System Overview," Proc. Sample Conf., 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** H. Covington and Y. B. Choi, "Blockchain and Bitcoin," Int. J. Cyber Res. Educ., 2018, doi: 10.4018/ijcre.2019010103.
- **5.** T. A. Sundara, I. Gaputra, and S. Aulia, "Study on blockchain visualization," Int. J. Informatics Vis., 2017, doi: 10.30630/joiv.1.3.23.
- **6.** N. Shi, "A new proof-of-work mechanism for bitcoin," Financ. Innov., 2016, doi: 10.1186/s40854-016-0045-6.
- **7.** A. Dorri, S. S. Kanhere, R. Jurdak, and P. Gauravaram, "Blockchain for IoT security and privacy: The case study of a smart home," 2017, doi: 10.1109/PERCOMW.2017.7917634.
- **8.** B. Cresitello-dittmar, "Application of the Blockchain For Authentication and Verification of Identity," Int. J. Adv. Sci. Eng. Inf. Technol., 2016.
- **9.** T. M. Fernández-Caramés and P. Fraga-Lamas, "A Review on the Use of Blockchain for the Internet of Things," IEEE Access. 2018, doi: 10.1109/ACCESS.2018.2842685.
- **10.** J. Barclay, V. Kansara, E. Eswar, K. Elleithy, and L. Almazaydeh, "Efficient Approaches to Ensure Certificate Authenticity for Public Key Infrastructure," Inf. Technol. J., 2017, doi: 10.3923/itj.2017.79.84.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW ON BRAND LOYALTY AND CUSTOMER LOYALTY

Vivek Devvrat Singh*

*Assistant Professor,

Department of Marketing, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: vivekdevvrat.management@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02628.8

ABSTRACT

Brand Loyalty or Customer Loyalty? Brand Loyalty and Customer Loyalty are two ideas that have been dug into by academics since they are two extremely significant aspects in marketing. Brand \loyalty is a biased behavioral reaction exhibited over a period of time. It indicates a consistent repurchase behavior of the brand as a consequence of positive love towards the brand. Brand loyalty theories stated that loyalty to brands is the result of many variables including emotional, behavioral and attitudinal aspects. Customer loyalty is defined as it is a strongly held commitment to re-buy or re-patronize a chosen product or service continuously in the future despite situational factors and marketing efforts having the ability to induce switching behavior. This article examines the distinction between Brand Loyalty and Customer Loyalty and the techniques employed by academics in academic study. Brand Loyalty in marketing has been linked with a posifitive perception of customers towards to the whereas Customer Satisfaction has been associated with the purchasing power of consumers induced by different loyalty programs. However research in both Brand Loyalty and Customer Loyalty utilizes the same multi-dimensional notions of emotional and behavioral approach.

KEYWORDS: Applications, Behavioral, Brand Loyalty, Customer Loyalty, Market.

1. INTRODUCTION

1.1. Brands:

Brands include the logo, the visual depiction of the business or organization, the signature of the organization. According to the American Marketing Association a brand' is a name, phrase, sign, symbol or design or a combination of them designed to identify the products and activities of one seller or group of sellers and to distinguish them than those of competitors. Today a brand is also characterized by a personalities and a trademark song to grab the hearts of customers and keep people loyal.

1.2. Benefits of Branding:

Strong brands offer a variety of advantages for a business, the retailer, the customer and for society as a whole. Strong brands help the customer find and identify goods and assess their quality and makes it simpler for them to create attitudes and expectations. Branding also makes purchasing more effective as it tends to decrease the amount of decision-making time needed and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the perceived risks of buying because a brand guarantees a constant level of quality. Well-known brands are capable of generating positive attitudes and perceptions more readily, leading to higher sales. Higher perceived quality offers the customer a strong incentive to acquire the goods.

The same brand equity components may provide the company an efficient foundation for line or brand expansions. The image and personality of the brand is readily carried over to the new goods, giving it a head start. An extended set of brand helps the customer retrieve information from memory, therefore it simplifies the buying process and biased towards the brand. In a competitive corporate climate, brands are not simply icons that act as identifiers but have an economic purpose. The value of brands is their capacity to create a unique, positive and prominent connotation in the minds of customers. A brand may leave a great impression on consumers and this may result in brand recognition or attract loyal customers[1].

1.3. Loyalty:

Loyalty is a biased reaction towards a brand or product exhibited over an amount of time and is defined by the purchasing behavior of a decision making unit which may be a person, a household or a business. Therefore loyalty means continuous repurchase of a brand coming from favorable affinity of customers towards the brand or the product. Commitment is an important aspect of loyalty and differentiates between loyalty and recurrent purchasing which is caused to inertia. Former Ford vice president, Basil Coughlan believes that every percentage point of loyalty is worth 100 million dollars in revenues to his business. Brand loyal customers are ready to pay greater costs and are less price sensitive to price rises. Therefore loyalty is at the core of a company's success. Researchers and marketers are eager to understand the factors that influence loyalty to a business or to a product and to distinguish between brand and customer loyalty, although there wasn't much difference between the two notions. The benefits gained by a brand with strong and persistent consumer loyalty include the capacity to retain price premium, better negotiating power with channels of distribution, lower expenses, a high barrier to prospective new entrants into the product or service in the same category[2].

1.4. Brand Loyalty:

Brand loyalty is a consumer's desire to purchase a specific brand in a product category. It occurs when customers believe that the brand provides the appropriate product features, images or degree of quality at the right price. This impression may convert into repeat purchase leading in loyalty. Brand Loyalty is thus linked to a customer's choice and connection to a brand. Define brand loyalty as the measure of connection that a customer feels towards a brand. Brand loyalty according to him indicates how likely a customer will be to switched brands when that brand makes a product modification either in pricing or product attributes. Aaker says that the core of a brand's equity is built on consumer loyalty. Therefore if consumers purchase with regard to features, affordability and convenience with little attention to the brand name, there is possibly little equity. It may arise owing to a lengthy history of using a product and confidence that has built as a result of the extended usage. brand loyalty as "the biased, behavioral reaction, expressed over time, by some decision-making unit, with regard to one or more alternative brands out of a collection of such brands, and is a result of psychology decision-making, evaluative processes." factor structure to initially conceived brand loyalty and discovered that brand loyalty is linked to; proportion of purchase dedicated to the most bought brand, number of different brand purchased over the past two years, amount of times the new favorite brand was

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

bought of the last five purchases, three purchases out of the last five purchases and the actual number of successive purchases of favourite brand out of the last five purchases[3].

1.5. Customer Loyalty:

customer loyalty as a strongly held resolve to re-buy or re-patronize a favored or service continuously in the future despite situational factors and marketing efforts having the ability to induce switching barriers. Four types of customer loyalty based on the premise that the consumers first absorb information to develop beliefs, utilize those beliefs as the foundation for dispositions and then make behavioral choices based on its relative attitude strengths. Customer loyalty as the strength of the connection between an individual's attitudes and recurring patronage. Customer Loyalty is a recent idea as contrasted to Brand Loyalty[4].

1.6. Concepts in Loyalty Research:

customer loyalty as a strongly held commitment to re-buy or re-patronize a preferred product or service continuously in the future despite situational factors and marketing efforts having the ability to induce switching behavior. Four types of customer loyalty based on the premise that the consumers first absorb information to develop beliefs, utilize those beliefs as the foundation for attitudes and then make behavioral choices based on relative attitude strengths. Customer loyalty as the strength of the connection between an individual's relative attitude and recurring patronage. Customer Loyalty is a recent notion as contrasted to Brand Loyalty[5]. Although Brand Loyalty and Customer Loyalty are two distinct ideas studies in both domains share the same characteristics. Brand Loyalty and Customer Loyalty in previous literature have been conceptualized by two major typologies, the behavioral and the attitudinal typologies. The behavioral typology to the approach of customer loyalty is mainly concerned with metrics of repeat purchase, percentage of buy and frequency of purchase. The popularity of the measures has fluctuated throughout time and among. Researchers since both groups have their benefits and limitations[6].

2. LITERATUREREVIEW

Hussein et al. studied about the Purpose of this research seeks to examine direct and indirect impacts of brand experience on brand loyalty and to explore the moderating influence of brand of origin in the setting of Indonesian casual dining restaurant. This study examined the direct impact of brand experience on brand loyalty and also the indirect effect via customer satisfaction. This research introduced the concept of brand of origin as a variable regulating the impact of brand experience on consumer satisfaction and brand loyalty, covariance based SEM was used to examine the data. The robustness of measurements was assessed using confirmatory factor analysis. Sobel's test was used to assess the indirect impact and multigraph analysis was conducted to explore the moderating influence of brand of origin, brand experience was shown to have beneficial direct impacts on both customers' satisfaction and brand loyalty. This research demonstrated the indirect impact of brand relationship with brand loyalty via consumer pleasure. However, multigraphanalysis did not detect the moderating influence on brand of origin, this research shows the direct impact of brand relationship with brand loyalty. In addition, this research showed that customer satisfaction plays a significant role in moderating the impact of brand experience on brand loyalty[7].

Kevin Kam Fung King et al. discussed about Customer involvement has lately emerged in both academic research and practitioner conversations as a brand loyalty predictor that may be

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

superior to other conventional loyalty antecedents. However, empirical research on consumer involvement is rather rare. As tourism and hospitality companies have extensively embraced customer engagement methods for managing customer—brand interactions, greater knowledge of this idea is important. Using structural equation modeling, this research examines the connections of consumer involvement with conventional determinants of brand loyalty. Results based on 496 hotel and airline customers indicate that customer interaction improves consumers' service brand assessment, brand trust, and brand loyalty. The findings indicate that service brand loyalty may be enhanced not just via the service consumption experience but also through consumer involvement beyond the service encounter. This research adds to the literature by offering an empirical assessment of the connections between consumer involvement and major brand loyalty building variables[8].

According to Rather Et al.On the basis of social individuality and congruency theories, the present study will propose that value congruency directly impacts customer-brand recognition (CBI), affective brand commitment and customer-brand interaction (CBE), which, in spin, paves the way for progressing customer relations with hotel chains, as measured through brand loyalty. As such, this research aims to improve current knowledge into customer relationship management dynamics, with a specific emphasis on hotel companies. The current research provides a theoretical framework that is empirically explored by utilizing confirmatory factor analysis and structural equation modelling studies. Data were gathered by utilizing a selfadministered questionnaire of 340 customers of four-and five-star hotel chains in India. The findings indicate value congruity as a key driver of CBI, emotional commitment and CBE among hospitality brands. The findings also show CBI to function as a major predictor of emotional commitment, CBE and brand loyalty. Furthermore, emotional commitment and CBE are the major determinants of loyalty to hospitality companies. The research is exploratory in nature and is limited to four-and five-star hotel clients, thus highlighting significant limitations of this study. Given these problems, abundant possibilities exist for future study to further investigate and/or verify the presented results. Practical implications — the present study offers fresh insights for marketing practitioners planning or executing long-term customer relationship management strategi3es that focus on customer- brand identity, customer-brand engagement and brand loyalty. Originality/value - Despite existing insights, empirical research into the suggested conceptual connections remains restricted to date, especially in the hotel sector. By providing empirical data in this area, this research contributes to the existing body of knowledge on CBI/CBE-centric customer relationship management[9].

Nobar et al. discussed about this study seeks to examine the effect of customer happiness, experience, and loyalty on brand power in the Hotel sector. This study utilized a descriptive-survey research methodology based on the correlation technique. The chosen populations were Pars Hotels' clients. Sample size was 384, based on Crecy and Morgan's sampling table. The structural equation modeling was utilized to assess the causal simulation and to investigate the reliability and validity of the measurement model. The study findings revealed that consumer expectation had the greatest impact on customer satisfaction with coefficient of determination of 0.74. On the other hand, customer loyalty, with path coefficient of 0.65, is recognized as an important element. This research helps to realize that customer happiness and customer expectations are good factors of client loyalty. Customer loyalty also is a significant indicator of brand strength in hoteling and tourist sector. By improving that portion, which you have superior

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

resources, you may have a better supply and therefore, there would be more chances in building reputation and boosting exposure[10].

3. DISCUSSION

Brand Loyalty and Customer Loyalty in previous literature have been envisaged by two major categorizations, the behavioral and the attitude typologies. The behavioral paradigm to the concept of customer loyalty is mainly concerned with metrics of repeat purchase, percentage of buy and frequency of purchase. The usefulness of the measurements has fluctuated throughout time and across 194 researchers since both groups have their merits and limitations. Developed metric of consumer loyalty Observational research of grocery store Indicated that brand dedication and brand support were essential and sufficient circumstances for consumer loyalty to exist. Produced a classification-loyal, habitual, variety seeking and switchers Provides advice for established rather than young or developing brands. Initially conceived consumer loyalty in a commitment-loyalty metric, called Psychological Committed Instrument (PCI) (PCI). Extended the idea of consumer loyalty to intangible products with their concept of service loyalty. They suggested a 12-item test with a seven point scale defined at each end strongly agree to strongly disagree. Brand Loyalty is multi-dimensional and include three dimensions namely, the emotional tendency towards the brand; the evaluation inclination towards to the brand and third the behavior tendency towards the brand. They hypothesized that all three aspects are present in any scenario where brand loyalty prevails

4. CONCLUSION

As the market grows more aggressive with goods and services which are alternatives, the study of Brand Loyalty and Customer Loyalty will become more important. Producers need to understand customer behavior in order to compete with competitors. Most metrics in the research of loyalty are either behavioral or cognitive dependent on relative focus of the research. The usefulness of the measures employed has changed throughout time and among researchers since each groups have their own strength and limitations. Based on their concept brand loyalty may be split into two main types of operational definitions. The first emphasizes the "based on behavioral reaction, exhibited over time" and relates to a sequence of transactions or recurrent purchases. Brand related attitudinal measurements. It is evaluated by looking at the intention of consumers who want to purchase the same product the following time. Individual oriented attitudinal measures. Brand related behavior measurements. Individual focused behavioral measurements. Consumers may be illogical individuals who make choices not on solid reasonable grounds. There will always be a gap in knowing how a strategic decision unit makes a choice inside a market that provides a lot of options.

REFERENCES:

- **1.** "Customer Satisfaction And Brand Loyalty In The Hotel Industry," Eur. Sci. Journal, ESJ, 2015, doi: 10.5281/zenodo.3461457.
- **2.** M. Andriani and F. Dwbunga, "Faktor pembentuk brand loyalty: peran self concept connection, brand love, brand trust dan brand image (telaah pada merek h&m di kota dki jakarta)," Benefit J. Manaj. dan Bisnis, 2018, doi: 10.23917/benefit.v2i2.4285.
- **3.** K. J. Back and S. C. Parks, "A Brand Loyalty Model Involving Cognitive, Affective, and Conative Brand Loyalty and Customer Satisfaction," J. Hosp. Tour. Res., 2003, doi:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

10.1177/10963480030274003.

- **4.** M. W. Nyadzayo and S. Khajehzadeh, "The antecedents of customer loyalty: A moderated mediation model of customer relationship management quality and brand image," J. Retail. Consum. Serv., 2016, doi: 10.1016/j.jretconser.2016.02.002.
- **5.** Y. Yong, "Research on correlation between customer satisfaction and brand loyalty of service with experience qualities," 2010, doi: 10.1109/ICEE.2010.586.
- **6.** J. P. B. Kosiba, H. Boateng, A. F. Okoe Amartey, R. O. Boakye, and R. Hinson, "Examining customer engagement and brand loyalty in retail banking: The trustworthiness influence," Int. J. Retail Distrib. Manag., 2018, doi: 10.1108/IJRDM-08-2017-0163.
- **7.** A. S. Hussein, "Effects of brand experience on brand loyalty in Indonesian casual dining restaurant: Roles of customer satisfaction and brand of origin," Tour. Hosp. Manag., 2018, doi: 10.20867/thm.24.1.4.
- **8.** K. K. F. So, C. King, B. A. Sparks, and Y. Wang, "The Role of Customer Engagement in Building Consumer Loyalty to Tourism Brands," J. Travel Res., 2016, doi: 10.1177/0047287514541008.
- **9.** R. A. Rather, S. Tehseen, and S. H. Parrey, "Promoting customer brand engagement and brand loyalty through customer brand identification and value congruity," Spanish J. Mark. ESIC, 2018, doi: 10.1108/SJME-06-2018-0030.
- **10.** H. B. K. Nobar and R. Rostamzadeh, "The impact of customer satisfaction, customer experience and customer loyalty on brand power: Empirical evidence from hotel industry," J. Bus. Econ. Manag., 2018, doi: 10.3846/jbem.2018.5678.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE USE OF OFFICE-RELATED WORDS IN HISTORICAL SOURCES

Sadinova Nafisa Usmanovna*

*Doctor of Philosophy (PhD), Navoi State Pedagogical Institute, UZBEKISTAN

Email id: nafisadinova1976@gmail.com **DOI: 10.5958/2249-7137.2021.02608.2**

ABSTRACT

The article provides valid scientific evidence to show that the lexical structure and the literary language of Uzbek serve as the main source for the formation of terms in this language as well as the enrichment and regulation of the terminological systems. The author provides loads of examples related to the business sphere to justify her proposition. Furthermore, the article discusses the formation of models of business terms, and the author supports the proposed data by various samples.

KEYWORDS: Dictionary, Internal Source, Common Turkic Words, Business, Term, Term Word, Hybrid Term.

INTRODUCTION

It should be noted that from the time of creation of "Qutadg'ubilig" to the period of creation of "Boburnama" the terms pertaining to business sphere increased and enriched at the expense of the lexical units borrowed from other languages. On the basis of comparative analysis we have identified the following facts: there are 35 Arabic and 3 Persian business terms in "Qutadg'ubilig" whereas "Boburnama" contained 80 Arabic, 24 Persian, 6 Mongolian and 2 Hindi words which were actively applied in business sphere. There were also several hybrid terms formed from the combination of elements of Arabic, Persian and Turkish languages, such as арзадошт, экурмони, иноятнома, мулкгирлик, накдина, номашруъ, офтобачи, парвоначи, таксилдор, фатунома, хизоначи. This phenomenon shows an increase in the impact of Arabic and Persian in the literal Uzbek language and in certain terminological systems.

We can notice that in the works of Ali-ShirNavai there are even more Arabic and Persian words among the terms related to business field.

Due to the wide and active use of business words of that period, some of them were adopted into other languages. For instance, the words καραμ∂αω(pencil) βα πρπωκ (label) which are currently widely applied in Russian, were also derived from the Turkic language. The word καραμ∂αω was derived from 2 words - καρα (black) and ∂αω(stone) and assimilated into the Russian language in the form of καραμ∂αω. The word πρπωκ was borrowed from the Turkic word ερπωκ. Ερπωκ was a privilege granted by the khan, and it had the meaning of document. At present, this word has been adopted and used in the Russian language as the word πρπωκ with the meaning of label. The strong influence of the Arabic and Persian-Tajik languages also did not exclude the use of business words in the Turkic language. For instance, the names of various other

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

documents and the documents such as *ёрлиқ, буйруқ, тархонлик* (дархонлик) are in the pure Turkic language, some of which are still in active usage.

The great Turkic poet Ali-ShirNavai writes the following in his masterpiece "Muhakamat al-Lughatayn" about the affix -чи: "The letter combination and (чи) is added at the end of some words and denotes any person doing any work or craft. It is not used in the Persian language; therefore, they also use it in the Turkic language. There are a number of such words with the suffix –чиdenoting different titles: қўрчи, сувчи, хизоначи, керак-ярогчи, чавгончи, найзачи, шукурчи, юртчи, шилончи, ахтачиеtс. The names of various craftsmen are also expressed with the help of this suffix, for example, қушчи, борсчи, қўруқчи, тамгачи, жибачи, йўргачи, ҳалвочи, кемачи, қўйчи. Moreover, there are some more words related to the people who deal with birds e.g., қозчи, қувчи,турначи, кийикчи, товушқончики. People used them mostly in the Turkic language".

This phenomenon provides evidence that at that time these were made on the basis of internal possibilities or features of the Uzbek language. The derivational words formed on the basis of an internal source, that is, on the basis of the language's own internal possibilities, also constitute a certain amount of business terminology.

Three ways of word formation are indicated in the Uzbek language. Based on this idea, we have divided the derivational terms into three categories:

- 1) The words made from original Uzbek words with the help of Uzbek suffixes: бирлашма, битирувчи, бошлиқ, бошқарма, бузгунчилик, буйруқ, буюртмачи, бўлим, бўшамоқ, қатнашчи, қўлланма;
- 2) The words borrowed from other languages and made from Uzbek means of word formation. This category, in turn, is divided into several types:
- Tajik word + Uzbek suffix: гувохлик, ногиронлик, огохлантириш.
- Arabic word + Uzbek suffix: вазирлик, ворислик, давлатчилик, жабрланувчи, ижрочи, изохламок, имзосиз, инобатсиз, иктисодчи, кафиллик, лавозимсиз, лаёқатли, маслаҳатчи, маълумотсиз, мустақиллик, назоратчи.
- Terms derived from international words and made up with the help of Uzbek suffixes: *архивчи*, биржачи, лаборантлик, агентлик, паспортли, дипломли, почтачи, кассасиз.
- 3) The original Uzbek and borrowed words made up by the means of other languages: архившунос, акциядор, мехнаткаш, расмий, илмий, маълумотнома, билдиришнома, далолатнома, босмахона, буйрукнома, буюртманома, бўнакдор, ишончнома, йўрикнома.

In the period of our study we have noticed the intensity of the affixoid-*нома* in the formation of derivational terms related to business field. Originally it was accepted as a word in the Uzbek language; that Persian-Tajik word actively participated in the creation of document names and helped to denote the complementarity concepts that is, it acquired new significance and served for the creation of a document name. In the "Short Russian-Uzbek-English Business Dictionary" (Қисқача русча-ўзбекча-инглизча иш юритиш луғати) there are more than 30 terms related to this field, formed with the help of suffix *-нома*. On the strength of this case it is obvious that by specification of certain affixes or affixoids, it is possible to form short, definite, and monosemantic terms, and escape from compound and descriptive terms. The creation of clear

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

templates for the terms that represent certain processes in each field of science makes it easier to regulate the terms in these areas.

So if a component of a derivational or one of the components originally belongs to another (foreign) language, and if the newly-made word (derivational word) has been created in that language, that word is considered a word specific to its own layer.

Although the lexical layer of our language is sufficiently enriched by precisely borrowing the words, it is not enough for the fulfillment of the need for the new words. "Besides, the intrinsic desire to preserve the purity of the language has led to the development of relatively alternative ways of borrowing the standardized scientific terms". [2, 108.] It also allows expressing the concepts that do not exist in loan translation through the units that already exist in the language [1, 108.]. This, in turn, prevents the risk of overuse of foreign words in our language. In the field of business, the terms derived from the Russian language take a significant place. The following types of loan translation are presented in the works dedicated to the phenomenon of loaning the words in the Uzbek language:

- 1. Full loan the meaning of a word in another language is presented by forming it on the basis of word's own language material: қатнашчи (participant), устқурма (superstructure)
- 2. Semi-loan a word is composed by a foreign language and own language components: областлараро (interregional), спортчи (sportsmen).
- 3. Semantic loan the meaning of a word borrowed from another language is expressed with its own language components: δỹευμ (generation), οκμμ (used in political context in the meaning of stream) [3].
- 4. Phraseological loan [2, 107.].
- E. Shoakhmedov, who studied the problem of loaning words from Russian to Uzbek in a monographic scale, claims that loaning words is a special type of borrowing words: "A number of scientists have also conducted research on word loan. All of them have agreed that in the process of loaning new words are copied from the origin language and many of them indicate that this way of making up new words has been a special kind of borrow".

The same views were expressed in the research works of H. Yodgorov, N. Usmanov, E. Shirinova, who studied the phenomenon of loaning. However, in the observations of E. Shoakhmedov we came across the following controversial points: "Initially, it should be noted that we have to study carefully the loaned words and the derivational words which were made up by the internal features of a language and be able to distinguish them from each other. This is because loaning words from other languages is a phenomenon that occurs only under the influence of an external source". [4] or "... when we discuss about the process of word-formation in the modern Uzbek language at the expense of internal possibilities, there is no doubt that we encounter the phenomenon of loaning. Or, conversely, if we are dealing with loaning process, we use the internal features of word-formation and evidences of the Uzbek language". [5]

When we generalized all the points presented above, we have identified that there is a need to clarify some points which are of dispute. If loaning is considered to be the process of borrowing words (i.e., an external source), so why does this phenomenon occur at the expense of the internal resources of the language and serve to preserve the national identity of the language?

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In turn, linguist A. Khodzhiev distinguishes the phenomenon of loan translation from the phenomenon of word acquisition: "Loaning words without the use of the internal sources of the language is impossible. There is no question of making up new words in this way. When a word is borrowed from another language without the use of the language's own or internal resources, this phenomenon is called word acquisition". [5]

On the basis of A. Khodzhiev's suggestions, the following words widely used in the field of business which are formed with the help of full-loaning process: бошқарма тузилиши (management structure), вақтинчалик иш (temporary work, job), давлат ҳуқуқи (state law), жисмоний шахс (individual, natural person), иш юритиш (clerical work, office work), иш юритувчи (clerk, office manager), йиллик режа (annual plan), меҳнат дафтарчаси (employment record book), меҳнат шартномаси (employment contract), овоз бериш (voting), ойлик режа (a monthly plan), уй-жой бошқармаси (housing management), бир овоздан (unanimously), ярим йиллик режа (a half-year plan), ҳуқуқий шахс (legal entity) etc. The words given below are formed with semi-loan process: академик таътил (academic leave), банк қарзи (bank loan), бухгалтерлик ҳисоби (accounting), бюджет ташкилоти (budget organization), валюта муомаласи (currency operation), кадрлар бошқармаси (personnel department), коллегиаллик (collegiality), кредитор қарздорлик (accounts payable), маҳаллий бюджет (local budget) etc.

It can be said that full-loan of words is made entirely on the basis of the own internal possibilities of the language, because these word combinations are formed completely by the features of the Uzbek language. In this case, the Russian language stimulates this process only by the meaning. In the process of semi-loan there is a great influence of original Uzbek words or suffixes.

So this means that loaning does not only occur under the influence of an external source, but also uses internal ones. The influence of an external source on the process of loan translation distinguishes it from word-formation based on the internal capabilities of the language. A. According to Khodzhiev, "... the formation of a new word by a certain method of word-formation e.g., using the internal means available in the language and the formation of words with the help of loan translation are different phenomena". [6]

Research shows that every terminological system, including business terminology, is formed and developed on the basis of various internal and external sources.

The internal source has a special place in the field of business, and plays an important role in the history of the formation and development of business terminology in the Uzbek language.

REFERENCES

- **1.** Shirinova E. The loan translation in Uzbek banking and financial terminology. Uzbek language and literature. 2017;2:108.
- **2.** Shoakhmedov E. On the issue of loan translation in the development of Uzbek terminology. PhD thesis Tashkent, 1974.
- **3.** Shoakhmedov E.. The role of loan translation in the development of Uzbek terminology. Uzbek language terminology. Bulletin. Publication 1. Tashkent: Fan, 1987. p.15.
- **4.** Khodziev A. Term-elements.Uzbek language and literature, 1989;6:31.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **5.** Allaberdiyev A. Lexical-semantic peculiarities of homonyms in Bukhara Oghuz dialectics. EPRA International Journal of Research and Development. 2020;10(2):405.
- **6.** Yuldashev F. The lexical semantic features of the general semantic noun units "belief" are described. Research Jet Journal of Analysis and Inventions- RJAI. 2021;2(10):25-29.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

MECHANISMS OF IMPORT SUBSTITUTION POLICY IN THE REGION

Akmal Abdulazizovich Abduvokhidov*; Alisher Burkhanov Khodjimuratovich**; Bekzod Bakhtiyarovich Toshboev***; Yusufaliyev Olimjon Abdurahmonovich***; Dostonbek Bakhodir ogli Eshpulatov****

*Docent,

Gulistan State University, UZBEKISTAN Email id: akmalabdulazizovich@gmail.com

**Professor,

Gulistan State University, UZBEKISTAN

***Lecturer,

Gulistan State University, UZBEKISTAN

****Lecturer,

Gulistan State University, UZBEKISTAN

*****Doctoral Student,

Gulistan State University, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02603.3

ABSTRACT

At the current stage of economic reforms, great attention is paid to the socio-economic development of the regions, the elimination of unemployment in the regions through the construction of new production facilities, the expansion of production of import-substituting products. In this regard, this article analyzes the organization of import-substituting industries in the regions.

KEYWORDS: Gross Regional Product, Import And Export, Import Structure, Import Substitution, Domestic Production, Economic Development.

INTRODUCTION

At the current stage of development of the world economy, the development of principles of economic policy and their consistent implementation, which will allow for the socially sustainable development of the regions, is becoming increasingly important. Therefore, the work of the President of the Republic of Uzbekistan Sh. Mirziyoyev states: "In order to develop the economy, it is necessary to develop a comprehensive and balanced socio-economic development of regions, districts and cities, effective and optimal use of their potential" (SH.M.Mirziyoev, 2021). The most important factor in the development of the national economy and the welfare of the country's population is directly related to the socio-economic potential of the country's regions and their effective use. Indeed, it is logically ineffective to express an opinion on the development of the national economy and its competitiveness without achieving sustainable development indicators in the regions. Therefore, in the current period of development and against the background of deep reforms, a comprehensive analysis of the socio-economic development of the regions of the republic is becoming more important than ever in making

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

important and rational economic decisions. In this regard, in order to introduce a single system for assessing the complex and balanced socio-economic development of the regions of the country, the efficiency of use of natural resources, economic and investment potential, as well as other comparative advantages of the regions, On May 1, in accordance with the Resolution No. PP-4702 "On the introduction of a rating system for socio-economic development of the regions" on the basis of statistical indicators and surveys, a rating system for socio-economic development of regions was introduced (Sh.M.Mirziyoev, 2020). This, in turn, serves as a practical solution to the problem of analyzing the indicators of socio-economic development of the regions of the republic. [8]

In this regard, it should be noted that to date, in-depth analysis of the current state of socio-economic development of the regions of the Republic of Uzbekistan, it is necessary to develop forward-looking targeted programs with a comprehensive assessment and comprehensive measures to address emerging problems, there was no single coordinated mechanism for level response. The rating system of socio-economic development of the regions is now used to make decisions on socio-economic spheres at the national level or in individual regions, to identify systemic problems in the regions, to assess the real economic potential of the regions, to analyze living standards and incomes. And this is a unique methodology for increasing the responsibility of the heads of local executive bodies on the basis of constant monitoring of their activities and an objective assessment of the effectiveness of their activities.

LITERATURE REVIEW:

Despite the urgency of the problem of organizing import-substituting production and, on this basis, ensuring economic growth in the national economy, this problem has not been studied in detail. Some aspects of ensuring economic growth in the country on the basis of the organization of import-substituting industries J.M. Keynes, J. Ituell, R. It is reflected in the scientific works of foreign scholars such as Prebish. In the scientific works of these economists, industrial policy based on the organization of import-substituting industries and, on this basis, the issues of ensuring economic growth in the national economy are considered in terms of the conditions of a market economy.

Among the economists of our country are H.P.Abulkasimov, A.V.Vahabov, T.T.Juraev, A.A.Olmasov, A.V.Vahobov, S.V.Chepel, R.R.Khasanov, Sh. G. Yuldashev, F.T.Egamberdiev (H.P.Abulkasimov, 2017), U.A.Madrahimov, G.N. Mahmudova (G.Mahmudova, 2019) and others can be cited in this area. [1-8]

However, an analysis of the studies shows that issues such as import substitution, its classification characteristics, and incentive mechanisms in transition economies remain unresolved, and many proposals to improve the country's economic development remain controversial. In addition, the conditions, priorities, and mechanisms for ensuring import-substituting economic growth have not been fully and thoroughly studied in the context of transition economies in general.

RESEARCH METHODOLOGY

Methods such as statistical analysis, generalization, grouping, classification, comparative analysis, and cross-comparison were used in the research process.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Analysis and results. Each region of our country is unique. The possibilities of districts within a province are also not the same. Therefore, the issues of economic development of the Republic of Karakalpakstan, the city of Tashkent and the regions are being discussed separately. The head of our state goes out to the regions, talks to the population and pays great attention to the relevance and practicality of the planned measures. It is criticized that the leaders of the center are satisfied with the general reports of the governors in decision-making, and from now on each issue of the region should be addressed at the district, village, mahalla, branch and enterprise level. It is necessary to start the development of programs in each village, to specify in which village to develop which direction, how much money should be allocated for this (Sh.M.Mirziyoyev, 2020). [8]

The strategic objectives of economic development of the regions are:

- Ensuring comprehensive and effective use of natural, mineral and raw materials, industrial, agricultural, tourism and labor potential of each region for rapid socio-economic development, raising living standards and incomes;
- Accelerated development of districts and cities by reducing the gap in the level of socioeconomic development of the regions, primarily by increasing industrial and export potential by expanding the scale of modernization and diversification of the regional economy;
- Active development of small urban-type towns and settlements through the establishment of new industrial, production and service centers, attracting funds from large business associations, bank loans and private foreign investment;
- Expansion of the revenue base of local budgets through the reduction of subventional districts and cities, the rapid development of industry and services;
- Further development and modernization of production, engineering, communication and social infrastructure of the regions in order to create favorable conditions for the location of industrial and other production facilities, the development of private entrepreneurship and improving the living standards of the population.

In today's conditions of development of the world economy, the development of policies and effective mechanisms for the development of the regions is becoming more important than ever. The ongoing global crisis and the instability of the financial system are forcing many countries in the world community to look for ways to cut costs. One of the solutions to this problem is to reduce the volume of imported products with products that are fully or partially produced domestically.

The focus of the country's economy on the export of resources and the lack of effective government programs to increase the level of economic development of individual regions have led to a number of imbalances in the economic development of the country's regions. Today, the number of enterprises producing high quality and competitive products in our country is still insufficient. At the same time, one of the ways to develop the regions and improve the quality of products produced by local enterprises is to develop an active import substitution mechanism. Active import substitution is a set of measures aimed at launching the production of high value-added industrial products in the Syrdarya region on the basis of creating competitive advantages in the organizational, economic and technical spheres of enterprise activity, which in turn allows more efficient use of available resources. The basis of the import substitution mechanism is the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

development and implementation of a comprehensive targeted program aimed at reducing the use of imported raw materials and equipment in the production process or replacing imported products with similar domestic products in terms of quality, specifications and competitive prices. A targeted comprehensive program aimed at import substitution is considered to be able to take into account all economic, geographical and other features, as well as the limited resources of the region, as a flexible means of influence.

In order to analyze the conditions and ways of implementing the import substitution policy, we selected the Syrdarya region. Today, Syrdarya region is one of the most important economic regions of the country.

Syrdarya region is home to 2.5% of the population of Uzbekistan and its land area is about 1% of the country's territory. However, despite its small population and small size, this region, with its geographical location and a number of features, plays an important role in the country's economy. During 2017-2020, the gross regional product (GRP) of the region will increase by 8.4% to 12.9 trillion soums. soums. The number of enterprises operating in the region increased by 37%, from 13.3 thousand in 2016 to 18.2 thousand in 2020. In the field of infrastructure development in 2016-2020, 741 km of water supply networks were laid. About 83,000 new jobs have been created in the Syrdarya region over the past five years. During this period, 1192 thousand square meters of housing were commissioned in the region, 5.4 thousand beds were built in preschool institutions, 10.2 thousand in schools and 1.4 thousand in hospitals. 737 projects have been formed in Syrdarya region for 2021. Their total value is 25.5 trillion soums, of which about \$ 900 million is foreign investment. The textile, construction materials, pharmaceutical and food industries have been identified as "drivers" in the formation of projects.

In order to determine the mechanism of implementation of import-substituting policy in the Syrdarya region, we consider two main theories on raising the level of regional economic development in the current context of economic development (Диденко Н. И., 2015). One is the export base theory and the other is the consumption theory. These two theories are traditionally considered as alternatives to each other.

The export base theory argues that the region should increase cash flows in terms of development and that exports are the main source of cash inflows (R.B, 1970). Export earnings should be used locally, creating new jobs in local service sectors. Workers in local service sectors must spend their growing incomes to create additional jobs within the region (A.W., 1992). Export base theory argues that the change in employment or income at the expense of exports is equal to the change in total employment and income in the region.

Proponents of this theory believe that this situation in practice explains the important economic relations between sectors, reflects the specialization of regions, shows the impact of changes in key sectors of the region's economy and allows to produce goods and services at low prices at the expense of scale. However, the export base is criticized in several ways, particularly through mono-causal theory. This theory argues that everything depends on exports, denying domestic growth factors such as the implementation of domestic economic activities as a source of growth, government development programs. It precludes improving productivity as a source of growth, confusing the differentiation of industries with the export base of domestic service industries, which in turn makes it difficult to implement import substitution policies and its key guidelines (Harris T.R., 2010). [6]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Consumer theory argues that a decrease in the outflow of cash flows in the monetary sector will lead to the economic development of the region, and that local service sectors will affect the region's economy in the same way as exports. Local investment leads to an increase in residents' expenses, an increase in the flow of citizens and tourists from other regions to the region, which in turn increases the revenue side of the local budget. It can reduce losses by establishing local production of goods and services in the region, otherwise the demand for these goods and services will be covered by imports, which in turn will lead to an outflow of cash flows .At the same time, it should be noted that the import substitution mechanism is not without its shortcomings. Since this idea was originally developed internationally, the policy of encouraging import-substituting industries included the introduction of tariffs and the establishment of increased exchange rates in order to give priority to one or another sector in the country. This view of artificial governance has drawn serious criticism from supporters who firmly believe in the functioning of the market mechanism. Also, import substitution does not ensure the full and efficient use of resources from the point of view of society, so it is difficult to achieve the effect of scale of production at the regional level. In addition, the use of import substitution policies in a number of sectors, including retail, health, and agriculture, has been shown to be appropriate.

These two theories are put forward as completely opposite to each other. Most economists and policymakers prefer the export-based theory of import substitution, although both theories have their own strengths and weaknesses.H.J. Bruton warns that the policy used in the import substitution strategy could lead to the closure of the country's economy for the rest of the world. Due to the high level of protection, internal and external price levels differ greatly from each other. Given the lack of competition with foreign goods, the government can intervene in these processes, but it is natural that such an approach would lead to the disruption of the country's economy, since any interference in the market mechanism will have serious consequences to one degree or another. According to the import substitution strategy, local industries can be protected by the state through certain subsidies. However, this type of subsidy can lead to a budget deficit by the government. X.J. According to Bruton, as a means of protection, tariffs are somewhat harmless to quotas.

Thus, countries will begin to trade openly, abandoning the practice of quotas. In addition, the level of tariffs should be reduced in order to create a favorable environment for open trade.

Russian expert O.S.Belokrylova emphasizes the need for institutional changes at the state level in the framework of radical reform of economic policy in the field of import substitution and suggests the creation of new institutions that will serve to implement an effective strategy of import substitution (D.B, 2021). At the current stage of development of the world economy, including in the context of deepening globalization processes, many countries around the world are facing problems with the displacement of products produced by domestic enterprises from domestic markets by similar imported goods. This situation will eventually force the state to fall victim to the situation, importing material and intellectual products from other countries. In addition to the state's dependence on certain countries to fill the market with the abovementioned goods, the government will be deprived of the opportunity to make effective use of the existing potential, despite the fact that the country has the opportunity to produce similar imported products in terms of quality and characteristics. Also, the use of such opportunities would serve to create additional jobs, increase the overall level of welfare. As a solution to the problem of reducing the volume of imported products, we can cite a set of measures aimed at

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

increasing import-substituting industries, called import-substituting policy. Representatives of the new Keynesian school were among the first to propose an import-substituting policy. In particular, X. Cheneri and M. Bruno recognizes import substitution as one of the main directions of economic development of the country (B., 2021). Modern domestic and foreign economists have tried to theoretically substantiate the effectiveness of import substitution policies in practice. Russian researcher A. Kireev explained the nature and advantages of the import-substituting growth mechanism. As a follower of the new Keynesian school, DN Zeitsev proposes to consider the process of import substitution as one of the ways of economic development of the region (D.B. Eshpulatov, 2020). Another Russian economist, P.A. Kadochnikov analyzed the impact of macroeconomic processes on import substitution along with import substitution processes (D.B., 2020). [2-4]

Today, there are several definitions of the concept of "import substitution". Often when it comes to import substitution, "... by regulating the production of the same or similar goods in the country, it is understood to reduce or completely ban the import of certain goods". Another common definition of import substitution is "a reflection of the state's economic policy and economic strategy aimed at replacing imported manufactured goods in demand in the domestic market with domestic goods". In general, it is impossible to recognize the policy of import substitution in the modern economy as effective or ineffective, however, it is natural that the application of the strategy of import substitution in our country will have a positive effect. This measure will not only serve to increase the overall level of economic security and strengthen the country's commodity independence, but also create the basis for the economic development of the country's regions, based on the real situation. In this regard, the approach based on the specifics of the regions of our country is important. Thus, in the context of this study, we conclude that import substitution should be understood as a process of replacing goods produced outside the country with local goods that do not lag behind them in terms of quality and characteristics. There are several areas of practical application of import substitution strategies in the modern economy. Supporting weak or underdeveloped industries is the first option, which in turn will strengthen the position of underdeveloped industries in the domestic market, while underdeveloped industries will be firmly established in foreign markets. When we talk about the support of underdeveloped industries, we mean the application of protectionist policies by the state to further develop and increase the competitiveness of these industries. Encouraging developed industries will provide an opportunity to compete in foreign markets.

In order to select an industry in which the import substitution strategy can be applied, we must first consider the general structure of imports in the Syrdarya region (Figure 1).In 2020, the volume of imports will reach 464.2 mln. USD and 105.7% compared to the corresponding period of 2019.

Source: Based on data from the Syrdarya Regional Statistics Department for 2020.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

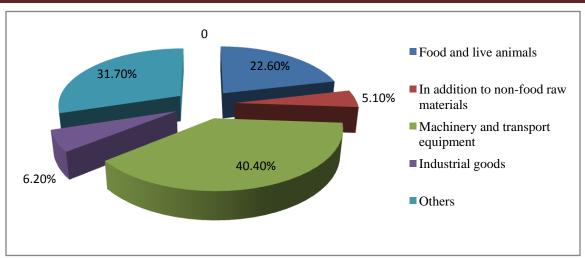


Figure 1. Import structure of Syrdarya region in 2020 (in%).

The largest share in the structure of imports was due to machinery and transport equipment (40.4%), food and live animals (22.6%) and chemical products and similar products not included in other categories (15.4%).

Analysis of the composition of imported goods and services in 2020 shows that compared to the corresponding period of 2018, the share of imports of machinery and transport equipment increased from 35.9% to 42.0%, non-food raw materials, excluding fuel from 6.1% to 5, 1%, while the share of imports of industrial goods decreased from 7.2% to 6.2%. In order to deepen our analysis, we analyze the import structure of the Syrdarya region for 2018-2020 (Figure 2).

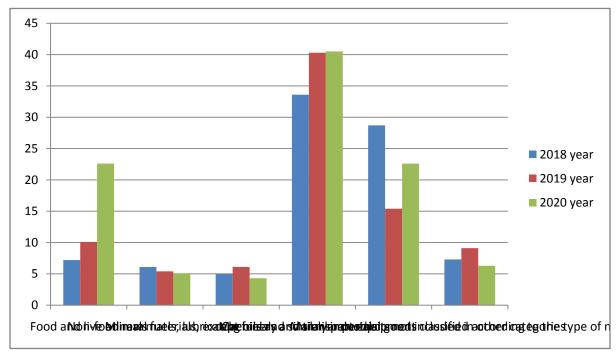


Figure 2. The structure of the structure of imports of the Syrdarya region in 2018-2020, in%.

Source: Based on data from the Syrdarya Regional Statistics Department for 2020.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As can be seen from the data in Figure 2, in recent years, it is machinery products that have been leading the structure of imports in the region. It should be noted that in recent years, the import of machinery in the region is growing every year. In particular, during the years under review, imports of machinery and equipment have continued to grow. This ratio indicates the need to implement a policy of import substitution in the region in the field of machinery, construction, processing of agricultural products. At the same time, it should be noted that today a number of projects are being implemented in the region within the localization project.

The implementation of the Program of localization of production of finished products, components and materials has also had an impact on achieving high growth rates of industrial production in the region. Products worth 276.4 billion soums were produced under 45 projects included in the program. Products produced under the localization program were exported in the amount of 3,437.1 thousand US dollars. As part of the localization program, 566 new jobs were created in 2020, the number of newly created jobs increased by 67.0% compared to the same period last year (Table 1).

TABLE 1.THE MAIN INDICATORS OF THE PROGRAM OF LOCALIZATION OF PRODUCTION OF FINISHED PRODUCTS, COMPONENTS AND MATERIALS IN THE SYRDARYA REGION

Indicators	2019 y	2020 y
Number of projects, in units	7	45
Number of enterprises, in units	6	21
Production capacity, mln. sum	258,8	276,5
Volume of exported localized products, thousand USD	2 922,3	3 437,1
New jobs created, in unity	339	566

Source: Based on data from the Syrdarya Regional Statistics Department for 2020.

In order to provide detailed information on import consumption in the Syrdarya region, we recommend the creation of an import consumption model for five types of products:

- 1. Building materials;
- 2. Food products;
- 3. Machines;
- 4. Equipment;
- 5. Vehicles.

In this case, we will try to create a model that reflects the dependence of the volume of imported products on the region's GRP, the share of industrial production in GRP, trade balance, the volume of manufactured products, as well as the growth of total prices for production and products. It is proposed to create this model on the basis of the autoregression model of distributed time intervals. This choice is explained by the need to take into account the impact of the value of current and previous indicators used in the modeling of import consumption in the Syrdarya region.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

At the initial stage, it is required to justify the selection of variables. The following were selected as endogenous variables for modeling:

- The volume of imported building materials for the first equation;
- Volume of imported food products for the second equation;
- The volume of imported machines for the third equation;
- Volume of imported equipment for the fourth equation;
- The volume of imported vehicles for the fifth equation.

The choice of interrelated indicators depends on the direction of reforms carried out by the government of our country in the field of diversification and modernization of industry and the economy in general.

Endogenous Exogenous factors factors $X_{t\text{-}i}^{\overline{13}}$ Y_t^1 X_{t-i}^{18} Y_{t-1}^{-1} X_{t-i}^{1} X_{t-i}^{2} X_{t-i}^{1} $X_{t\text{-}i}^{3}$ X_{t-i}^{8} X_{t-i}^{19} Y_t^2 X_{t-i}^{4} $Y_{t\text{-}1}^{\quad 2}$ $X_t^{\ 1}$ $X_{t\text{-}i}^{2}$ $X_{t\text{-}i}^{\quad \ 1}$ $X_{t\text{-}i}^{9}$ $X_{t\text{-}i}^{14}$ Y_t^3 Y_{t-1}^{3} X_t^1 X_{t-i}^{2} X_{t-i}^{-1} $X_{t\text{-}i}^{5}$ X_{t-i}^{10} X_{t-i}^{15} X_{t-i}^{20} Y_t^4 X_{t-i}^{21} X_{t-i}^{11} Y_{t-1}^{4} $X_{t\text{-}i}^{\quad \ 1}$ $X_{t\text{-}i}^{2}$ $X_{t\text{-}i}^{\quad \ 1}$ X_{t-i}^{6} X_{t-i}^{16} X_{t-i}^{22} Y_t^5 $X_{t\text{-}i}^{7}$ X_{t-i}^{12} X_{t-i}^{17} Y_{t-1}^{5} X_{t-i}^{1} $X_{t\text{-}i}^{\quad 2}$ $X_{t\text{-}i}^{\quad \ 1}$

TABLE 2.ENDOGENOUS AND EXOGENOUS VARIABLES

When conducting research, we take into account that the volume of imported products is affected by such indicators as gross regional product, the share of products in gross regional product, the balance of trade balance of the region, producer price index, industrial production index. In this case, all the endogenous and exogenous variables on which the system of equations is generated represent the regional import consumption model as a whole (Table 2).

Endogenous factors used in creating the model of import consumption of Syrdarya region:

Y_t¹- volume of construction materials imported in t per year;

 Y_t^2 - volume of imported food products in t;

 Y_t^3 - The volume of imported machines in t;

 Y_t^4 - volume of imported equipment in t;

 Y_t^5 - volume of imported vehicles in t.

Exogenous factors:

 Y_{t-1}^{-1} - volume of imported construction materials in t-1;

 Y_{t-1}^2 - volume of imported food products in t-1;

 Y_{t-1}^{3} - Volume of imported machines in t-1 (groups No 26 and No 27 according to SITC);

 Y_{t-1}^{4} - Volume of imported equipment in t-1 (No 28 groups according to SITC);

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

 Y_{t-1}^{5} - Volume of imported vehicles in t-1 year (groups No 29 and No 30 according to SITC);

 X_{t-i}^{1} - GVA volume in t-1;

 X_{t-i}^2 - trade balance in t-1;

 X_{t-i}^{3} - t-1 price index of building materials manufacturers;

 X_{t-i}^{4} - t-1 price index of food producers;

 X_{t-i}^{5} - t-1 year car manufacturers price index;

 X_{t-i}^{6} - t-1 year price index of equipment manufacturers;

 X_{t-i}^{7} - t-1 price index of vehicle manufacturers;

 X_{t-i}^{8} - volume of construction materials produced in t-1 year;

 X_{t-i}^9 - volume of food produced in t-1;

 X_{t-i}^{10} - the volume of machines produced in t-1;

 X_{t-1}^{11} - the volume of equipment produced in t-1;

 X_{t-i}^{12} - volume of vehicles produced in t-1;

 X_{t-i}^{13} - industrial production index of building materials produced in t-1;

 X_{t-i}^{14} - industrial production index of food products in t-1;

 X_{t-i}^{15} - industrial index of machine production in t-1;

 X_{t-i}^{16} - industrial production index of equipment in t-1;

 X_{t-i}^{17} - industrial production index of vehicles in t-1;

 X_{t-i}^{18} - The share of construction materials produced in the gross regional product in t-1;

 $X_{t\text{-}i}^{19}$ -The share of food products in the gross regional product in t-1;

 X_{t-i}^{20} -Percentage of the volume of machines produced in the gross regional product in t-1;

 X_{t-i}^{21} -Percentage of equipment produced in the region's GDP in t-1;

 $X_{\text{t-i}}^{\ \ 22}$ -The share of vehicles produced in the region's GDP in t-1.

Thus, the system of equations of the import consumption model will have the following form (1):

$$\begin{cases} Y_t^1 = a_1Y_{t-1}^1 + a_2X_{t-1}^1 + a_3X_{t-1}^2 + a_4X_{t-1}^3 + a_5X_{t-1}^8 + a_6X_{t-1}^{13} + a_7X_{t-1}^{18} + a_0 \\ Y_t^2 = b_1Y_{t-1}^2 + b_2X_{t-1}^1 + b_3X_{t-1}^2 + b_4X_{t-1}^4 + b_5X_{t-1}^9 + b_6X_{t-1}^{14} + b_7X_{t-1}^{19} + b_0 \\ Y_t^3 = c_1Y_{t-1}^3 + c_2X_{t-1}^1 + c_3X_{t-1}^2 + c_4X_{t-1}^5 + c_5X_{t-1}^{10} + c_6X_{t-1}^{15} + c_7X_{t-1}^{20} + c_0 \\ Y_t^4 = d_1Y_{t-1}^4 + d_2X_{t-1}^1 + d_3X_{t-1}^2 + d_4X_{t-1}^6 + d_5X_{t-1}^{11} + d_6X_{t-1}^{16} + d_7X_{t-1}^{21} + d_0 \\ Y_t^1 = e_1Y_{t-1}^5 + e_2X_{t-1}^1 + e_3X_{t-1}^2 + e_4X_{t-1}^7 + e_5X_{t-1}^{12} + e_6X_{t-1}^{17} + e_7X_{t-1}^{22} + e_0 \end{cases}$$

In the process of regression analysis, the coefficients of exogenous variables of the tag system were determined, and at the same time the import consumption of Syrdarya region was created (2). This model shows the import consumption structure of the region as well as the influence of production factors on the import of this or that product.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

$$Y_t^1 = 1* \ Y_{t-1}^1 + (1,564\text{E-7})* \ X_{t-1}^1 - (4,176\text{E-6})* \ X_{t-1}^2 + 0* \ X_{t-1}^3 - (1,880\text{E-6})* \ X_{t-1}^8 - 0,002* \ X_{t-1}^{13} - 0,003* X_{t-1}^{18} + 0,294$$

$$Y_{t}^{2}=0.933*Y_{t-1}^{2}+0*X_{t-1}^{1}+0*X_{t-1}^{2}-0.069*X_{t-1}^{4}+0*X_{t-1}^{9}-0.047*X_{t-1}^{14}-1.3*X_{t-1}^{19}+16.659$$

$$Y_{t}^{3} = 0.818*Y_{t-1}^{3} + 0*X_{t-1}^{1} - 0.001*X_{t-1}^{2} + 0.156*X_{t-1}^{5} - 0.041*X_{t-1}^{10} + 0.002*X_{t-1}^{15} + 0.782*X_{t-1}^{20} + 35,646*X_{t-1}^{10} + 0.002*X_{t-1}^{10} + 0.$$

$$Y_{t}^{4} = 2,997 * Y_{t-1}^{4} + 0 * X_{t-1}^{1} - 0,009 * X_{t-1}^{2} - 0,077 * X_{t-1}^{6} - 0,091 * X_{t-1}^{11} - 0,262 * X_{t-1}^{16} + 11,754 * X_{t-1}^{21} - 0,009 * X_{t-1}^{10} - 0,009 * X_{t-1}$$

$$Y_{t}^{5} = 1,016*Y_{t-1}^{5} + 0*X_{t-1}^{1} + 0,003*X_{t-1}^{2} - 0,723*X_{t-1}^{7} - 0,010*X_{t-1}^{12} + 0,018*X_{t-1}^{17} + 0,714*X_{t-1}^{22} + 91,680*X_{t-1}^{17} + 0,018*X_{t-1}^{17} + 0,$$

Thus, the import consumption model of Syrdarya region has the above appearance. The analysis of the import structure and the factors influencing it is one of the key parts of the import substitution mechanism. At the initial stage of creating an import substitution mechanism, it is necessary to select the sector in which the import substitution policy will be implemented. Our analysis shows that it is expedient to implement an import substitution policy in the field of machinery and construction materials in the region.

In the second stage, as part of the implementation of an active import substitution mechanism in the region, targeted programs will be developed, implemented, monitored and amended, the relationship between all components (blocks) of the import substitution mechanism will be carefully studied (Figure 3).

Based on the purpose set out below, we will focus in detail on each component of the import substitution mechanism.

1-Block. Goal setting: This block specifies the goals to be achieved during the implementation of the target complex program and the import substitution mechanism. The purpose of the import substitution mechanism is to reduce the volume of imported goods in domestic markets and replace them with

Figure 3. Interaction of active import substitution mechanism blocks.

Source: author's development.

Products of local producers, while establishing the production of domestic goods that do not lag behind imported goods in terms of quality and price.

2-Block. selection of the executor of the prescribed measures.

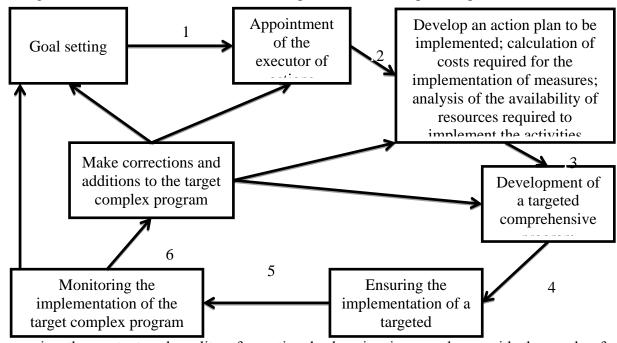
At this stage, an analysis of the executors who may be involved in achieving the goal is made. Among the executors we will be able to include local governments, agencies and organizations that are part of the economic complex, as well as business representatives.

3-Block. setting measures.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

At this stage, a list of activities to be carried out, as well as deadlines for their implementation and the required costs will be determined. Among the measures to be taken to achieve this goal are:

Encourage the activities of scientific organizations and institutions aimed at creating new technologies, efficient use of labor resources and production of competitive products;



- Improving the content and quality of vocational education in accordance with the needs of innovative development of the regional economy;
- Improving the level of technical development of enterprises in the engineering and construction industries;
- Broader involvement of the local population in production processes;
- Creating appropriate conditions for the effective operation of enterprises in the engineering and construction industries:
- Creation of clusters, which include enterprises engaged in a single completed production cycle, as well as companies engaged in product sales;
- Wide promotion of industrial products produced in the region, both in the country and abroad.

Block 3 also provides an account of the costs of the planned activities and an analysis of the state of the region with the necessary resources.

4-Block. development of a targeted comprehensive program.

At this stage, the set of measures that must be taken to implement the import substitution mechanism, the available executors and resources, and the import substitution programs are detailed, depending on the purpose. The development of targeted comprehensive programs is an important step in the development of a mechanism to intensify import substitution processes in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the regions, including the Syrdarya region. When targeted target programs are clearly structured and the sequence of actions to be implemented is structured, it is easier to achieve the set goals.

5-Block. Implementation of a targeted comprehensive program.

At this stage, in accordance with the planned measures, the direct implementation of the target complex program will be carried out. At this stage, the changes taking place in the country and the world economy should not be ignored. Implementers of the program are directly responsible for its implementation, and its implementation is monitored by local authorities.

6-Block. Monitoring the implementation of the target complex program.

This stage is important in finding an answer to the question of how well the targeted comprehensive program corresponds to the real economic reality. The control process is carried out from the start of the mechanism, the control process pays special attention to the implementation period of the target program, efficient use of resources, compliance of planned indicators with current indicators.

7-Block. Make corrections and additions to the target program during the execution (feedback).

Like the control block, the coordination block is valid until the completion of the target complex program. The task of the coordination block is to make adjustments to the deadlines for the implementation of the target complex program, to compare the planned expenditures for the implementation of the planned measures with the current indicators. In general, a targeted complex program is an interdependence of activities and activities of different characteristics, aimed at achieving the set goal.

Once the goals of the target complex program have been identified, decomposition should be performed on it.

In the first stage, it is necessary to identify industries that have a high share of products in the structure of imported goods in the region. As mentioned above, the largest share in the import of machinery, equipment and products of the construction industry in the Syrdarya region.

In the second stage, the industrial sectors in which import substitution programs are to be applied should be divided into sub-sectors and groups. Once we have divided the networks into subgroups, we will be able to create narrowly targeted subprograms within a targeted complex program. In this case, in our opinion, the following:

- Expansion of production of medical devices and medicines;
- Increase the production of wall and roofing materials, glass, glassware, plumbing, tiles, including paints and varnishes;
- Development of production of electrical goods;
- Expansion of import substitution activities in subgroups, such as expanding the production of machinery and equipment and creating a cluster system in this regard, will have a great effect.

In the third stage, the existing factors of production (labor, land, capital) in the region, especially in the Syrdarya region, should be analyzed. At the same time, it should not be overlooked that today the human factor, the integration of education, science and industry, digitalization, etc. are becoming increasingly important.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

The fourth stage of the development of the target complex program will explore the construction of new production facilities, opportunities for improvement and modification of obsolete productions, technologies used in production and their ability to meet today's requirements.

The fifth stage requires the effective use of existing factors of production, the definition of forms of creation of new factors. In this regard, we can highlight three areas that are effective:

Further expansion of cooperation between enterprises located in the region and other regions of the country;

Creation of additional production factors and capacities based on support of initiatives of enterprises and business representatives located in the region;

To have the lack of production factors with wide involvement of private and foreign investors.

In this case, the question of which method to use and in what order will directly depend on the views of consumers.

In The Sixth Stage: The forms of investment in factors of production are identified. Foreign and domestic investments play a key role in this. Within the framework of the program, the executors of the program are directly involved in attracting investments. It is their actions in this regard that in many ways determine the prospects for future development of the region's economy.

CONCLUSIONS AND RECOMMENDATIONS

The advantage of this proposed structure of the target complex program and the mechanism of activation of import substitution processes is that we can make adjustments to it and add new elements depending on the situation. After the stage of assessing the economic condition of the regions, there is an opportunity to add new subgroups to the model.

It should be noted that this model will not be able to provide the planned effect if the planned plans, deadlines and stages of implementation of measures are not fully implemented. At each stage, we need to pay special attention to the objectives of the mechanism, the proper use of allocated funds and the timely implementation of planned activities.

In conclusion, the proposed import substitution mechanism, which is based on a comprehensive program, serves as a tool to regulate the regional economy, a positive impetus to its economic development, as well as to support local production in other regions of the country and we think that it can be used in supporting them.

REFERENCES

- **1.** Krikelas AC. Why regions grow: A review of research on the economic base model. Atlanta: Atlanta Federal Reserve Bank. 1992.
- **2.** Eshpulatov DB. Issues of the implementing of innovations in the formation of an innovative economic system in the republic of uzbekistan. International scientific and current research conferences "Modern issues of science and practice" 2021.pp.85-88. Washington: Doi https://doi.org/10.37547/iscrc-intconf12.
- **3.** Eshpulatov DB. Issues of Digitization of the Banking and Financial System in the Integration of the Republic of Uzbekistan into the World Economy. Academic journal of digital economics and stability, 2021. pp. 76-81.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Eshpulatov DB. Scientific theoretical views development on the investment impact on the
- **5.** Abulkasimov HP. Особенности научно-технической и инновационной политики стран СНГ, Ближнего и среднего Востока. Tashkent: ТашГИВ. 2017.
- **6.** Harris T, Ebai G, Shonkwiler J, 1998. A multidimensional estimation of export base. Journal of Regional Analysis and Policy 1998;28: 3–17.
- **7.** Andrews, RB. The Problem of Base Measurement. Reprint in R.W. Pfouts (ed.) The Techniques of Urban Analysis, 1970. pp. 65-80. West Trenton: R. W. Pfouts.
- **8.** Mirziyoev SHM. Yangi Oʻzbekiston Strategiyasi. Toshkent: Oʻzbekiston. 2021.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INTERNET MARKETING AS AN IMPORTANT FACTOR IN DEVELOPING BUSINESS

Madieva Zukhra Iskandarbekovna*

*Doctoral Student, Tashkent State University of Economics, UZBEKISTAN

Email id: madievazukhra@gmail.com **DOI: 10.5958/2249-7137.2021.02606.9**

ABSTRACT

The article discusses the problems of developing Internet marketing, reviewed factors for the developing Internet marketing in domestic and foreign practice. Opportunities for successful business in Internet marketing activities are described. The main importance and tools of Internet marketing in business processes, the possibilities of using in advertising activities, are considered by the author.

KEYWORDS: Marketing, Internet Marketing, Information Technology, IT Parks, Online Marketing, E-Commerce, E-Business, Advertising, Viral Marketing, Contextual Marketing, SEO, SMO And SMM.

INTRODUCTION

In recent years, Uzbekistan has paid special attention to the development of information and communication technologies. In order to develop the digital economy, a digital infrastructure is being formed. In this regard, the state strategy "Uzbekistan Digital-230" was adopted. IT parks are being established in all regions of the country. [1]

Information technology covers all sectors and industries of the economy. In particular, the importance of information and communication technologies in the marketing activities of enterprises is growing rapidly. The production of high-speed devices increases the opportunities for high-speed Internet access. Of course this process brings to the development of interactive relationships between businesses and consumers. The future of marketing is based on the fact that innovative technology tools play a central role in the relationship between sellers and buyers. [2]

In the context of an innovative economy, manufacturers need to expand the distribution of their products due to fast-growing trade flows. Due to the development of the technological industry in recent years, the use of Internet marketing technologies in the production and sale of products has become very important.

ANALYSIS OF LITERATURE

Research on the development of Internet marketing over the past decade shows a constant interest in this area of business in foreign and domestic practice.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

This is due, on the one hand, to the study of the impact of enterprises and organizations on the use of certain Internet marketing tools, as well as the study of new areas of marketing activities in the Internet environment.

Marketing is still focused on maximizing the efficiency of commercial operations, offering a wide range of tools that can be successfully applied in Internet marketing activities. In recent years, the use of the Internet as a customer-oriented tool has become the basis for the development of new approaches to the organization of marketing activities, combining the use of information technology and marketing strategies in the implementation of business processes [3, p. 25].

On the other hand, an analysis of the scientific literature allows us to note the constant emergence of new Internet marketing tools that find relevant answers among businesses. In countries with developed market economies, the use of Internet marketing tools has allowed businesses to develop clear strategies. In developing countries, Internet marketing technologies are still developing. The effectiveness of their distribution is determined by various factors such as the availability of sufficient financial and technological resources, knowledge, infrastructure development and the level of development of information technology.

Consumer confidence is also important. The use of Internet marketing in the indoor environment is typical for large and medium-sized enterprises with great potential, as well as aimed at building an image and increasing access to information. Financial institutions and the banking sector are actively developing Internet marketing, creating additional competitive advantage and attractiveness for consumers.

Small and medium-sized businesses, especially in the service sector, also tend to use Internet marketing tools to create websites that provide information about products to consumers, but this activity can have various efficiencies. In this regard, it is important to study the use of modern marketing tools, in particular, Internet marketing, not only in large but also in small and medium enterprises.

In most cases, the use of the Internet is aimed at expanding the opportunities to gain and increase competitive advantages as a result of developing business relationships in the business environment, establishing a competitive system of customer relations and developing consumer loyalty.

The evolution of information technology and especially the Internet, the emergence of e-commerce contributes to the development of a new direction of the modern concept of marketing - Internet marketing. Online marketing is the practice of using all aspects of traditional online marketing to sell a product or service to customers and manage their relationship with them. Internet marketing emerged as a separate field in the 1990s.

In 1992, Charles Stack opened his first online store, where books were the main product. He was supported by Amazon, which has opened its own online store. The first Virtual payment system was the first electronic payment system in 1994, and a few years later it announced the creation of opening single standard for the protection of payments on the Internet using MasterCard and Visa plastic cards. After a while, the first search engines began to appear. Today, the Internet market is sold by companies that are able to invest money in the hope of making a profit in the future [4].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

According to the opinion of V. Kholmogorov, Internet marketing does not exist by itself, it is only part of the overall marketing of the company. Internet marketing is a tool that solves part of a company's marketing tasks and nothing else [15, p. 17].

Internet marketing is a set of specialized methods that allows corporate web resource owners to promote their website on the Internet, thereby promoting their company's brand, earning extra income using network technologies, E.A. Petrik notes [14, p.40].

Internet marketing is a set of marketing tools that help attract and retain new customers. M.V. Akulich noted in his research that the concepts of digital market are similar to Internet marketing. Internet marketing in terms of planning channels of product movement and elements of the marketing complex is very similar to the digital market [5, p. 25]. I.V. Alekseev considers Internet marketing as part of marketing aimed at developing universal systems for profit and studying the principles of interaction of business entities on the Internet to meet the social needs of society [6, p. 2].

A.A. Vekshinsky states that the term "Internet marketing" consists of the theory and methodology of organizing marketing in the hypermedia environment of the Internet [9, p. 103].

E.O. Kitaeva believes that Internet marketing is the promotion of any goods and services over the Internet, a global advertising network, banner advertising [13, p. 66]. The same views apply to A.D. Baranov. In his opinion, the concept of internet marketing is simultaneously this advertising, SEO, SMM or even e-mail marketing [7, p. 15].

In recent years, significant changes have been observed in the development of marketing under the influence of new technologies in both foreign and domestic practice. These include the expansion of the flow of information and the development of distribution chains of goods and services in both domestic and foreign markets. In general, the formation of Internet marketing as a practice of using Internet marketing to all the traditional elements of the marketing complex(price, product, place of sale, advertising). The use of traditional and new tools remains aimed at achieving and strengthening the competitive advantage of enterprises. [8]

RESEARCH METHODOLOGY

The concept of Internet marketing, its role in ensuring the success of business processes, scientific views on Internet marketing tools from monographic observation, abstract-logical analysis, as well as selective observation, online surveys, comparisons, lottery marketing methodsare used.

ANALYSIS AND RESULTS

At present, information technology covers almost all areas of our live. Marketing is no exception. The development of devices and free access to the Internet have had a major impact on the formation of future marketing trends. Future marketing development will be based on innovative technologies playing a central role in the seller-buyer relationship. Internet marketing is a set of different marketing tools that help attract leading companies. The advantage of these tools is the ability to use.

Anyone can start running their own business page on social media. All definitions can be combined and as a result we understand that Internet marketing is a set of measures in an Internet environment that contributes to business development.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Internet marketing solves the following tasks:

- increase sales:
- optimization of advertising costs;
- raising consumer awareness of products and services;
- Increasing the loyalty of the existing audience.

Internet marketing has a number of advantages:

- quick access to product and service information;
- saving the advertising budget;
- ability to advertise the product only to the target audience;
- More accessible advertising channels.

It is very difficult to imagine how internet marketing will develop, because every day there are many new sites and service offers that can quickly change everything and set a new vector of development.

Nevertheless, online marketing has good prospects for development. Today, mobile traffic has far surpassed computer traffic. Therefore, it is necessary to look differently when promoting a brand in the network. Most sellers already have mobile versions of their sites, and buyers are quicker to access product information

is developing custom apps for smartphones so they can access and shop.

A.G. Smirnov identified the main advantages of promoting goods using mobile resources:

- Average price;
- Versatile (suitable for any field of activity);
- Extended target options;
- High efficiency due to its ability to attract an unlimited number of users.

But despite all the advantages, Internet marketing has a number of problems:

- Find the target audience. Typically, the target audience is men and women between the ages of 25 and 40;
- Selection of traffic channels. End-to-end analytics only the number of incoming requests and conversions are recorded.
- Lack of synchronization in the performance of work. A single project is developed by different executors, resulting in errors that can be detrimental to the client.
- Lack of qualified personnel.

In social networks and mobile applications, the customer is offered a full range of information services. For example, the "buy with one click" - "buy" button allows you to instantly buy the product you like without spending time searching for a link.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

You can also watch a video clip about the product that interests the customer instead of reading the text. Internet Marketing Prospects Artificial Intelligence is a powerful driver for improving future advertising on the Internet.

Artificial intelligence allows you to quickly gather the information you need, analyze the data obtained and use it. The most promising opportunity to use artificial intelligence in marketing is Smart Stores, which increases the convenience of shopping. It is possible to get the product without trying to use virtual equipment. The payment method is also simplified - you can pay for the purchase by holding your smartphone to the terminal. Today, a new and most promising area of marketing is the hologram, which allows the customer to interact wherever they can buy anywhere. Options for holographic advertising have already been created so that the buyer can touch them and evaluate the product in more detail.

Another promising area of marketing is emotion recognition technology. This allows you to choose the content of the ad taking into account human emotions. Today, Internet marketing is developing successfully and Internet advertising is the most effective

The emergence of online marketing can be traced back to the early 1990s. It was at this time that more and more information about the services and products of various companies began to be posted on corporate websites. Already in the 1990s, Internet marketing was used to promote products. It should be noted that in the early 90s, along with the active commercialization of the Internet, new terms emerged: e-business and e-commerce, as well as e-marketing.

Over the years, issues such as selling and buying software on the Internet, business models, and the information space have become very relevant. As a result, Internet marketing has changed and has become more than just a means of promoting goods and services. Thanks to the activities of Yahoo, Google, Microsoft, Internet marketing has achieved segmentation and reached a new level of development.

The year 1996 was marked by the emergence of offers for paid placement in search engines. In this case, you will be charged for clicks and passes. This has helped boost the ranking of companies. Such services were first offered by Google, Overture, Yahoo.

The year 2001 can be considered as another important stage in the development of Internet marketing. It is the concept of "search engine marketing" that has emerged. The author of this term was D. Sullivan. Since its inception, "search engine marketing" has become rapidly gaining popularity among Internet promoters. If we compare the budget allocated by enterprises for this type of activity in 2002 and today, the current figure is 750% higher than in 2002.

Internet marketing is the process of forming and developing a company's position in the Internet environment. This includes the formation of the subjective perception of business users, as well as the objective and pure technical development of the site. It is also necessary to add a particular location in search engines, develop its links and increase ease of use.

Internet marketing is a set of activities to promote goods, services and ideas using the Internet. The goals of internet marketing are almost the same as traditional marketing: its goal is to make the customer understand so well that the product or service is fully compatible with the latter and sells itself. Often this ideal cannot be achieved. The goals of Internet marketing are in their most general form:

Increase in sales;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Increased resource traffic.

These goals can be divided into specific tasks, but in general, all marketing activities on the Internet depend on it.

The main elements of Internet marketing:

Product - Anything sold over the Internet must be of good quality. The product on the Internet competes not only with the products of other sites, but also with traditional stores.

Price - It is generally accepted that the price on the internet is lower than in a regular store due to savings.

Promotion is a set of measures to promote both the site and the whole product in the network. It includes an arsenal of many tools (search engine advertising, contextual advertising, banner advertising, email marketing, affiliate marketing, viral marketing, covert marketing, interactive advertising, blogs, etc.).

Place of sale - a point of sale that is a site. Graphic design and the convenience of the site and the quality of processing requests from the site play a big role. It is also important to pay attention to download speed, working with payment systems, terms of delivery, working with customers before, during and after the sale.

The main advantages of Internet marketing are interactivity, the ability to determine the most specific goal, the ability to analyze after the click. This leads to maximum growth of indicators such as website conversion and online advertising.

Internet marketing includes the following system elements:

- exhibition advertising;
- contextual advertising;
- search engine marketing in general and SEO in particular;
- Advertising on social networks: SMO and SMM;
- Direct marketing using email, RSS, etc.;
- Viral marketing;
- Guerrilla marketing;
- Internet branding.

Display advertising - Visual advertising on the Internet is presented in the form of banners, the size of which can vary. Often display ads are placed in various thematic zones, news sites, search engine results.

Advertising on the Internet is not much different from advertising available in various sources of media, which is more familiar to us. The main effect of display advertising is the visual perception of information by a person. It can be a simple.

Today, the development and adoption of tactical decisions happens with instability, market uncertainty and marketing. The environment in which local businesses seldom use a strategic

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

approach to business. Strategic planning is possible designed to reduce risks and incorporate chaotic tactical actions into the mainstream of a single successful strategy.

Second, there is a real need to use new information technologies in conjunction with the latest marketing technologies. New information technologies in marketing activities help to effectively study market demand and needs, reduce costs associated with bringing goods to market, improve the structure of distribution channels, allow consumers to bypass many intermediaries and go directly to manufacturers faster.

Third, the need to improve the methodological and practical aspects of developing an Internet marketing strategy. There is no one-size-fits-all strategy. However, there are some fundamental considerations that allow us to talk about the generalized principles of developing and implementing a strategic management behavioral strategy, which is very important in a highly competitive environment.

The above indicates the relevance of the research topic dedicated to the formation of Internet marketing strategy in the enterprise, the development of which is of great scientific but also practical importance.

However, the use of Internet resources in the marketing system, especially in commercial marketing, has not received enough attention. The practical directions of marketing research, in particular, the problems of using foreign experience in the development of marketing solutions based on new information technologies, were not reflected. Solving all of these problems is an objective necessity, both scientifically and practically.

The development of Internet marketing helps to increase the competitiveness of the company by expanding the customer base, increasing brand awareness, creating a company image and reducing costs.

The development of Internet marketing is a competent understanding of how a company should manage customer loyalty on the Internet. Often, managing, searching, and disliking a created site or online store results in the loss of a customer. This results is not being able to compete with other firms with knowledge in the field.

Internet marketing is not an independent marketing field, it is one of the possible sources of information dissemination along with newspapers, magazines, television and others. Therefore, Internet marketing is one of the possible components of a company's overall marketing strategy. Two simple conclusions can be drawn from this:

- 1) The marketing tasks to be solved on the Internet should be in line with the overall goals of the company's marketing campaign.
- 2) It is necessary to solve the problems that can be solved effectively on the Internet only in terms of the ratio of costs and possible benefits on the Internet.

CONCLUSIONS AND SUGGESTIONS

Thus, summarizing the abovementioned, it is expedient to draw the following conclusions.

1. Modern information and telecommunication technologies open up new opportunities and prospects for consumers and businesses, increases the computerization of business. These factors are the most important for the development of Internet marketing. It is reasonable to describe Internet marketing as a set of tools, technologies and techniques aimed at attracting attention to a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

product or service, popularizing it on the Internet and effectively promoting it to sell to a target audience and increase revenue.

- 2. The number of tools used in Internet marketing practice in modern conditions is constantly growing. This is due to the development of the advertising business and the growth of the advertising trend on the Internet. The main and effective tools of Internet marketing are text and banner advertising, search engine advertising (SEA), social media advertising (SMA) and e-mail marketing. Each of the tools provided has its advantages and disadvantages, but their specific features should be taken into account when choosing the most effective tools for each project.
- 3. The marketing competence of enterprises, organizations and companies, the sum of knowledge formed within it, increases primarily through the use of new technologies such as computerization, satellite communications, optical fiber and, of course, Internet marketing technologies. Therefore, it is necessary to distinguish between strategic and tactical competence of marketing. The strategic mandate of marketing is focused on the company's macro environment, ensuring long-term and strong interactions with partners, consumers, distributors and other market actors. Tactical marketing competence is the ability of a company to respond quickly and effectively to changes in the macro and micro environment to address current marketing challenges.

LIST OF USED LITERATURE

- **1.** Bolshakova YuS. Internet as an instrument of marketing. 2012. [Electronic resource]. Access mode: http://web.snauka.ru/issues/2012/10/18176 (contact date: 21.10.2017).
- **2.** Chaffey E-business and e-commerce management: strategy, implementation and practice. Fourth Edition. Electronic resource. Available mode: https://geomart25.files.wordpress.com/2014 /05/dave-chaffey-e-business-and-e-commerce-management-strategies-4th-ed-qwerty80.pdf
- **3.** The Strategic Marketing Process. How to Structure Your Marketing Activities to Achieve Better Written by Moderandi Inc., creators of the marketing planning and management. Second Edition 2013. www.MarketingMO.com
- **4.** Akulich MV. Internet marketing: Uchebnikdlyabakalavrov. M.: Dashkov and K, 2016. 352 p.
- **5.** Alekseev IV. Teoretiko-metodologicheskieaspektyissledovaniyakategorii «Internet-marketing. TransportnoedeloRossii. 2014;(3):14-18
- **6.** Baranov AD. Forecast return on investment in Internet marketing: Nastolnayaknigamarketologa. Vzglyadpraktika. A. Baranov. M.: ITs RIOR, 2017. 85p.
- **7.** Bolshakova LV. Internet-marketing sanatorium-resort service. Uchebnometodicheskoeposobie. M.: Finance and statistics, 2017. 160 p.
- **8.** Vekshinskiy AA, Tyvin LF. Internet-marketing as a new direction in the modern concept of marketing interaction. Journal of Economy and Business,. 2017;9(2):103-135
- **9.** Virin FYu. Internet marketing. Polnyysbornikprakticheskih in-strumentov. M.: Eksmo, 2010. 224 p. ISBN 978-5-699-42302-6.
- **10.** Konstantinov ME. Internet-marketing as a means of increasing the volume of sales. M.: INFRA-M., 2004. [1, p. 29].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **11.** Kitaeva EO. Internet marketing is an instrument of Internet business. Vestnik MGUP. 2017;(2):66.
- **12.** Smirnov AG. Ledovoepoboishche. Marketing tools for business promotion on the Internet. A. Smirnov, Yu. Suzdal. SPb .: IG Ves, 2015. 176p.
- 13. Kholmogorov V. Internet marketing. Short course. 2nd edition. -SPb .: Peter, 2002. p. 17.
- 14. https://ru.wikipedia.org/wiki/Internet-marketing
- **15.** Features of internet marketing in Europe: Marketing.ru.com [Electronic resource]. Access mode: http://marketing.ru.com/internet-marketinga-v-evrope/

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE YANGTZE RIVER'S REGIONAL WATER FOOTPRINTS: AN INTERREGIONAL INPUT-OUTPUT APPROACH

Dr. Vipin Jain*

*Professor,

Department of Finance & Marketing,
Teerthanker Mahaveer Institute of Management and Technology,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: vipin555@rediffmail.com

DOI: 10.5958/2249-7137.2021.02629.X

ABSTRACT

The multi-regional input-output (MRIO) method has recently been used to water footprint (WF) analysis by academics. To study regional problems, the idea of interregional input-output (R-MRIO) was created. The creation of global or international input-output (N-MRIO) tables has been the focus of research. The N-MRIO and R-MRIO approaches may be used to investigate global and regional problems, respectively. The WF is a trade indicator that is affected by commerce between countries and regions. However, whether foreign imports are segregated or integrated in an R-MRIO method varies in how they are treated. The consequences of the differences between these models are assessed, and policy implications for the Yangtze River in China are discussed. The WF estimated with the combined type model is 11% higher than the WF obtained with the separated type model. International imports, mostly domestic consumption and interregional commerce, is to blame for this disparity. We discovered that this disparity had an impact on social equality in water-rich regions.

KEYWORDS: Multi-regional input—output approach; Social equity; Water footprint; Regional analysis; Yangtze River

1. INTRODUCTION

An environmental input—output analysis (EIOA) (Leontief, 1970; Duchin and Szyld, 1985; Duchin, 1992) is a method for calculating cumulative environmental impacts over a product's life cycle, and it can be extended to greenhouse gas emissions and air toxicity (Lenzen et al., 2004; Suh et al., 2004; Wiedmann et al., 2007; Peters, 2008; Wiedmann,[1] 2009; Su and (Lenzen and Murray, 2001; Turner et al., 2007)[2]. Using the production- and consumption-based methods, EIOA enables us to estimate the direct environmental loads from industrial sectors as well as the indirect environmental loads generated by end products and services. Many scientists have recently tried to adapt the MRIO method to water foot printing. The interregional input—output (R-MRIO) method for a single country (Lenzen, 2009; Yu et al., 2010; López-Morales and Duchin, 2011; Feng et al., 2012) and the international input—output (N-MRIO) approach for several countries (Feng et al., 2011) are two types of this technique. The R-MRIO approach was created for regional issues, whereas the global or international MRIO (N-MRIO) tables, which are currently being developed, can aid researchers in their studies of the role of international trade in environmental issues (Isard, 1951; Murray and Lenzen, 2013; Tukker and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Dietzenbacher, 2013). Thus, the N-MRIO method aids understanding of global environmental problems (Su and Nag, 2010; 2011; Su et al., 2010), while the R-MRIO approach utilized in this work is appropriate for investigating regional issues, particularly those involving water. This is due to the fact that water resource distribution varies by area, even if the regions are part of the same country. As a result, most studies have favored the R-MRIO method for regional water resource management water footprint (WF) study.

WF is a metric that accounts for both domestic and imported water consumption (Hoekstra and Hung, 2002; 2005; Renault, 2003; Chapagain and Hoekstra, 2007; 2011; Hoekstra and Chapagain, 2007a; 2007b; 2008; Chapagain and Orr, 2009; Hoekstra and Chapagain, 2007a; 2007b; 2008; Chapagain and Orr, 2009). Input—output tables (IOTs) may be divided into two types based on how foreign imports are handled (Matuszewski et al., 1963; UN, 1999; Dietzenbacher et al., 2005). Thus, EIOA methods for water are categorized into the two major kinds described above: the 'combined type model' (CTM) and the 'separated type model' (STM) (Lenzen and Foran, 2001; Hubacek and Sun, 2005; Guan and Hubacek, 2007, 2008; Hubacek et al., 2009; Zhang et al., 2011; Feng et al., 2012). For the R-MRIO, for example, international commerce may be assimilated into regional transactions or a distinct "rest-of-the-world" area might be defined. Guan and Hubacek (2007) employed the CTM, while Lenzen (2009) used the STM with distinct import tables in earlier R-MRIO investigations of WF. Cazcarro et al. (2013) recently developed the STM [3]by including foreign import data. Thus, WF based on the R-MRIO method varies depending on the model employed (CTM or STM), although the impact of foreign imports on WF is still being investigated.

As a result, we show that the WF calculated using the R-MRIO method may vary depending on the kind of model (combined or separated) utilized to compute it. The remainder of the paper is laid out as follows. First, we'll go through the process for defining the WF, as well as the data requirements. We next use the R-MRIO method to compute the WF using the combined and STMs, show the findings, and conduct a decomposition analysis. Finally, we provide our findings and analyze the policy implications, sensitivity, and uncertainty of the WF estimates using the models. Products and industries There are 38 crops in all. 6 agriculture 23 industries 48 industries 40 industries Products from 20 different industries China has eight distinct regions. China is divided into four areas. 30 provinces divided into two regions Note: n/a indicates that the researcher did not compute the amount (s). For the year 1995, the following are the results for China. These data were re-aggregated using Feng et a criteria.'s and findings (2012)[2]. Imports from other countries are included. Overseas and interregional trade is included in the values. North China and South China are denoted by the letters NC and SC, respectively. For a variety of reasons, we chose the Yangtze River (area 1.8 million km2) as the target region, which spans 15 Chinese provinces and municipalities. To begin with, water stress varies by area, based on water supplies and population density. The Yangtze River's water resource per capita (2,553) m3) is lower than China's average (YRYCC, 2003), although the numbers vary widely among areas, ranging from 208 to 5,329 m3 (MWR, 2003).

In addition, the WF is linked to water extraction and consumption. Thus, considering the WF on a basin-wide scale may provide valuable insights into water resource management. Matching economic and water statistics is difficult, but it may be avoided by looking at the basin as a whole (Feng et al., 2011). Second, the R-MRIO method is appropriate for a big nation like China (Su and Ang, 2010), where regional disparities in the economy and distribution of water

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

resources occur. Third, the Yangtze River is China's primary water supply, accounting for 36% of total water use (MWR, 2001). Furthermore, the river contributes for 53 percent of China's GDP (YRYCC, 1999), thus foreign imports are expected to have a major impact on WF. Finally, several studies have estimated China's WF, which ranges between 489 and 1,304 billion m3 every year (Table 1). Although the requirements for water data, techniques used, geographical units, and target years vary across the research, the number of studies makes it simpler to validate the findings. Regional WF Definition Hoekstra and Chapagain, 2007b) The WF is made up of water needs inside the nation (internal WF, IWF) and those linked to imported products and services (external WF, EWF). The IWF and EWF are computed by multiplying the virtual water contents (VWCs) by domestic production while excluding exports, and multiplying the VWC by imports (Hoekstra and Hung, 2002; Zhao et al., 2009).On a regional basis, the IWF represents the water demand inside the area, while the EWF represents the demand for imported products and services from other nations, as well as the rest of the country's regions[4].

2. DISCUSSION:

The Yangtze River IOT is being developed utilizing a hybrid method (Miller and Blair, 2009). which is based on China's interregional IOT (IDE-JETRO, 2003). (see Appendix A). Each area is divided into 30 sections (TableA1). China is divided into five regions: the upper Yangtze area (UYA), which includes Chongqing, Shanxi, Sichuan, Guizhou, Gansu, Yunnan, and Qinghai; the central Yangtze area (CYA), which includes Jiangxi, Hubei, Hunan, and Henan; the lower Yangtze area (LYA), which includes Shanghai, Jiangsu, Zhejiang, and Anhui; South China (SC) (except Tibet and Hong Kong). Although the classification of provinces according to the Yangtze River's upper, middle, and lower regions is widely disputed, we stand by it because it is based on the climates, hydrologist, geographies, and economies of the regions, as well as the regional classifications provided in the Yangtze River Yearbook (YRYCC, 1999). The Yangtze River's border is based on administrative boundaries; therefore it does not precisely match the watershed's. 3 However, since we are focusing on various models inside the same system boundary, this should not be an issue. The statistics on water usage in China mostly refers to agricultural, industrial, and residential water withdrawals by province (MWR, 2001). Irrigation water and withdrawals for other agricultural sectors make up agricultural water. The irrigation water ratio (MWR, 2001) separates irrigation water from provincial agricultural water, however it does not include green water for crop cultivation. Provincial livestock, forestry, and fisheries withdrawals are computed.3 Feng et al. were the first to use geographic information systems to adjust discrepancies between administrative and watershed borders (2011).by dividing the withdrawal of other agricultural sectors (MWR, 2001) by their individual shares of gross domestic output of cattle, forestry, and fisheries, respectively, against other agricultural sectors' gross domestic outputs (NBSC, 2001).

By calculating province industrial withdrawal water by the sectoral proportion of drainage against total industrial drainage, provincial industrial withdrawals by sector may be determined (CEYCC, 2001). We calculate the provincial water utilized by all 30 sectors' workers by multiplying the number of sector employees in each province (NBSC, 2001)[5] by the water consumption per capita in urban and rural regions. Domestic water consumption per capita (MWR, 2001; NBSC, 2001) in urban and rural regions is calculated using a working time factor of 8 hours per day. Although water used by livestock (cattle, swine, and fowl) is included in the household water demand in rural regions, there are no comparable Chinese statistics. As a result,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

we calculate the amount of water used by livestock by multiplying the number of provincial livestock by the water consumption coefficient of each head of livestock (Oradea et al., 2006), assuming that the water requirements of cattle in Japan and China are similar. The EWF from abroad may be computed using the CTM (Equation 8) if the foreign nations' VWCs and Leontief inverse matrices are the same for the Chinese area importing goods and services (Lenzen, 2009; Zhao et al., 2009). This assumption helps ease data accessibility problems since it is usually difficult to match data for water needs from various industrial sectors and IOTs across the globe. Furthermore, the EWF[6] indicates water needs for domestically produced products and services that utilize the same production processes and intermediary transactions as foreign nations, and has the same meaning as virtual water in our instance (Allan, 1997; 1998; Oki and Kanae, 2004). In contrast, we can easily differentiate the VWC and Leontief inverse inside and exterior to an area using the STM (Equation 2). As a result, the EWF from outside the country is the same as the so-called actual water (Oki and Kane, 2004). As a result, some researchers assumed that the VWC or Leontief inverse for the EWF of international imports equals those for a country or region (Lenzen, 2009; Zhao et al., 2009), whereas others used the N-MRIO approach to estimate the VWCs of all targeted countries using international water databases (Feng et al., 2012; Lenzen et al., 2013).

We calculate the VWC in this research by multiplying the regional VWC by the adjusting parameter4 (0.26) (MWR, 2001; Pacific Institute, 2011; World Bank, 2012). The Leontief inverse matrix of foreign nations is also established based on intermediary transactions between Indonesia, Malaysia, the Philippines, Singapore, Thailand, Taiwan, Korea, Japan, and the United States (IDE-JETRO, 2006). We estimate Equations 2 and 8 using the importation coefficients (sr I = 4) since the IOT organized in this research involves international imports of intermediate and final products and services. The global withdrawal per GDP (0.17 m3/USD) is about 26% of China's (0.46 m3/USD). We also utilize statistics on freshwater extraction from 92 nations (excluding China) I by the values of the intermediate transaction and final demand by region, the regional intermediate and final products and services as international imports are defined. Furthermore, we use the importation coefficients to construct the Leontief inverse matrix of the STM by eliminating foreign imports (Miller and Blair, 2009)[7]. International imports are defined differently by provincial IOTs. While some provincial tables (for example, those for Shanghai) provide detailed information by defining foreign imports and exports from foreign countries separately[8], others (for example, those for Shandong) only provide 'net export,' with the values of interregional and overseas trade not separately recorded. As a result, we estimate the regional international imports vector by sector using province IOTs, which only offer 'net exports' from provincial statistics import and export data. 5 Furthermore, each province's foreign trade statistics was modified to be consistent with the national IOT.

According to the STM, China's WF (f R) is 412.5 billion m3, with the IWF (f R I), EWF for domestic imports (f SR E), and EWF for international imports (f R E) accounting for 77 percent, 22 percent, and 2%, respectively. The Yangtze River is responsible for half of China's WF. The IWF and EWF for domestic imports along the Yangtze River account for 50 percent and 52 percent of China's IWF and EWF, respectively. The Yangtze River's EWF for international imports accounts for 31% of China's EWF for international imports. The LYA contributes for the majority of the Yangtze River's WF (38%) while the EWFs for domestic and foreign imports account for 45 and 72 percent, respectively. The CYA, on the other hand, makes up the largest

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

portion of the Yangtze River's IWF (36 percent). FIGURE 1 Discloses The Areas Under Study[4].

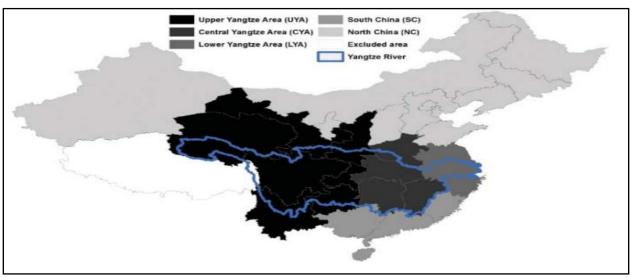


FIGURE 1: Areas under Study.

3. CONCLUSION:

For the Yangtze River, we used the MRIO method to compute the differences between the WFs by the combined and STMs. The STM calculated China's WF to be 11% lower than the CTM's. This result, which is due to differences in how international imports are treated, highlights a problem with the accuracy of the calculated results: neither model can be used by decisionmakers in isolation, as this would lead to incorrect/biased policies, with one model providing an overly optimistic view and the other providing an overly pessimistic view. Furthermore, this finding indicates that the environmental consequences of WFs would differ depending on the model employed, which would have an impact on the feasibility of policy choices such as the South-North Water Transfer Project in China, which allocates water resources to water-scarce areas. Some studies discovered that 19 percent of China's WF originates from water-scarce sources using a revised WF and a water scarcity indicator (Lenzen et al., 2013). Furthermore, earlier results that water-scarce regions in China practically export to water-abundant areas in China (Ma et al., 2006; Guan and Hubacek, 2007) are significant since it is obviously not efficient, effective, or fair for the latter to use the former's water resources. The social equity of water imports by water-abundant regions is affected by these variations by model type, and the STM is more sensitive to changes in regional international imports, according to our findings. In summary, decision-makers in a water-abundant area should carefully examine the social justice of water imports from water-scarce regions, since the environmental effects of water usage in the latter are greater than in the former. We also proposed a novel hybrid method for dealing with uncertainty, in which the Leontief inverse matrix of the CTM was used in the STM. We expect that this proposal will lead to more accurate findings in WF studies and that it will ultimately evolve into a WF-relevant standard, such as ISO/DIS 14046[9].

Finally, with the addition of global MRIO datasets, more researchers are expected to use the N-MRIO method for WF analysis. Because of the regional disparities in water resource distribution, we think that further study is needed to validate the method's usefulness at a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

regional level. As a result, we believe that our work will be useful as additional research in projects using the N-MRIO method[10].

REFERENCES:

- **1.** W. Xie, S. Hu, F. Li, X. Cao, and Z. Tang, "Carbon and water footprints of tibet: Spatial pattern and trend analysis," Sustain., 2020.
- **2.** D. Zhao, Y. Tang, J. Liu, and M. R. Tillotson, "Water footprint of Jing-Jin-Ji urban agglomeration in China," J. Clean. Prod., 2017.
- **3.** A. M. Hennecke, M. Mueller-Lindenlauf, C. A. García, A. Fuentes, E. Riegelhaupt, and S. Hellweg, "Optimizing the water, carbon, and land-use footprint of bioenergy production in Mexico Six case studies and the nationwide implications," Biofuels, Bioprod. Biorefining, 2016.
- **4.** J. C. P. Palhares, M. Morelli, and C. C. Junior, "Impact of roughage-concentrate ratio on the water footprints of beef feedlots," Agric. Syst., 2017.
- **5.** J. Elliott, L. G. Firbank, B. Drake, Y. Cao, and R. Gooday, "Exploring the Concept of Sustainable Intensification," Lupg, 2013.
- **6.** I. Cazcarro, R. Duarte, M. Martín-Retortillo, V. Pinilla, and A. Serrano, "How sustainable is the increase in the water footprint of the Spanish agricultural sector? A provincial analysis between 1955 and 2005-2010," Sustain., 2015.
- 7. N. Hwalla, R. Bahn, and S. El Labban, "Sustainable Diets for Food Security in the Middle East and North Africa Region," FASEB J., 2016.
- **8.** M. Wu, Y. Chiu, and Y. Demissie, "Quantifying the regional water footprint of biofuel production by incorporating hydrologic modeling," Water Resour. Res., 2012.
- **9.** X. Xie, T. Zhang, L. Wang, and Z. Huang, "Regional water footprints of potential biofuel production in China," Biotechnol. Biofuels, 2017.
- **10.** M. del M. Jorrat, P. Z. Araujo, and F. D. Mele, "Sugarcane water footprint in the province of Tucumán, Argentina. Comparison between different management practices," J. Clean. Prod., 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A BRIEF REVIEW ON THE THOMPSON CONSTANT-VELOCITY JOINTS IN THE 4 WHEELER

Dr. Pavankumar Singh*

*Assistant Professor,
Department of Applied Science (Physics), Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: pavan.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02630.6

ABSTRACT

Coupling of different driven components is needed in a direct mechanical drive system. The majority of drive elements, such as gear reducers, lead screws, and a variety of other components, are powered by a shaft supported by many bearings. A drive shaft is slightly misaligned due to the couple's stiffness. The objective of the power transmission relation is to transmit torque from the driving shaft to the tube while accounting for shaft misalignment. Unnecessary wear pressures on the shaft bearings may be caused by shaft misalignment. There are few conventional solutions for misalignment issues, such as Oldham's coupling and universal joints, which have many disadvantages. Thompson's constant velocity (CV) coupling addresses these issues by reducing side loads, increasing misalignment, increasing running speeds, improving transmission performance, and more. The nature of constant velocity joints is investigated in this article, as well as their optimization. Many academics' research on transmission relations and constant speed joints is summarized in this article.

KEYWORDS: Coupling, Power, Thompson Constant, Transmission, Velocity joint.

1) INTRODUCTION

The fundamental function of a power transmission link is to transmit torque from an input/driving shaft to an output/driven shaft at a specified shaft speed, including shaft misalignment. Shaft misalignment is a sign of a variety of issues, including installation flaws and resistance variations. Misalignment will be exacerbated by the axial and radial forces acting on the relationship. In misaligned shaft applications, the coupling often introduces unwanted side loads. Flexing or compressing cup components, dynamic coupling action, frictional loading, and charges all cause side cargos[1].

Constant-velocity joints (also known as homo-kinetic or CV joints) allow a drive shaft to transmit power through a variable angle, at constant rotational speed, without an appreciable increase in friction or play. They are mainly used in front wheel drive vehicles. Modern rear wheel drive cars with independent rear suspension typically use CV joints at the ends of the rear axle half shafts and increasingly use them on the drive shaft. Constant-velocity joints are protected by a rubber boot, a "CV gaiter", usually filled with molybdenum disulfide grease. The six spheres are bounded by an anti-fall gate that prevents the spheres from falling when the shafting's are perfectly aligned. Cracks and splits in the boot will allow contaminants in, which would cause the joint to wear quickly as grease leaks out. (Parts in contact would not get proper

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

lubrication, small particulates would cause damage and scratching, while water ingress causes metal components to rust and corrode.) Wear of the boot often takes the form of small cracks, which appear closer to the wheel, because the wheel produces most of the vibration and up and down motions[2]. Cracks and tears in the areas closer to the axle are usually caused by external factors, such as packed snow, stones or uneven rocky off-road paths. Aging and chemical damage can also cause boot failure.

The universal joint, one of the earliest means of transmitting power between two angled shafts, was invented by Gerolamo Cardano in the 16th century. The fact that it failed to maintain constant velocity during rotation was recognized by Robert Hooke in the 17th century, who proposed the first constant velocity joint, consisting of two Cardan joints offset by 90 degrees, so as to cancel out the velocity variations. This is the "double Cardan". Many different types of constant-velocity joints have been invented since then.

Early front wheel drive systems such as those used on the 1930s Citroën Traction Avant and the front axles of Land Rover and similar four-wheel drive vehicles used universal joints, where a cross-shaped metal pivot sits between two forked carriers. These are not CV joints as, except for specific configurations, they result in a variation of the angular velocity. They are simple to make and can be tremendously strong and are still used to provide a flexible coupling in some prop shafts, where there is not very much movement[3]. However, they become "notchy" and difficult to turn when operated at extreme angles.

The Thompson constant velocity joint (TCVJ), also known as a Thompson coupling, assembles two cardan joints within each other to eliminate the intermediate shaft. A control yoke is added to keep the input and output shafts aligned. The control yoke uses a spherical pantograph scissor mechanism to bisect the angle between the input and output shafts and to maintain the joints at a relative phase angle of zero. The alignment ensures constant angular velocity at all joint angles. Eliminating the intermediate shaft and keeping the input shafts aligned in the homo-kinetic plane greatly reduces the induced shear stresses and vibration inherent in double cardan shafts[4].

While the geometric configuration does not maintain constant velocity for the control yoke that aligns the cardan joints, the control yoke has minimal inertia and generates little vibration. Continuous use of a standard Thompson coupling at a straight-through, zero-degree angle will cause excessive wear and damage to the joint; a minimum offset of 2 degrees between the input and output shafts is needed to reduce control yoke wear. Modifying the input and output yokes so that they are not precisely normal to their respective shafts can alter or eliminate the "disallowed" angles. The novel feature of the coupling is the method for geometrically constraining the pair of cardan joints within the assembly by using, for example, a spherical four bar scissors linkage (spherical pantograph) and it is the first coupling to have this combination of properties.

The Thompson connection is the world's first and only constant velocity joint:

- All roller bearing loads are present.
- There should be no sliding or skipping surfaces.
- Can withstand axial and radial loads degradation
- There is no torque cap, and every torque stage is designed.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- There is no need for any further lubrication.
- You won't have to clean up the dust.
- Except for replaced rollers and rummages, no components wear.
- Can be used to attach a vehicle tail or hose pipe.
- Is a genuine CV connection the same as a CV connection?
- It's easier to carry than a double cardan or joint.

The Thompson Coupling consists of two coaxially constructed cardan joints with cross-cutting counterparts linked together by trunnions and rollers that are forced to lie on the homocentric level of the joint at all times. A spherical four-bar connection with two segments or a spherical draglink are the limiting methods for such trunnions and coils[5]. A trunnion is attached to the input shaft at the end, and the second end of the draglink is mounted to a detachable pin that creates a trunnion on the inside of the jack of the output shaft. Each arm or bar of the jig is continuously formed by a huge circular ark centered on the axis of the joint. Figure 1 shows the drive axle.

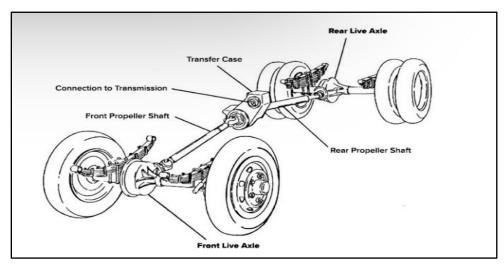


Figure 1: The drive axle.

The Draglink's central axis is located on a trunnion in the "C" member's center; the "C" member's ends are located on the extensive trunnions that connect the two Cardan joints. The included acute angle constantly splits between the enlarged inlet and outlet axes and therefore sits on the axis of the homo-kinetic joint plane due to the action of the joint, the central axis of the draglink, and thus the trunnion in the "C" component. Four bar attachment structures that are structurally sound stay spherical, as is well known. Along the three rotational axes, namely the input shaft axis, the output shaft axis, and the homo-kinetic plane axis, the coupling components stay aligned[6]. Every component of the Thompson may be mass-produced by forging and/or casting, with the drilling and machinery of the bearing magazines, trousers, and circular grooves being the sole exception. There is no specialized equipment or highly skilled craftsmanship. For the most part, bearings are readily available, and installation is straightforward.Complete power transmission connection for constant speed joints is required as vehicle engine efficiency increases.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Thompson utilized a constant velocity joint. The Thompson CV connector's main features are reduced or eliminated side loads, shaft failure, and improved drive accuracy. The Thompson Constant Speed Joint is the most efficient way to transmit power between the two. Shafts with an angle of 30 to 65 degrees were the only portions with parasite bearing joints. No Swinging loads are transferred to the output shaft thanks to the constant Thompson speed joint. Figure 2 shows the constant velocity joints in 4-wheelers.

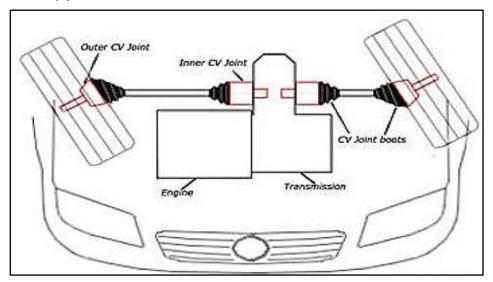


Figure 2: Constant Velocity joints in 4-wheelers.

Constant Velocity joints, or CV joints, are found on both ends of the drive shafts (half shafts) in both front-wheel drive automobiles (half shafts)[7]. The gearbox is connected to the drive shafts via an internal CV, and the drive shafts are connected to the wheels by an exterior CV. CV joints are also available for some rear-wheel-drive and four-wheel-drive vehicles, as well as lorries (figure 1). When adjusting the suspension's up and down movement, the CV joints are needed to ensure that torque is transferred continuously from the driving wheels. During twists with the front wheels, CV joints give torque to the front wheels. There are two kinds of CV joints that are often used: one is a ball, and the other is a tripod. Ball-type CV joints are utilized on the outside of the drive shafts (outer CV joints), whereas tripod-type CV joints are used more on the interior of the drive shafts (inner CV joints).

1.1 Benefits:

- Friction, heat, wear, collateral damage, and vibration are all reduced.
- Full load operating at high shaft output angles indefinitely
- Reduced energy loss
- Allows for greater output angles to the shaft in contemporary designs.
- Can be played at room temperature for a long time.

Working at 20° angles with customized frames up to 45°, this is a true constant-speed joint with no sliding surfaces at load bearing. The Thompson Constant Velocity Link (TCVJ) transfers a drive via an angled junction of driving and driven shafts in a one-to-one connection. Over misaligned shafts, a constant Thompson speed joint is utilized to address the limitations of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

conventional transmission systems. Aside from the Thompson constant speed joint, there are additional constant speed joints [8].

2) DISCUSSION

Working at 20° angles with customized frames up to 45°, this is a true constant-speed joint with no sliding surfaces at load bearing. With a genuine one-to-one connection between the shafts, the Thompson Constant Velocity Link (TCVJ) transfers a drive via an angled junction of driving and driven shafts. The TCVJ has addressed and solved the traditional universal joint issues of driving power along a curve of heat, friction, power loss, and shaft speeds. The TCVJ, with its associated sliding shaft operating at near ambient temperatures and with no inherent vibrational effects in its design, actually reduces vibrational inputs from gears, reduction units, and motors, extending the machine's life. The TCVJ arose from a new understanding of the vectors in spinning shafts and the need for directional changes without the use of weight-bearing sliding components[9].

The Thompson Coupling is made up of two coaxially built cardan joints with cross-cutting equivalents that are connected together by trunnions and rollers that are always compelled to lay on the joint's homocentric level. The limiting techniques for such trunnions and coils are a spherical four-bar connection with two segments or a spherical draglink. The input shaft is terminated with a trunnion, and the second end of the draglink is connected to a detachable pin that forms a trunnion on the inside of the output shaft's jack. A massive circular ark centered on the axis of the joint continually forms each arm or bar of the jig. The central axis of the Draglink is situated on a trunnion in the middle of the "C" member, and the ends of the "C" member are located on the large trunnions that connect the two Cardan joints. Due to the action of the joint, the central axis of the draglink, and therefore the trunnion in the "C" component, the included acute angle continuously divides between the expanded intake and outlet axes and so sits on the axis of the homo-kinetic joint plane. As is widely known, four bar attachment systems that are structurally sound remain spherical. The coupling components remain aligned along the three rotational axes, namely the input shaft axis, the output shaft axis, and the homo-kinetic plane axis[10].

The drilling and mechanism of the bearing magazines, trousers, and circular grooves are the only components of the Thompson that cannot be mass-produced by forging and/or casting. There are no specialized tools or highly trained craftspeople. Bearings are, for the most part, widely accessible, and installation is simple. As vehicle engine efficiency improves, complete power transmission connection for constant speed joints is needed. Thompson used a joint with a constant velocity. Reduced or eliminated side loads, shaft failure, and better drive precision are all advantages of the Thompson CV connection. The Thompson Constant Speed Joint is the most effective method of power transmission between the two. The only parts having parasite bearing joints were shafts with an angle of 30 to 65 degrees. The constant Thompson speed joint prevents swinging loads from being transmitted to the output shaft.

4. CONCLUSION

Because transmission is such an important component of any mechanical power system, its efficiency is directly proportional to its efficiency. The transmission link is the most significant factor that affects the transmission system's efficiency, therefore a comprehensive examination of the transmission connection is needed for coupling without failure. Over misaligned shafts, a constant Thompson speed joint is utilized to address the limitations of conventional transmission

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

systems. Aside from the Thompson constant speed joint, there are additional constant speed joints. Thompson's constant velocity coupling will undoubtedly offer data for future transmission investigations. TCVJ also offers optimization recommendations for future research and use of constant velocity joints.

REFERENCES:

- 1. R. Lal and M. Ahmadi, "Axle load and tillage effects on crop yield for two soils in central Ohio," Soil Tillage Res., 2000, doi: 10.1016/S0167-1987(00)00087-8.
- 2. I. T. Watson, B. Gangadhara Prusty, J. Olsen, and D. Farrell, "A parameter investigation into the Thompson constant-velocity coupling," J. Mech. Des. Trans. ASME, vol. 133, no. 12, 2011, doi: 10.1115/1.4005229.
- **3.** A. Johnston, C. P. Benton, and M. J. Morgan, "Concurrent measurement of perceived speed and speed discrimination threshold using the method of single stimuli," Vision Res., vol. 39, no. 23, pp. 3849–3854, 1999, doi: 10.1016/S0042-6989(99)00103-0.
- **4.** Y. Zheng, J. Shi, and Z. Pan, "Biochemical characteristics and thermal inhibition kinetics of polyphenol oxidase extracted from Thompson seedless grape," Eur. Food Res. Technol., vol. 234, no. 4, pp. 607–616, 2012, doi: 10.1007/s00217-012-1664-4.
- **5.** J. Singh, A. Salaria, and A. Kaul, "Impact of soil compaction on soil physical properties and root growth: A review," Int. J. Food, 2015.
- 6. I. Watson, B. G. Prusty, and J. Olsen, "Conceptual design optimisation of a constant-velocity coupling," Mech. Mach. Theory, vol. 68, pp. 18–34, 2013, doi: 10.1016/j.mechmachtheory.2013.04.011.
- 7. H. Power, J. Soavi, P. Kantachuvesiri, and C. Nieto, "The effect of Thompson and Troian's nonlinear slip condition on Couette flows between concentric rotating cylinders," Zeitschrift fur Angew. Math. und Phys., vol. 66, no. 5, pp. 2703–2718, 2015, doi: 10.1007/s00033-015-0527-9.
- **8.** V. A. Kumbharkar, S. Sagar, S. Somnath, and T. Vikrant, "Review Paper on Horizontal Axis Wind Turbine (HAWT) Gearbox Design and Analysis," vol. 2, no. 3, pp. 405–409, 2016.
- 9. M. C. Rabello Soares, T. Roca Cortes, A. Jimenez, T. Appourchaux, and A. Eff- Darwich, "Contribution of Low- 1 p Modes to the Solar Equatorial Rotation Profile," Astrophys. J., vol. 480, no. 2, pp. 840–849, 1997, doi: 10.1086/303992.
- 10. N. Chaabane, V. Girault, B. Riviere, and T. Thompson, "A stable enriched Galerkin element for the Stokes problem," Appl. Numer. Math., vol. 132, pp. 1–21, 2018, doi: 10.1016/j.apnum.2018.04.008.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

SCIENTIFIC AND THEORETICAL IMPROVEMENT OF ORGANIZATIONAL AND ECONOMIC MECHANISMS OF INNOVATIVE MANAGEMENT OF INDUSTRIAL ENTERPRISES IN THE CONDITIONS OF ECONOMIC GLOBALIZATION

O.S. Nazarmatov*

*Researcher, PhD,
Fergana Polytechnical Institute,
UZBEKISTAN

Email id: a.nazarmatov@ferpi.uz

DOI: 10.5958/2249-7137.2021.02607.0

ABSTRACT

The activities hold in my country to form an innovative economy are aimed at increasing the competitiveness of the national economy, improving living standards while creating favorable conditions for the development and implementation of innovative activities, eliminating unemployment problems, launching the production of import-substituting and export-oriented products.

KEYWORDS: Globalization, Innovation, Innovation Processes, Organizational-Economic Mechanism.

INTRODUCTION

It serves to ensure the sustainable growth of national products by increasing the competitiveness of domestic products in domestic and world markets, solving macroeconomic and social problems, as well as modernizing production in various sectors of the economy. Globalization and increased competition in the world are ensuring that the economy emerges as one of the important areas for improving innovative management and regulation methods. The development of the modern socio-economic system is characterized by the transition of innovation-oriented reproduction to an innovative path. In the 20th century, the integration of production and science and technology marked these changes, which made it possible to ensure technological acceleration in various areas of economic activity [1].

In recent years, the role of scientific and technological development in ensuring the sustainable development of the economy has increased, and the role of innovation in ensuring socio-economic development in our country is growing. This high-tech level will make any country a key factor in improving living standards and conditions.

The role of the country's scientific and technological potential in relation to natural and labor resources in ensuring the development and efficiency of the country's economy is growing. The effective functioning of the economy depends mainly on the level of use of advanced technologies and remains the basis of scientific and technological development. The transition to a new qualitative state of economic development has increased the importance of science-intensive production and innovation, which is ultimately one of the most important factors in overcoming the economic crisis and creating the conditions for economic growth.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Economists who study economic growth have found that no matter how rich or poor a country is, the economy must have four factors:

- o Human resources (amount of labor resources, education, discipline, skills, motivation);
- o natural resources (land, minerals, fuel, environmental quality);
- o capital(machines, factories, roads);
- o Technology (science, engineering, management, entrepreneurship).

For entrepreneurs, innovation is the main means of increasing profits, the key to entering the trade market, while the state pays great attention to innovation in overcoming the economic crisis and developing production. Many scientists and experts believe that the role of modern technologies and other innovations in socio-economic development is expected to increase in the new 21st century.

Review of references

In the economic literature, the term "innovation" is interpreted as the introduction of potential scientific and technical discoveries into new products and technologies, their application in practice. With the formation of market relations, along with "innovation", the terms "innovative activity", "innovative process", "innovative solution" and others began to be actively used.

Scientific and technological developments and innovations are the final result when they are put into practice in a way that manifests itself as an intermediate result of the scientific and production period. Scientific and technical innovation and its application in production are necessary signs of innovation.

In general, innovative activity is an integral part of social life in a broad sense, it includes sociopolitical, economic, social and other factors of social development. In the narrow sense (in the economic sense), innovative activity is reflected in the provision of a new level of interaction of factors of production using new scientific and technical knowledge.

The essence of innovative activity is the creation and dissemination of innovations in material production, which combines the links between science and industry, and as a result of their interaction, the technical and economic needs of society are met in practice.

Specialists and scientists have long since begun to focus on innovative processes in the economy. These processes not only meet the current demand in the market profitably and rationally, but also have a positive impact on its formation. World practice shows that innovation is a strong foundation for overcoming conflicts and crises.

In general, the concept of "innovation" refers to an advanced innovation that has begun in dynamics, which is new to the organizational system that receives and uses it.

Analysis and results

There are various interpretations in the literature on the definition of the content of innovations. For example, innovations in terms of content or internal structure are divided into: technical, economic, organizational, managerial and other types, the scope of innovations (global and local), life cycle parameters (separation and analysis of all stages and sub-stages), the legitimacy of the implementation process and differ in other respects.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In general, innovations can be classified as follows [2]

- ➤ Technological innovations aimed at the creation and development of new products in production, modernization of technology, production equipment, reconstruction of buildings, implementation of environmental protection measures;
- > production innovations aimed at expanding production capacity, diversifying production activities:
- > economic innovations related to changes in production planning methods;
- > social innovations related to targeted changes in sales activities;
- ➤ Innovations in the field of management aimed at improving decision-making methods, organizational structures.

The classification of innovations in the above areas makes it necessary to consider the theoretical and methodological problems of studying innovative activities at the level of regional and national economies in the context of modernization and diversification of the economy. This is determined by a number of reasons. They are:

- The 80s and 90s of the last century were a sufficiently active period for scientists to consider the problems of innovation. Many approaches have emerged to understand a range of concepts that reflect innovation and innovation processes. To get rid of different interpretations, it is necessary to clarify the author's point of view on the matter;
- There are a number of ambiguities and contradictions in the concept of innovation that need to be "resolved", such as confusing the concepts of "innovation" and "innovation activity";
- To solve the research problem, in particular, it is necessary to develop a conceptual apparatus to define the meaning of the concept "organizational and economic mechanism of innovative management."

The concept of innovation was recently introduced into the scientific community by Y. Schumpeter in the 1930s, who directly linked the periods of economic conjuncture with the constant concentration of innovations and their subsequent spread. [3]

Research shows that there are three main approaches to understand the concept of innovation in the scientific literature today:

First is the subject-technological approach, according to which innovation is considered as the end result of scientific or scientific-technical activity integrated in the form of a specific product. Y.Schumpeter also had the same opinion. This approach has been studied in the works of P.N. Zavlin, Ya.Muyjel, A.F.Sukhovey, I.T.Balabanov and a number of other authors.

Second is the activity-functional approach, in which innovation is reflected as a process of creating, implementing and disseminating innovation. One of the brightest supporters of this trend is B. Santo, who believes "innovation is a socio-technical and economic process in which the practical use of ideas and discoveries leads to the creation of better products, technologies ...". A similar interpretation can be found in B. Twiss, in a number of Russian authors, such as L.A. Jolents, N.I. Lapin and A.I. Prigogine.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Third, the universal-process approach, in which innovation is understood as "the application of innovation to change in the economic, social, environmental and other spheres of society", ie the combination of innovations, as well as the consequences of their application to society.

The most favorable for the application of the state, including in the practice of regional governance, is the subject-technological approach, which has a result-oriented, precision nature. Unlike the activity-functional approach, it prevents the interference of the concepts of innovation and innovative activity. In contrast to the universal-process approach, it clearly distinguishes the product of innovative activity from the social, economic, environmental and other effects it brings. In addition, the subject-technological approach eliminates the need to introduce additional concepts that define the products of innovative activity.

It should be noted that not only international, but also national legal documents are often prefered in the subject-technological approach. For example, it is used in the International Standards for Science, Technology and Innovation, developed by experts from the Organization for Economic Development and Cooperation (OECD), where innovation is defined as "a new or improved technological process used in practice or as a new approach to social services".

Proponents of the subject-technology approach have differing views on what types of innovations should be included in the list of innovations. Other proponents ounder the concept of innovation, propose to introduce innovations in all areas of human activity, from technology to religion and spirituality or, logically, to introduce innovations not only in technology but also in the social sphere. One of the proponents of this idea is, for example, J. Muyjel, who believes that innovation is the application of new technologies in industry.

The exclusion of social innovation from the structure of innovations that need to be regulated by the state means that the narrow-technocratic approach is formally consolidated in the innovation policy of the state. At the same time, the issue of ensuring the necessary socio-economic and psychological monitoring of production and technological processes is neglected, which in turn leads to a violation of the principle of complex management of innovative activities and a decline in the viability of innovation policy.

A number of authors, in order to emphasize the specificity of innovation in terms of its commercial benefits, point out the features of its practical application and commercial introduction into a number of independent features, although in fact they are the product of production.

Scientific and technical innovation can be absolute (created for the first time in the world) or relative (this enterprise is new to the region, the country). According to the current classification of innovations, they are classified according to about 30 different formal characteristics, the list could go on and on, but the most appropriate on the research topic is their classification according to the level of novelty and scale of distribution.

For the first time, foreign scientist A.A. Klayknext proposed to divide innovations into basic (radical) and complementary types according to the level of novelty. Among the former, he included those who set new directions, and among the latter, those that emerged within the existing directions.

Complementary innovations, in turn, are usually divided into: improvement innovations and micro-innovations aimed at the distribution and differentiation of basic innovations, taking into

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

account the specific requirements of different applications, which include partial improvements to the products used. Innovations aimed at prolonging the life of obsolete innovations, which have completed their brand and technological features, are considered fake innovations.

The interrelationship between basic and complementary innovations determines the movement of the phenomenon known as the "innovation multiplier", which links investment to growth in aggregate demand for innovation: investment in basic innovation determines production growth, allowing secondary innovations to replace outdated technologies; the introduction of secondary innovations will be followed by the introduction of new investments, which will stimulate further growth of production. Depending on the boundaries of the spread of innovation, M. Huchek divides innovations into innovations that are new to global, national and regional enterprises. The first type of innovation provides the best opportunities in terms of technological advancement and leadership in the world market. The latter two are crucial for solving problems based on imported technologies, including import substitution and modernization of domestic production.

Innovation is understood not only as an object introduced into production, but also as an object successfully introduced and profitable. According to the results of scientific research or discovery, it is qualitatively different from the previous one. A set of scientific, technical, technological and organizational changes can be considered as an innovative process. The period of creation, distribution and use of innovations is called the period of innovation.

TABLE 1 SCIENTISTS VIEWS ON CLASSIFICATION OF INNOVATION²³

№	Approaches	Scientists
1	As a process	B. B. Tviss, A. Koyre, I.P. Pinings, V. Rappoport, b. Santa, V.S. Kabakov, G.M. Gvishiani, V.L. Makarov and others
		Kabakov, G.M. Gvisinain, v.L. Makarov and others
2	As a system	N.I. Lapin, Y. Schumpeter
3	As a change	F. Valenta, Yu. V. Yakovets, L. Vodachek and others
4	As a result	A. Levinson, S. D. Beshelev, F.G. Gurvich

In addition, innovation is an object of interest for new sciences. For example, when philosophers study innovation, they focus on innovation and conflict resolution. Psychologists, on the other hand, first consider the conflicts that arise, ways to resolve them, and the synergistic effects that a group of innovators will encounter. In the technical sciences, emphasis is placed on the technological consideration of absolute changes in new technologies. Innovations can be considered depending on the object and subject of research.

In economics, innovation is seen not only as a process of introduction, but also as a rational use of innovation on a large scale.

The works of N. Kondratiev was one of the first to inspire serious research on innovation and their role in economic development, which the famous American economist Peter Drukker called the number one economist of the XXI century. The large periods of conjuncture (length of the curve) considered by N.Kondratiev stimulated further study of the causes of these periods and their duration. One of the most important reasons for this is the recognition of innovations.

Kondratev's ideas ad a strong influence on the Austrian economist Y. Schumpeter, who became, in essence, the founder of innovation. Schumpeter's book which was published in 1939,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

"Business cycles" and a number of other works, he explored the basic concepts of the theory of innovation processes. He saw innovations as a change in technology and management, a new combination of resource use. In this case, Schumpeter emphasized the role of the entrepreneur in the innovation process, highlighting the entrepreneur as a link between discovery and innovation.

An important contribution to the development of innovative theories can be included the concept of technological procedures developed by Russian economists. The concept of "technological order" (in the modern interpretation of this concept) is included in the list of scientific concepts by S.Yu. Glazyev. Technological order is a group of technological assemblies that are connected to each other through homogeneous technological chains and form the integrity of production.

The core of the technological order, the main factor of which is characterized by the organizational and economic mechanism of regulation. S.Yu. Glazyev and other economists distinguish five technological regimes. In economically developed countries, the redistribution of resources from the fourth to the fifth technological order is carried out.

The concept of "innovation" is applied to innovations in various industries and areas of activity, including not only in production, but also in distribution, exchange, consumption of manufactured products. But innovations will have to make significant changes to themselves that will only reshape the state of the system, completely change the description of processes, introduce a new quality state.

Some foreign authors have divided the concepts of "innovation" and "novelty". News is a topic of innovation. News and innovation have different life cycles. Innovation - development, design, manufacture, operation, obsolescence; innovation is the emergence, spread, obsolescence.

According to accepted international standards, "innovation" is the end result of a new and improved technological process that is put into practice in the form of a new and improved product or a new approach to social services. Different scholars have different interpretations of this concept. For example, while J. Schumpeter emphasizes the scientific organization of a combination of motivating factors of production, B. Santo emphasizes that the creation of the best in terms of products, technologies, as well as innovation can be focused on economic benefits., additional income. F. Nixon focuses on a set of technical, production and commercial measures that lead to the emergence of new and improved production processes and equipment in the market.

In the work of CIS scientists, there are cases of confusion of the concepts of "innovation" and "innovative activity", focusing on different interpretations, contradictions and peculiarities associated with the existing features of innovation. The concept of "innovative entrepreneurship" is not yet fully explained in the economic literature and textbooks. Not all developers of regional innovation policy programs and concepts take into account the need to link the periods of economic conjuncture associated with the concentration and spread of periodic innovations in the regional economy. While some authors focus on the end result of scientific or scientific-technical activity, others emphasize the need not only to implement, but also to develop the stages of the process of creating, introducing and disseminating innovations.

SUGGESTIONS AND RECOMMENDATIONS

Innovative activity includes not only the innovative process of evolution of new knowledge into new types of products, but also marketing research of commodity markets, their consumer

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

qualities, competitive environment, as well as technological, managerial and organizational-economic measures. innovation, information, consulting, social and other types of services.

Based on the topic we are studying, we decided to focus on the concept of "mechanism" and its introduction into the economy and what it means.

The concept of "mechanism" (from the Greek translation - "machine") was introduced by mechanics from the founders of economic theory. In the economic literature, a mechanism is a set of methods and means of influencing economic processes.

Market mechanisms are interdependent and collaborative economic instruments inherent in the market system³⁵. These include demand, supply, commodity prices, market conditions, money, profit, loss, interest, economic obligation, competition, and so on.

Economic mechanism. First of all, the economic mechanism is the system of resource provision (primarily financial, material and technical resources), economic supply, economic accounting and economic incentives. Of course, if economic incentives (wages, financial incentives, or penalties) are a form of economic accounting, they can be seen as one of the resources provided, but for a systematic review, this " it is expedient to disclose the "core".

Innovation mechanism is an organizational and economic form of innovative activity and its implementation, a form of assistance in finding innovative solutions, as well as support for the regulation and promotion of this activity. There are many types of such mechanisms that perform specific functions. Moreover, most of them are not considered closed and it is common for new mechanisms to emerge. These mechanisms should shape the functional support of business structures in relation to the stages of the life cycle of innovation. Functional support includes innovation, investment, and financial support. Innovative supply should help to effectively seek and create innovations. An appropriate mechanism to accelerate the innovation process should be available now. Then it is necessary to create conditions for investment to commercialize and introduce innovations into production.

Of course, innovative solutions and investment solutions cannot be implemented without appropriate funding sources. On the one hand, this is a situation that does not require serious explanations, as the functional supply mechanisms may differ depending on what stage of development of this or that business structure. It is very important to link the elements of functional supply with the stages of development of business structures. These mechanisms are "activated" in the development and implementation of innovations or in general - when it is necessary to ensure the effective implementation of innovation processes.

Innovation mechanisms will be available at three main levels: at the macro level, at the regional level, and at the enterprise level. At the macro level, three main issues are addressed: the formation of the state's innovation strategy, the creation of a favorable innovation environment for the entire economy, the implementation of state innovation programs. There will be similar tasks at the regional level, but they will depend on the specific characteristics of specific regions.

The macro and regional levels create the conditions for the accelerated implementation of innovation processes at the level of business structures. These innovation mechanisms are aimed at ensuring the implementation of state and regional innovation strategies, at the micro level within enterprises and organizations, directing innovation priorities to the flow of entrepreneurial initiative. The mechanisms mentioned should be carried out in a certain sequence and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

characterized by the coherence and appropriateness of the actions. The innovation mechanism consists of the formation of innovative needs and requirements on the one hand, and the formation of innovative supply on the other. This is done by stimulating the supply of innovations, increasing the demand for the results of innovative activities, influencing the conditions that encourage the emergence of innovations. In addition to the direct participants in innovation, it is also influenced by the regulatory process by government agencies.

The current state of the national economy requires investors not only to increase investment, but also to give them an innovative direction. This condition means a change in the approach to the process of reproduction in the economy, which means that scientific and technological progress, new techniques and advanced technologies must have a special place in its development.

CONCLUSION

In general, today there are a number of problems in the implementation of innovative activities in the regions of the country. This is due to the fact that the state has implemented large-scale innovations before the start of large-scale structural reforms.

REFERENCES:

- 1. Kalmuratov BC. Directions of formation of the national innovation system in our country. Republican traditional scientific-practical conference "Ways to improve the service sector in the context of strategic development of the economy" Samarkand-2018, p. 36-40.
- 2. Makhkamova MA. Formation of an organizational and economic mechanism for managing innovative activities at industrial enterprises of the Republic of Uzbekistan. Diss. Doc. econom. sciences. 2004.
- **3.** Otajanov ShI. Improving the effectiveness of organizational and economic mechanisms of innovation infrastructure management. Abstract of the dissertation of the Doctor of Economics (DSc). 2018, 56 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PARALINGUISTIC MEANS AND THEIR ROLE IN THE ORGANIZATION AND UNDERSTANDING OF A LITERARY TEXT

Shevchenko Elena*

*Lecturer,
Department of Metodology Russian Language,
Ferghana State University, UZBEKISTAN
Email id: shevchenkoelena@gmail.com

DOI: 10.5958/2249-7137.2021.02602.1

ABSTRACT

The article considers nonverbal means, thanks to which artistic works acquire a different meaning, because paralinguistic elements are one of the specific components of a literary text, organically combining the unconscious and the articulate in the process of creating and perceiving the text. It is impossible to say exactly when the term paralinguistics was introduced. Thus, M. Kay associates this term with the name of Welmers (Welmers) and refers to 1954 [Kay: 1975]. However, the more common point of view of J. Trager, who claimed that the term was first introduced by A. Will, although the paralinguistic phenomena themselves have long been noted by phonetists. In his article, Trager talks in detail about seminars and discussions in 1952 in the USA, where the word paralinguistics itself was already used [Trager: 1958, 3-4].

KEYWORDS: Medium, Internal Speech, Speech Message, Artistic Text, Body Language, Gesture.

INTRODUCTION

The term paralinguistics has several meanings (from the Greek. $\pi\alpha\rho\dot{\alpha}$ - about and linguistics):

- 1) A section of linguistics that studies non-verbal (non-linguistic) means included in a speech message and transmitting, together with verbal means, semantic information;
- 2) The totality of nonverbal means involved in speech communication [Nikolaeva (LES) 2002:367]. [1]

It is impossible to say exactly when the term paralinguistics was introduced. Thus, M. Kay associates this term with the name of Welmers (Welmers) and refers to 1954 [Kay: 1975]. However, the more common point of view of J. Trager, who claimed that the term was first introduced by A. Will, although the paralinguistic phenomena themselves have long been noted by phonetists. In his article, Trager talks in detail about seminars and discussions in 1952 in the USA, where the word paralinguistics itself was already used [Trager: 1958, 3-4]. It should be noted that Trager included in the composition of the paralinguistic means the phenomena of a sound nature that accompany oral speech, and a little later the number of these means was expanded, as well as the understanding of paralinguistics itself: it began to include "the whole complex of kinetic phenomena"

In modern linguistics, there are 3 types of paralinguistic means: phonation, kinetic and graphic.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Phonation includes
TEM the timbre of speech,
TEMII speech tempo,

• Volume,

Types of pause placeholders ("uh", "mm", etc.),

Melodic phenomena,

Features of pronunciation of speech sounds (dialect, social and idiolect).

Kinetic components include gestures,

 \Box The type of pose to choose,

Facial expressions.

To graphic — type of execution of letters and punctuation marks (handwriting),

способы methods of graphic additions to letters, their substitutes (symbols like &, §, etc.).

In addition, within the limits of paralinguistics, there are universal, ethnolinguistic and idiolect components. Therefore, paralinguistic means not only complement the meaning of a verbal message, but also are a source of information about the speaker (writer), about his social and age traits, gender, character traits, etc.

Despite the fact that paralinguistic means are not included in the language system and are not speech units, nevertheless, a speech message cannot be a full-fledged fact of communication without paralinguistic accompaniment. Therefore, paralinguistic means are more or less represented in each speech unit.

In relation to the verbal side of the utterance, paralinguistic means can perform 3 functions:

- 1) Add additional information ("Do you want to come with us?" "Yes!" and an affirmative gesture);
- 2) replace the missing verbal component ("Do you want to come with us?"-negative gesture);
- 3) Combine with verbal means, conveying the same meaning ("I want this red ball here" + index finger).

The importance of a non-verbal information channel cannot be overestimated. "There was not only emptiness in an empty conversation—smiles, glances, hand movements, coughing, all this helped to reveal, explain, understand anew." In the diary of K.I. Chukovsky there is an entry about the impression of M. Gorky's stories about L. Tolstoy: "When I record these conversations, I see that all their strength is in facial expressions, in intonations, in pauses, because they themselves, as it turns out, are very simple and even a little flat" [Chukovsky 1990: 155]. [2]

The study of body language amazes with the richness of their expressive capabilities. With the help of facial expressions, gestures, poses, you can convey an infinite variety of reactions to almost any situation. Thought and feelings, desire and mood, request and order - everything can be reflected through body language. Body language is used consciously and unconsciously. It is noteworthy that "bodily language, by its original nature, is really incapable of lying": speech is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

directly related to motor reactions that are spontaneous and can be controlled only with special training, which is also not everyone's strength [Gerasimova 2004: 180]. [3]

A person's creative activity is not conceived outside of a gesture. The master of the word A.N. Tolstoy noticed this very subtly: "I finally understood the secret of constructing an artistic phrase: its form is determined by the inner state of the narrator, the narrator, followed by movement, gesture. And, finally, a verb, speech, where the choice of words and their arrangement is adequate to the gesture" [Tolstoy A.N. 1972: 53-54].

Andrey Bely introduced "gestures" into poetry for the first time: the language of spaces, ladders of words.

It was no accident that A. Blok insisted that the collection of his works, which began to be published before the spelling reform in 1918, be reprinted in the old way, since the poems were designed for this. Graphic segmentation of the text, its location on paper, typefaces and colors of the set, typographic signs, unusual spelling and non-standard placement of punctuation marks - all this arsenal of paralinguistic tools helps to deepen and expressively convey the author's thought and feeling.

It is important to note that the paralinguistic method (phenomena and factors accompanying speech, but not being verbal material: volume, pauses, voice modulations, facial expressions, gestures, visual contact between communicating, etc.) of transmitting information in artistic creativity often contributes to the verbal formality of speech.

In the article "How to make poems" V. Mayakovsky says that his poems grow out of a "poetic hum". It seems that the "torments of the word" among poets and writers is a strenuous attempt to harmonically coordinate the verbal and non-verbal channels of poetic information.

The place of paralinguisms in a literary text can be seen by the example of L.N. Tolstoy's writing practice. Let's focus on the trilogy "Childhood. Adolescence. Youth" [Tolstoy 1978], in which there are about 140 fragments, one way or another related to paralinguistics. Some of the fragments can be attributed to the number of theoretical ones: in them the author discusses the features of non-verbal communication of people.

Firstly, L.N. Tolstoy drew attention to the fact that paralingualism is especially relevant in childhood and adolescence "It seemed to me that in his gaze the question was expressed why I came here, and in the rapid inclination of the head the desire to hide from me the meaning of the gaze. This tendency to attach importance to the simplest movement was a characteristic feature of that age in me" [Tolstoy 1978: 179]. [4]

Secondly, according to Tolstoy, paralinguistics develops in the conditions of small social groups and, above all, in the family: "... there is a private, more or less developed ability in various circles of society and especially in families, which I will call understanding. The essence of this ability consists in an agreed sense of proportion and in an agreed one-sided view of objects. Two people of the same circle or the same family who have this ability always allow the expression of feelings to the same point, after which they both see the phrase together; at the same moment, they see where praise ends and irony begins, where infatuation ends and pretense begins — which for people with a different understanding may seem completely different. For people with the same understanding, each object catches the eye equally for both, mainly with its funny, or beautiful, or dirty side. To facilitate this identical understanding between people of the same

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

circle or family, their own language is established, even turns of speech, even words that define those shades of concepts that do not exist for others. <....> For example, Volodya and I established, God knows how, the following words with corresponding concepts: raisins meant a vain desire to show that I have money, a bump (and it was necessary to connect fingers and make a special emphasis on both sh) meant something fresh, healthy, elegant, but not dapper; a noun used in the plural meant an unfair predilection for this subject, etc., etc. But, however, the meaning depended more on the expression of the face, on the general meaning of the conversation, so that no matter what new expression for a new shade one of us came up with, the other already understood it in the same way by one hint" [Tolstoy 1978: 280-281].

Thirdly, Tolstoy clearly demonstrated how paralinguistic elements are born: "Hello, diplomat! Dubkov said, giving me his hand. Volodya's friends called me a diplomat, because once, after dinner at the deceased grandmother's, she somehow, talking about our future, said that Volodya would be a military man, and that she hoped to see me as a diplomat" [Tolstoy 1978: 180]; "That's right, he has no money! Really? Oh! The diplomat! - he added affirmatively, explaining my smile" [Tolstoy 1978: 181].

Paralinguistic elements, like the language of words, are the necessary basis of inner speech, and L.N. Tolstoy convincingly shows their place in the hero's reflections, his inner monologues. Intonation — the most important sign of sounding speech in L. Tolstoy's artistic practice shifts to the area of inner speech and performs an important function of fixing the dominant of reflections.

It is safe to say that paralinguistic elements are one of the specific components of a literary text, organically combining the unconscious and the articulate in the process of creating and perceiving the text.

REFERENCES

- **1.** Gerasimova YES. On the question of linguistic means of eye behavior in communication. M., 2004.
- 2. Gorelov IN. Non-verbal communication components. -M., 1980.
- 3. Kolshansky G. V. Paralinguistics. M., 1974.
- **4.** Nikolaeva TM, Uspensky BA. Linguistics and Paralinguistics, in: Linguistic studies of general and Slavic typology. -M., 1966.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

STUDY OF HYDROGEN-BONDED COMPLEXES USING AB-INITIO CALCULATIONS

B. Khudaykulov*; H.Hushvaktov**; A.Jumabaev***; A.Absanov****; M.Kurdashov****

*Second course of PhD, Samarkand State University, UZBEKISTAN Email id:bekzodxudaykulov30@gmail.com

**Vice Rector for Scientific Works and Innovations, Samarkand State University, UZBEKISTAN Email id: hakim@samdu.uz

***Optics Chair Professors, Samarkand state university, UZBEKISTAN Email id: jumabaev2@rambler.ru

****Optics Chair Associate Professors, Samarkand State University, UZBEKISTAN Email id: ahmad@samdu.uz

*****Second course of PhD, Samarkand State University, UZBEKISTAN Email id: q_marufjon1994@mail.ru

DOI: 10.5958/2249-7137.2021.02604.5

ABSTRACT

In this work the vibration frequencies of the formamide molecule C=O and N-H were investigated on the basis of the method of density function theory (DFT) and a set of bases B3LYP/6-311++G(2d, p) and also geometric and optical parameters of molecules were studied. Theoretical calculations have shown that that the C=O and N-H vibration bands of formamide shown shifted towards low frequencies in the formation of molecular aggregates. As the amount of water in the solution increases, the energy of aggregate formation increases. Aggregates were formed by different types of H-bonds. Calculations have shown that as the amount of water increases, H-bonds are formed not only through O-H···O, but also through O-H···N-type non-classical bonds. Density distributions and 3 D potential energy graphs for formamide and water systems were also studied. This allows us to learn more about the intermolecular interaction energies in the formamide aquatic environment.

KEYWORDS:Formamide; Raman Spectra; H-Bond; Vibration Spectrum; Frequency; Simulation.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INTRODUCTION

The study of the processes that occur among atomic particles aids in the knowledge of the concept of molecular interactions, and the scientific validation of such interactions gives knowledgeabout rise to life. Today, in the field of physics, chemistry and biology, the results obtained through theoretical calculations, as well as experimental studies on various molecular compounds, are widely used. The ease of theoretical calculations allows the identification of parameters that are difficult to determine in an experiment and the achievement of new results. [1-4]. One of the simplest representatives of biological substances is formamide, a clear liquid amide, composed of four essential elements: carbon, hydrogen, oxygen, and nitrogen bound to the peptide. Any information about the electronic structure and geometry of this molecule is important in protein chemistry and physics [5, 6].

Understanding the role of water in biological systems necessitates research into the interaction of formamide with water. Aqueous solutions of formamide have been studied by many researchers [7-11]. Understanding the nature and features of such interactions allows us to draw conclusions about the structure and spectrum manifestations of biomolecules. Also Almerindo and Pliego Jr. in the aqueous solution of the formamide molecule using calculations in the set of bases CCSD(T)/6-311+G(2df,2p), MP2/6-31G(d), B3LYP/6-311+G(2df,2p)the activation energy was calculated and the accuracy of the calculations in the set B3LYP/6-311+G(2df, 2p) was found to be high [9]. The cyclic structure of the formamide-water complex, semi-classical formulas of internal and intermolecular energies and solutions of equations of motion are studied [11]. Similarly, calculations were made at 6-311G approximation of formamide with 5 water and the energies were compared in different methods [12]. The physical processes that occur as a result of vibrational processes in the formamide water system have not yet been fully studied. Therefore, an attempt was taken in this work in using theoretical calculations to investigate the nature of the intermolecular forces that occur in formamide and its aqueous solutions. In this case, we studied C = O, and N - H of the vibration frequencies of the formamide molecule on the basis of the method of density function theory (DFT) and a set of bases B3LYP//6-311++G(2d, p).

CALCULATION RESULTS

In our previous work, the Raman spectrum of the C=O vibration of formamide and its various aggregates with dimethyl sulfide oxide were studied using experimental and theoretical calculations [12]. Also in our recent work, the geometric optimization of molecular complexes in aqueous solutions of formamide molecules studied in 3 different ways: Hartree-Fock (HF), density function theory (DFT) and the second order Møller–Plesset(MP2) pertrubation theory studied on the set of bases 6-311++G(2d,p) [13]. Charge density distributions and three-dimensional potential energy graphs for formamide and water systems were also examined in this work. This allows us to learn more about the energies of intermolecular interactions. The density function theory(DFT) was used to perform quantum chemical calculations in Gaussian 09 utilizing a set of bases(B3LYP)/6-311++G(2d, p) [14, 15]. In [13], calculations were performed for different aggregates of the formamide molecule with water. Figure 1 shows the result calculated on the basis of density function theory (DFT) for aggregates of molecular complexes of water up to 6 hexamers with 1 molecule of formamide. Figure 1a shows the dimers of the formamide and water molecules, forming an H-bond between the O3 atom of the formide and the H9 atom of water, and a hydrogen bond with a binding energy of 0.85 kcal / mol. When

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the calculations were continued by increasing the value of water by one more, the number of these hydrogen bonds reached three. The H-bond energy is 1.99 kcal / mol, with two bonds formed by O-H···O, and a third bond formed by O-H···N bonds, which are weak with the nitrogen atom of formamide. The literature also states that the O-H···N bridge is weaker than the O-H···O bridge [16].

Figure 1b shows 1 formamide and 3 water aggregates. There are 4 hydrogen bonds with an energy of 3.14 kcal/mol and all the bonds are formed by O-H···H s. Similarly, the calculations show that when the number of water molecules is increased to 4, the energy is 4.44 kcal/mol and the number of hydrogen bonds is 5, 1 of which belongs to the O-H···N nonclassical bond, as mentioned above.

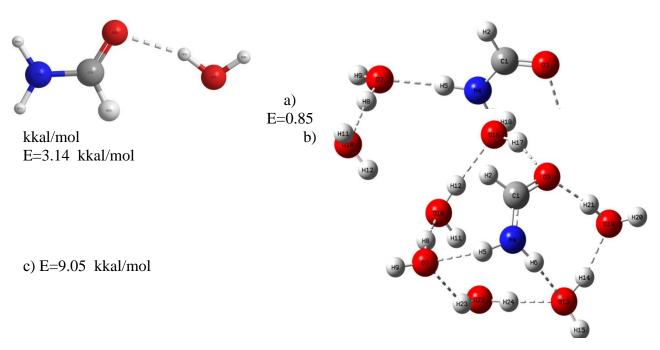


Figure 1. Aggregates of formamide formed with water. a) F + 1W, b) F + 3W, s) F + 6W

When the value of water was increased 5 and 6 (Fig. 1 s), the energies were 6.98 and 9.05 kcal/mol, respectively and all bonds closed structural aggregates formed through the O-H···O bond. The electro-optical parameters of the molecule found using theoretical calculations (Tables 1-3) are given. Table 1 shows the charge distributions for the systems formed by the formamide molecule with water.

TABLE 1. MULLIKEN CHARGE DISTRIBUTION WHEN FORMAMIDE FORMS A CLUSTER WITH WATER

Structure	C1	Н2	O3	N4	Н5	Н6
F	0.25	0.06	-0.46	-0.32	0.23	0.23
F+1W	0.29	0.08	-0.52	-0.37	0.25	0.29
F+2W	0.26	0.08	-0.59	-0.52	0.34	0.25
F+3W	0.27	0.09	-0.54	-0.45	0.37	0.28

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

F+4W	0.26	0.12	-0.45	-0.57	0.33	0.29
F+5W	0.28	0.13	-0.63	-0.42	0.31	0.36
F+6W	0.18	0.15	-0.56	-0.38	0.30	0.31

The charges of the formamide molecule have changed, and this change is greater in the atoms involved in hydrogen bonding. Table 2 shows the change in the chemical bond lengths of the formamide molecule, and as mentioned above, the change in bond lengths is also greater in the atoms involved in hydrogen bonding. The results obtained are confirmed in the reference [17].

TABLE 2. BOND LENGTHS WHEN FORMAMIDE FORMS A CLUSTER WITH WATER. (Å)

Structure	O3-C1	C1-H2	C1-N 4	N4-H6	N4-H5
F	1.21	1.11	1.36	1.01	1.01
F+1W	1.22	1.10	1.35	1.02	1.01
F+2W	1.21	1.11	1.37	1.01	1.02
F+3W	1.23	1.10	1.34	1.02	1.02
F+4W	1.23	1.10	1.35	1.02	1.02
F+5W	1.24	1.09	1.32	1.03	1.01
F+6W	1.24	1.09	1.33	1.02	1.02

Table 3 shows the frequencies calculated using formamide calculations for the vibration C=O, which matched to a frequency of 1770 cm⁻¹ in the experiment. As can be seen from the table, as the value of water increases, the frequency shifts downward. The table also shows the dipole moments, the values of the dipole moments decrease as the number of molecules increases, but partially increased when the number of water molecules is 3, which can be seen from Figure 1b due to the formation of an open chain of molecules. Similarly, Table 3 shows the total vibration energy and intermolecular interaction energies of the molecule.

TABLE 3. THE RESULTS OF CALCULATIONS FOR MOLECULAR CLUSTERS OF FORMAMIDE (F) AND WATER (W) MOLECULES

Structure	Frequency of C=O vibration , cm ⁻¹	Dipole moment, D	Energy of vibration, kkal/mol	Energy of intermolecular interaction, kkal/mol
F	1782.8	4.02	28.28	-
F+1W	1758.6	4.09	43.58	0,85
F+2W	1752.8	3.78	59.17	1,99
F+3W	1738.6	5.21	74.76	3,14
F+4W	1743.3	3.40	90.50	4,44
F+5W	1729.0	1.46	107.50	6,98
F+6W	1735.9	3.80	124.01	9,05

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The table shows that as the number of water molecules increases, the value of energy increases. In this case, just like the value of the dipole moment, the formamide molecule combines with 3 water molecules to reduce the energy value slightly, and such a decrease can be explained by the formation of an open chain in the formation of the aggregate.

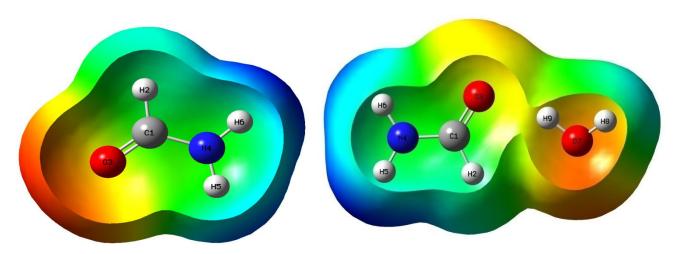


Figure 2. Charge density distribution of formamide and formamide-water

Figure 2 shows its electrostatic potential through the electron density distribution of atoms in a formamide molecule. Electrostatic potential surfaces characterize the molecular size, shape, charge density, and chemical reactivity properties. Depending on the level of electrostatic potential, it is expressed in different colors. The orange-yellow-green-blue order shows the increase in electrostatic potential. As can be seen from the figure, C=O indicates that the surface around the bond is orange, i.e., it has the smallest potential, while N-H is blue, which indicates that it has the largest electrostatic potential.

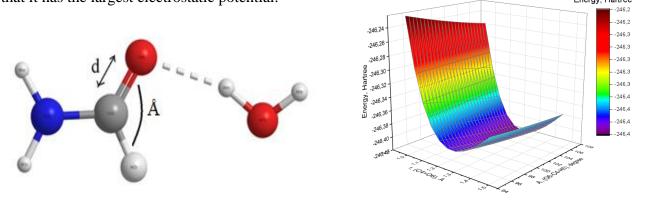


Figure 3. 3 D potential energy graph for formamide water system

Figure 3 shows the aggregation of formamide-water molecules and a 3D graph of the potential energy dependence of its angle (between O6-C4-H5) and distance (between C4=O6). The calculations show that the energy of the molecule being optimized is the distance between the atoms (1.0 to 1.5 Å) and the angle (94 to 108^{0}), respectively. The lower part of the graph shows that the optimized energy corresponds to known intervals, rather than the exact discrete value of distance and angle.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CONCLUSION

Calculations show that the formamide molecule forms different aggregates with the water molecule and can consist of several types. In particular, there are aggregates of formamide with H atoms of the NH_2 group, as well as aggregates of formamide with the oxygen atom of the C = O group and the H atom of the O-H group of water. An increase in the amount of water in the aggregates of formamide + water molecules resulted in the formation of open and closed type complexes of different types of H-bonds. Also, as the amount of water in the solution increases, the energy of complex formation also increases.

Acknowledgements

This work was carried out with the financial support of the state scientific and technical program for fundamental research, the Ministry of Innovative Development of the Republic of Uzbekistan.

REFERENCES:

- 1. Kannan PP, Karthick NK, Mahendraprabu A, Shanmugam R, Elangovan A, Arivazhagan G. Red/blue shifting hydrogen bonds in acetonitrile-dimethyl sulphoxide solutions: FTIR and theoretical studies. Journal of Molecular Structure 2017;1139:196-201
- **2.** Kiefer W. Recent advances in linear and nonlinear Raman spectroscopy II. J Raman Spectrosc. 2008, 39(12):1710-1725.
- **3.** Upadhyaya G, Upadhyaya P, Gomti Devi Th. Vibrational studies of polar aprotic molecule in aromatic chemical and isotropic solvents: experimental and quantum chemical investigations. Journal of Raman Spectroscopy. 2015;46(12):1291-1302.
- **4.** Alves WA. Preferential interactions in the formamide/ tetrahydrofuran/dioxane system: a study by Raman spectroscopy. Journal of Raman Spectroscopy. 2009;40(4):366-369.
- **5.** Pitsevich GA, Malevich AE, Kozlovskaya EN, Doroshenko IYu., Pogorelov VE, Sablinskasc V, Baleviciusc V. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy. 2015;145:384. doi:10.1016/j.saa.2015.02.067.
- **6.** Zhang Q, Zhang X, Yu L, Zhao DX. Polarizable force field for water–dimethyl sulfoxide systems: I Parameterization and gas phase test. Journal of Molecular Liquids. 2009;145(2): 58-66. https://doi.org/10.1016/j.molliq.2008.12.002
- 7. Signorile M, Pantaleone S, Balucani N, Bonino F, Martra G, Ugliengo P. Monitoring the Reactivity of Formamide on Amorphous SiO2 by In-Situ UV-Raman Spectroscopy and DFT Modeling. Molecules 2020; 25(10):2274; https://doi.org/10.3390/molecules25102274
- **8.** Garbuio V, Cascella M, Del Sole R, Marsili M, Pulci O, Garbuio et al. Excited state properties of formamide in water solution: An ab initio study. J. Chem. Phys. 2012;137: 164317. https://doi.org/10.1063/1.4763980
- **9.** Almerindo GI, Pliego Jr. JR. Ab initio investigation of the kinetics and mechanism of the neutral hydrolysis of formamide in aqueous solution J. Braz. Chem. Soc., 2007;18(4):696-702. doi.org/10.1590/S0103-50532007000400005

- **10.** Paarmann A, Lima M, Chelli R, Volkov V, Righini R, Dwayne Miller J. Excitonic effects in two-dimensional vibrational spectra of liquid Formamide. Phys. Chem. Chem. Phys., 2011;13:11351–11358. doi.org/10.1039/C0CP02961K
- **11.** Shin HK. Inter- and Intramolecular Vibrational Energy Flow in a Formamide–Water Complex. The Journal of Physical Chemistry A 2020;124(16):3031-3037. https://doi.org/10.1021/acs.jpca.0c00584
- **12.** Xushvaktov Kh, Khudaykulov B, Jumabaev A, Doroshenko I, Absanov A, Murodov G. Specroscopy of molecules and crystals. (21-24.09.2021). XXV School-Seminar. Kiev. Ukraine.
- **13.** Khudaykulov B, Absanov A, Holikulov U, Iltizarov B. Scientific Journal of Samarkand University. 2021;5(129).
- **14.** Frisch MJ, Trucks GW, Schlegel HB, Scuseria GE, Robb MA. at all. Gaussian 09 (Gaussian, 2009), Revision A.02.
- **15.** Foresman JB, Frisch A. Exploring Chemistry with Electronic Structure Methods. Gaussian, Inc. Wallingford, CT USA. Gaussian, 3rd edition 2015.
- **16.** Grabowski SJ, Leszczynski J. Hydrogen Bonding -New Insights (2006).
- **17.** Gorb L, Asensio A. InakiTunon, and Manuel F. Ruiz-Lopez. Chem. Eur. J. 2005;11:6743. doi: 10.1002/chem.200500346.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW ON THE BIOLOGICAL FAMILY AND THE BENEFITS OF LOTUS

Harveer Singh Cheema*

*Assistant Professor,
Department of Agriculture Science,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India
Email id: harveer.agriculture@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02631.8

ABSTRACT

Lotus is an aquatic perennial basal eudicot that belongs to a tiny family with just one genus and two species. It is a significant horticultural plant that has been extensively utilized, particularly in Southeast Asia, for decorative, nutritional, and medicinal purposes. The lotus has recently gotten a lot of attention from the scientific community. A growing number of academic articles devoted to it have been published, shedding insight on the species' secrets. We examined the most recent research on the lotus, including phylogeny, genetics, and the molecular processes behind its distinctive characteristics, as well as its economically significant qualities. Meanwhile, existing limits in lotus research were addressed, and possible future directions were suggested. With the production of germplasm suited for laboratory operation and the construction of a regeneration and transformation system, we think the lotus will become an important model plant in horticulture.

KEYWORDS: Lotus, Genomics, Medicine, Molecular, Phylogeny.

1. INTRODUCTION

Lotus is an aquatic perennial plant. It is a member of the Nelumbonaceae family, which has just one genus, Mulumba, and two species, Mulumba nucifera Geert. And Mulumbaluteal Pear. Which are known as Asian and American lotus, respectively. Lotus refers to Asian lotus, which is found predominantly in Asia and northern Oceania, while American lotus is found mostly in eastern and southern North America, as well as northern South America. These two species have different exterior morphologies, such as petal color and form, leaf shape, and plant size, due to their separation by the Pacific Ocean. Despite this, they have the same chromosomal number. And have a similar life style, with each generation having a life span of approximately five months. Crossing these two species may result in a generation that is completely sterile. Despite the fact that there are only two species of lotus in taxonomy, there are many germplasms all over the globe with diverse genetic origins and phenotypes, particularly in Asia. Furthermore, the lotus is a primitive eudicot, making it a crucial species in plant phylogenetic and evolution research. Because of its religious importance in Buddhism and Hinduism, the Asian lotus is also known as holy lotus. In Chinese traditional culture, it is an excellent emblem. Sacred lotus is a popular decorative plant because of all of these characteristics. It's also a popular food and traditional medicinal plant in Southeast Asia, having a high economic worth. With thousands of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

years of lotus cultivation and breeding history, China is considered one of the main hubs for lotus cultivation and breeding[1].

1.1. Phylogeny and Genomic Studies:

Lotus is classified as a member of the genus Mulumba, which is the sole genus in the Nelumbonaceae family. Nelumbonaceae has been attributed to Cretaceous remains. According to the analysis of these fossils, the Nelumbonaceae family has a history of more than. Ma years and exhibits significant morphological stability. It took a long time to figure out how to classify lotuses in taxonomy. In the previous classification system, Mulumba was considered one genus of the Nymphaeaceae family because of its superficial similarities in flowers and vegetative body with the waterlily. The Nelumbonaceae family was acknowledged under the Cronquist classification, although it was nonetheless put in the Nymphaeales order. The Nelumbonaceae family was given its own order, Nelumbonales, in both the Dahlgren and Thorne systems.

Takhtajanseparated Nelumbonaceae from Nymphaeales and put them in the Nelumbonidae subclass. The Angiosperm Phylogeny Group. Has placed it in the basal eudicot order of Proteases, which is outside of the core eudicots, based on growing molecular evidence. Except for Nelumbonaceae, Proteases includes three additional families: Platanaceae, Proteaceae, and Salicaceae, the latter two being the closest relatives of the lotus and consisting mostly of shrubs and woody trees. Implying that the lotus is a terrestrial plant adapted to water conditions. On the USDA website. The Nelumbonaceae family is still listed as part of the Nymphaeales order. Furthermore, investigations have shown that the gene expression patterns of Nymphaea and Mulumba floral organs are very similar. The evolutionary convergences between Nymphaeales and the lotus would be fascinating to study[2].

1.2. Unique Properties of Lotus:

Lotus contains not just the typical characteristics of an aquatic plant, but also certain distinctive characteristics that set it apart from other plant species. Seed lifespan, leaf ultra-hydrophobicity, and floral thermoregulation are among these characteristics. Understanding the processes that contribute to the development of these distinct characteristics is critical not only for fundamental plant biology, but also for bionics applications. The lifespan of the lotus fruit is well-known. It has been claimed that lotus fruits buried underground for over.in China's northeast may still germinate. Understanding the fundamental process of lotus seed lifespan may help improve seed storage in agriculture, as well as human health care. Floral organ thermogenesis, which occurs independently at the receptacle, stamen, and petal, is another unique characteristic of the lotus.

This feature was discovered in the floral organs as a consequence of a cyanide-resistant alternative oxidase pathway, which sparked a flurry of research into alternative oxidases. And plant uncoupling mitochondrial proteins. This thermogenic characteristic seems to be biologically essential for lotus sexual reproduction by attracting insect pollinators. According to studies, the produced heat may either offer a warm habitat for thermo-sensitive pollinators or assist in the production of volatile chemicals that attract flying insects, mostly beetles. After a thesis, there is no need to attract pollinators, and the primary role of the floral organs, particularly the receptacle, switches to photosynthesis. Exploring the mechanism that regulates this kind of metabolic shift will be crucial[3].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.3. Genetic and Molecular Studies on the Horticultural Traits of the Lotus:

As previously said, a lotus is a popular decorative, vegetable, and medicinal plant with a wide range of practical applications, resulting in the classification of three kinds of lotus: flower, seed, and rhizome lotus. Each lotus species has a wide range of phenotypes. Which offer appropriate material for breeding and further research on many characteristics. A number of recent research have focused on the genetic and molecular processes underpinning the development of various lotus flower, seed, and rhizome characteristics. These characteristics may have a significant role in determining the lotus' economic worth, making them the most important elements to consider while breeding it. Several genetic maps have been created by crossing different germplasms with differential phenotypes in some of the economic characteristics, and these genetic maps have been used to generate a number of molecular markers linked with the target attributes, including. Meanwhile, SNPs and Indwells were found in abundance in whole genome re-sequencing on wild germplasm. These data, when combined, will definitely aid lotus breeding[4].

1.4. The Flower of Lotus:

The lotus flower is one of China's top ten traditional renowned flowers, and it is also India and Vietnam's national flower. It is extensively grown for its aesthetic value, which is mainly because to its beautiful color and varied form and shape[5]. Flower color and form are the two most important elements in determining the aesthetic value of ornamental plants. The three primary hues of lotus petals are white, red, and yellow, with the first two colors seen exclusively in Asian lotus and the latter in American lotus. Many cultivars with mixed hues have been developed via breeding and artificial selection in order to increase their aesthetic value. The concentrations of carotenoids and anthocyanins, respectively, are the primary determinants of yellow and red color, according to a large-scale study of the pigment composition of various genotypes. Anthocyanin biosynthesis regulation is comparable in lotus and Arabidopsis, according to a genome-wide study of the MYB gene family. And overexpression of in Arabidopsis resulted in anthocyanin accumulation in immature seeds and flower stalks. Despite this resemblance, a comparative proteomics analysis of white and red cultivars revealed that the lack of anthocyanin production in the white flower lotus may be due to the expression of the ANS gene.

Further investigation revealed that the two cultivars had distinct amounts of methylation in the promoter regions of the ANS gene, indicating epigenetic control of this gene's expression. However, the gene that causes the red and white lotus cultivars to have differing levels of methylation on the promoter of the ANS gene is yet unclear. Furthermore, certain cultivars have a genetically consistent speckled hue. Which is yet unknown. Exploring the mechanism behind the control of spotted color in lotus will be crucial not only for flower lotus breeding, but also for expanding our understanding of plant flower coloring[6].

1.5. Rhizome and Seeds:

Because of its edible rhizome and seeds, lotus is not only an attractive plant, but also a food, as previously stated. Lotus has a subterranean stem that has been morphologically changed. The subterranean stem of the temperate ecotype is expanded in fall, which is known as rhizome. The rhizome is a popular edible vegetable because it includes a lot of carbohydrates, proteins, and vitamins. The economic worth of a lotus rhizome is mainly determined by its size. Furthermore, the larger rhizome may aid the lotus in surviving winter during its bud hibernation, as well as

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

providing substrates and energy for asexual propagation. This process is comparable to the tuberization of potatoes, which has been shown to be controlled by a complex genetic network.

Because it is a differentiating characteristic between temperate and tropical lotus, it may aid in understanding the lotus' development and domestication. In a lotus, rhizome expansion seems to be closely linked to blooming. The expansion usually happens after blooming. Genetic and transcriptome research focused on the expansion of this rhizome have been performed with the goal of improving its output in agricultural agriculture. Furthermore, a comparative transcriptome study was performed between two lotus germplasms with differing seed size and seed number per seedpod characteristics. Seed yield, like rhizome yield, is a quantitative characteristic that needs more genetic research. Meanwhile, because of its therapeutic value, a thorough study of its metabolites throughout seed growth is required[7].

1.6. Secondary Metabolites and Medicinal Usage of Lotus:

Lotus is a traditional plant with therapeutic properties in almost every tissue. For almost a thousand years, it has been utilized as a traditional Chinese medication. This may be due to its high concentration of secondary metabolites such as flavonoids, phenolic acids, and alkaloids. The technique for extracting these metabolites from various tissues of the lotus has been studied extensively. In the meanwhile, the distributions of several secondary metabolites in various lotus tissues have been studied. Furthermore, these proven techniques. Were used to evaluate lotus germplasm from various sources, which aided in the screening of germplasm with a high concentration of particular secondary metabolites. These potential germplasms may be utilized for breeding or further research into the production of several compounds in the lotus. In addition, the therapeutic potential of several lotus secondary metabolites was investigated. However, the precise chemicals that work in each therapeutic application remain unclear, which seems to be a common problem in traditional Chinese medicine. The lotus leaf, in particular, is an essential traditional Chinese herbal medicine that has long been used to regulate blood lipids and treat hyperlipidemia. It has been more popular in China as a weight-loss tea to lower cholesterol levels in the human body during the past decade. Alkaloids are the most abundant bioactive chemicals in lotus leaves, with luciferin and N-nornuciferine being the most abundant. Several transcriptomic studies were conducted to evaluate the biosynthesis pathway of alkaloids and its regulation in lotus leaf, which revealed that a benzylisoguinoline alkaloids. Biosynthetic pathway and its transcriptional regulation differ in high BIAs lotus compared to low BIAs lotus. Based on sequence similarity research, many genes encoding enzymes implicated in the BIA biosynthesis pathway were suggested. To get a complete understanding of the production of these bioactive chemicals, further functional study of these genes will be required[8].

1.7. Studies on the Establishment of Lotus Regeneration and Transformation System:

It may be required to create a transformation system in order to study the roles of various genes in the lotus as a model horticulture plant. A research was performed to stimulate the development of a callus from several lotus explants, in which a somatic embryo was grown in an appropriate medium containing a mixture of different growth regulators. A proteomic study was performed to determine the main proteins that may be important for the induction of callus from growing cotyledon in order to get a better understanding. It has also been effective to induce the development of a shoot directly from the bud. Various research to change the lotus have been performed based on this approach.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It seems that a particle bombardment device with a vector may effectively convert the induced shoot from the embryo apical bud[9]. The anti-sense of two anthocyanin biosynthesis genes, dihydroflavonol. reductase and Chaconne synthase. Was also successful using this approach? Except for the Thai group, there have been no other successful experiments on the metamorphosis of the lotus, despite the fact that many academics are working on it. It seems that repeatability and effectiveness of the transformation, as well as the selection of a suitable cultivar, are still issues[10].

2. DISCUSSION

The Lotus blossom is a symbol of purity, enlightenment, self-regeneration, and rebirth in many civilizations, particularly in eastern faiths. Its features are a great parallel for the human condition: the Lotus produces the most beautiful bloom even when its roots are in the dirtiest waters. The Lotus is India's national flower. It is a holy flower that has a special place in ancient Indian art and mythology, and has served as an auspicious emblem of Indian culture from the dawn of time. The lotus is both a sign of heavenly perfection and a representation of what is divine or eternal in mankind. The lotus is the symbol of the sun and fire gods. Vishnu is also known as the "Lotus-Eyed One. The aquatic world's gems are lilies. And Lotus. Water lily blooms and leaves are waxy and thick, while lotus flowers and leaves are thin and papery. Each leaf of a water lily has a distinct notch

3. CONCLUSION

Lotus is receiving increasing interest from the scientific community because to its importance in the everyday lives of people in South and East Asia, as well as in agricultural and therapeutic uses. There have been many research on virtually every element of this plant, including phylogeny and evolution, genomics, genetics and breeding, and therapeutic use. With the publication of its genome material, -omics and molecular genetics research focused on the plant's economic characteristics have risen to the fore, and will certainly have a significant impact on lotus breeding. Unfortunately, there are still certain constraints that hinder research on this species, particularly molecular biology research.

The first one may be the genome's assembly and annotation, which still needs to be enhanced. Second, in the scientific community, there is no widely recognized lotus cultivar or germplasm that is frequently utilized for fundamental biology research. Because of its genetic homozygosity, the sequenced germplasm 'China Antique' may be an excellent choice. Finally, the poor effectiveness of the regeneration and transformation mechanism makes it difficult to conduct molecular genetic research on the lotus, which are necessary for studying gene function. The lotus plant's unpredictable development and lengthy life span are the fourth and final factors that restrict its cultivation in confined spaces. Through artificial selection, a number of cultivars with small plant architecture and short life span. were obtained in lotus, which are very popular in the ornamental market, and named 'Wan Lain'. By crossing these bowl lotuses with 'China Antique,' and then backcrossing breeding, germplasm with both small plant size and short life span could be obtained

REFERENCES:

- 1. B. Bhushan, "Bioinspired structured surfaces," Langmuir, 2012, doi: 10.1021/la2043729.
- 2. M. A. Samaha, H. V. Tafreshi, and M. Gad-el-Hak, "Superhydrophobic surfaces: From the

- lotus leaf to the submarine," Comptes Rendus Mec., 2012, doi: 10.1016/j.crme.2011.11.002.
- **3.** Lotus Development Corporation, "Lotus , IBM , and Knowledge Management," Knowl. Manag., 1998.
- **4.** M. Hashiguchi, J. Abe, T. Aoki, T. Anai, A. Suzuki, and R. Akashi, "The national bioresource project (NBRP) Lotus and Glycine in Japan," Breeding Science. 2011, doi: 10.1270/jsbbs.61.453.
- 5. K. Koch, B. Bhushan, and W. Barthlott, "Multifunctional surface structures of plants: An inspiration for biomimetics," Progress in Materials Science. 2009, doi: 10.1016/j.pmatsci.2008.07.003.
- **6.** M. A. Samaha and M. Gad-el-Hak, "Polymeric slippery coatings: Nature and applications," Polymers. 2014, doi: 10.3390/polym6051266.
- **7.** K.-Z. Ivanić, Z. Tadić, and M. Omazić, "BIOMIMICRY AN OVERVIEW," Holist. Approach to Environ., 2015.
- **8.** F. A. Müller, C. Kunz, and S. Gräf, "Bio-inspired functional surfaces based on laser-induced periodic surface structures," Materials. 2016, doi: 10.3390/ma9060476.
- **9.** S. Nishimoto and B. Bhushan, "Bioinspired self-cleaning surfaces with superhydrophobicity, superoleophobicity, and superhydrophilicity," RSC Advances. 2013, doi: 10.1039/c2ra21260a.
- **10.** A. Fihri, E. Bovero, A. Al-Shahrani, A. Al-Ghamdi, and G. Alabedi, "Recent progress in superhydrophobic coatings used for steel protection: A review," Colloids and Surfaces A: Physicochemical and Engineering Aspects. 2017, doi: 10.1016/j.colsurfa.2016.12.057.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THERMAL ANALYSIS OF RECIPROCATING COMPRESSORS PARTS

Mahir Hussain*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: mahir.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02632.X

ABSTRACT

The paper provides a comprehensive examination of various approaches to thermal analysis of reciprocating compressors. It is generally known that a significant portion of the inefficiency in small reciprocating compressors used for residential refrigeration is due to thermal effects, which are primarily manifested as superheating. As a result, being able to tune the compressor's thermal behaviors is critical for increasing its efficiency. In fact, it is widely assumed that the effectiveness with which the thermal issue is addressed will have a significant impact on future compressor improvements. The purpose of this work is to provide an overview of the various computational and experimental approaches for compressor thermal design that are currently used in the industry. Each methodology is briefly described, along with prospective applications for compressor analysis, as well as its key benefits and limitations. Finally, some new information concerning recent developments in this field is shared. The purpose of this research is to determine the temperature distribution on the piston's upper surface. Because damaged or broken parts are so expensive to replace, it is predicted that the top surface of the piston will be damaged or broken owing to temperature weather during operation.

KEYWORDS: Air Compressor, High-Pressure Cylinder, Thermal Analysis.

1. INTRODUCTION

Refrigerators and freezers account for about 8% of domestic electric energy consumption in the United States, according to recent estimates. One of the key reasons for the growing need for high-efficiency cooling systems is this. The compressor[1] is one of the most energy-intensive components of a vapor-compression refrigeration system[2]. The overall efficiency of a compressor is determined by three factors:

- Electrical efficiency[3], which is linked to the driving motor and its start-up auxiliary device;
- Mechanical efficiency[4], which is linked to the bearing system; and
- Thermodynamic efficiency[5], which is linked to irreversibility in the suction, compression, and discharge processes. a device that turns potential energy into power typically from an electric motor, diesel engine, or gasoline engine) by compressing air into a smaller volume and therefore increasing its pressure.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

While the air stays pressured, the energy in the form of compressed air can be stored in the tank. These energies can be exploited for a variety of purposes, including harnessing the kinetic energy of depressurized air [8].

According to a basic analysis of current efficiency levels of state-of-the-art domestic reciprocating compressors, electric efficiency ranges from 87 to 88 percent. The use of synchronous motors might improve this efficiency even more; however such options are not always used due to cost concerns. The efficiency levels of the mechanical system are also fairly high, reaching up to 92 percent in some cases. It's worth noting that linear compressors and variable-speed compressors operating at lower speeds can provide even better mechanical efficiency. Temperature influences the material qualities, as well as the component's dimensional stability and integrity. The fact that the exit valves atop the High-Pressure Cylinder fail is a source of concern. The problem with the valve must be fixed right away. When a compressor's valve or valve plate breaks, serious damage might occur. Low-Pressure Cylinder features two suction valves and two delivery valves in the Air Compressor. High-Pressure Cylinder has one suction valve and one delivery valve at the same time. All valves are found in the Low- and High-Pressure Cylinder Heads, respectively.

Thermodynamic efficiency is substantially lower, ranging between 80 and 83 percent in most cases. As a result, it is evident that future increases in compressor efficiency will almost certainly be linked to lower thermodynamic losses. Figure 1 depicts the sources of thermodynamic losses in a high-efficiency compressor working with R134a and a capacity of 900 BTU/h. As shown in Fig. 1, the suction and discharge operations account for the majority of the thermodynamic losses due to viscous losses in the vapour route from the suction line to the cylinder and from the cylinder to the discharge line, respectively. Much effort has gone into reducing energy losses in the suction and discharge systems, primarily through the reduction of flow limitations.

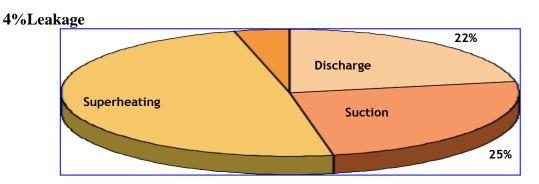


Figure 1: Sources of thermodynamic losses in a 900BTU/h compressor, operating with R134a.

Superheating[6] is a large contributor to thermodynamic losses, but it has gotten far less attention throughout time. According to research (1998) provided an excellent summary of research on this topic up to 1998, including an assessment of important breakthroughs in theoretical, computational, and experimental approaches. The author stated that more work remains to be done in order to fully comprehend the heat transfer phenomenon in compressors, as well as to build numerical models and experimental approaches to account for this in compressor design. He came to the conclusion that the heat transfer phenomenon in reciprocating compressors was misunderstood as a technology problem. Superheating affects the compressor volumetric

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

efficiency in addition to the thermodynamic efficiency, because the gas density in the compression chamber is directly related to the gas temperature. As a result, the lower the gas temperature, the lower the volumetric efficiency.

Suction and discharge losses and superheating losses are two separate phenomena. The losses caused by viscous effects may be easily isolated in the former, and then proposed methods to reduce them, such as modifying the geometric characteristics of acoustic filters and valves. Superheating losses, on the other hand, are influenced by a variety of factors that might combine in complex ways. For example, in the suction process, gas heating might occur at the muffler walls, which are warmed by the gas inside the compressor shell. However, heat is released through hot sources, such as the gas discharge tube, and through the shell wall to the external ambient, resulting in the temperature of the gas inside the compressor shell.

Since of the aforementioned reasons, thermal analysis of compressors is a tough undertaking because the complexity of compressor geometry precludes simple modeling approaches. Understanding all essential parameters operating on gas heating during its passage from the suction line up to the compression chamber is critical in order to discover alternatives to reduce superheating losses. The current work provides a comprehensive overview of existing experimental techniques and numerical methodology for analysing compressor thermal behavior. Each technique is described briefly, along with its key benefits and downsides. The most recent breakthroughs in this field are also discussed. The authors sincerely apologise for the lack of any linked work in this study area, as a review is a very lengthy activity that is always bound to be incomplete.

2. ANALYSIS:

The use of thermocouples[7] to characterize the thermal behavior of compressors is arguably the most traditional and well-established technique. This is an intrusive technique in which several wires are placed inside the compressor shell to carry the thermocouple signal to the data acquisition system, as shown in Fig. 2. As a result, proper wire positioning is critical to avoid any significant changes in the gas dynamics inside the compressor. The use of thermocouples, in addition to being a fairly simple technique, allows for energy balances in numerous compressor components by assessing the gas enthalpy fluctuation between the entrance and departure sections, as shown in Fig. 3. As a result, the thermal energy, \dot{Q}_W , being emitted or absorbed in each component of the compressor can be estimated as follows:



Then, it is as straight for ward task to character rize the heat transfer process at the component wall through the concept to fan equivalent thermal conductance (UA):

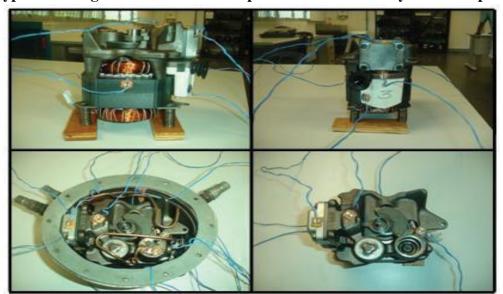
$$\dot{Q}_W \Box UA \Box (T_{gas} \Box T_{amb})$$
(2)

Naturally, in equation (1), the values of enthalpy at the entrance and exit sections of the component can be estimated from the temperature measurements at the same locations.

Therefore, with temperature measurements also for the gas in side the component, T_{gas} , and for the gas in the surrounding ambient, T_{amb} , the equivalent conductance (UA) can be found from equation (2).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Figure 2: Typical Arrangements of Thermocouples for Thermal Analysis of Compressors.



Temperature measurements can also reveal the presence of hot and cold sources in the compressor, allowing for the identification of components that have a significant impact on the superheating process. The following are the primary disadvantages of utilising thermocouples to investigate compressor thermal dynamics:

- The data is limited to temperature, preventing a comprehensive investigation of the heat transfer[8] between compressor components. This is a significant disadvantage since understanding this thermal interaction is necessary for innovative layout concepts that reduce the amount of heat transported to the suction gas.
- The response time of thermocouples is substantially faster than that necessary to register the gas temperature fluctuations that occur inside residential refrigeration compressors. This is due to their thermal inertia, which can be reduced significantly with the use of microthermocouples.

Heat flux sensors[9], as illustrated in Fig. 3, are another option for characterizing the heat transfer dynamics inside the compressor. Although heat flux sensors have been employed in other applications, such as the thermal mapping of household refrigerators, their usage in hermetic compressors is significantly more problematic due to the limited space available internally. Furthermore, the compressor's interior atmosphere, which is made up of lubricating oil and refrigerant, is particularly harsh on some of the materials used to build such sensors on the walls. Other challenges include thermal contact resistance between the sensor and the surface, as well as thermal radiation characteristics discrepancies between the sensor and the wall surfaces. Regardless of how these issues are resolved, heat flux may be directly measured, and thermal analysis is significantly improved. Heat transfer coefficients in some compressor components can be obtained by combining heat flow and temperature measurements, which can be utilised as input data for numerical simulation models or as information to assist understand the prevalent heat transfer mechanism in each component.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal





Figure 3: Use of Heat Flux Sensors in Refrigeration Compressors.

Because compressor temperatures are relatively low, thermal radiation emissions are concentrated in the infrared band. As can be observed in Fig. 3, infrared thermograph[10] is a suitable additional tool for investigating the compressor temperature profile. Temperature data are typically made accessible on some part of the surface in such devices in order to determine the surface emissivity and, ultimately, the temperature field. An infrared camera can provide far more information than thermocouples, as well as a visual image that allows temperature comparisons over a vast region. In addition, because it functions in a non-contact mode, infrared thermograph has relatively little impact on the heat transfer process itself, unlike thermocouples. However, some scenarios, such as the existence of no uniform surface emissivity and measurements for internal components, may make infrared thermograph challenging, necessitating the use of infrared transparent windows to provide access.

Designers have started looking for energy reductions at any cost, as the compressor's efficiency is approaching its limitations and energy shortages are looming on the horizon. This has prompted experts to reexamine the impact of heat transport on performance and reliability. Compressors efficiency[11] The early phases of such efforts were marred by disagreements between different organizations, and it wasn't until the 1980s that the impact of heat transfer on compressor performance was recognized.

3. NUMERICAL ANALYSIS:

The development and implementation of numerical approaches to forecast the thermal behavior of refrigeration compressors has been the subject of a number of studies in the literature. In general, such approaches can be classified into three categories, as outlined below. Integral Numerical Model:

From the analysis developed a numerical model in which control volumes are linked by equivalent thermal conductance calibrated using experimental data for the compressor thermal profile at a given operating condition. At each point throughout the working cycle, the energy balance for the refrigerant inside the cylinder is calculated, taking into consideration time fluctuations in mass and energy fluxes. The numerical model can anticipate various complicated processes inside the compressor thanks to the experimental calibration. However, this limits the model's flexibility in terms of precisely predicting the compressor thermal profile caused by changes in compressor layout. In addition, if the compressor operating condition differs significantly from the reference condition used to calibrate the model, modifications to the conductances are required.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Hybrid Numerical Model:

Differential and integral formulations are integrated in this method to address a conjugate heat transfer problem, which is usually for isolated components like suction and discharge mufflers, cylinder head, and compression chamber. The hybrid model has a number of advantages over the pure integral model, including the ability to resolve conduction heat transport in solid domains. The hybrid model, on the other hand, must be calibrated using experimental data as well.

Differential Numerical Model:

This type of modeling aims to solve both conduction heat transfer and gas fluid flow in compressor components at the same time. The major goal is to forecast fluid flow and heat transfer in a certain design, allowing for a more cost-effective and faster study of components than is possible with experimental methods. The rise in popularity of this sort of compressor simulation approach is linked to the fact that computers are getting more powerful and less expensive, making simulations of very big issues possible. However, because the governing equations must be solved using numerous numerical approximations and physical models, simulation approach is currently lagging behind experimental analysis as a design tool.

4. LITERATUREREVIEW:

- Almbauer et al. (2006) combined three approaches to numerically simulate the temperature field of a compressor cylinder-piston system: I a one-dimensional differential formulation for the fluid flow conservation equations; ii) a three-dimensional formulation for conduction heat transfer in the cylinder-piston solid domain; and iii) a lumped formulation for the thermal energy ballast. The deduction of heat transfer correlations between particular masses, according to the authors, is a disadvantage of the generally utilised Thermal Network (TNW) calculation.
- Ribas Jr. (2007) devised a methodology for solving three-dimensional heat transfer by conduction in the compressor crankcase, using an integral experimentally calibrated numerical method comparable to Todescat et al. (1992) to account for convective heat transfer between the gas and the crankcase. Although the model is largely based on experimental data, it enables for component thermal optimization because the conduction heat transfer interaction between the components is precisely defined. As a result, the temperature distribution in solid components is better understood.
- Using a commercial CFD code, Chikurde et al. (2002) numerically studied the fluid flow and heat transport processes in a 1.5 tonne A/C hermetic compressor. The simulation was run under a steady-state condition, with the mass flow rate and suction gas temperature set at the inlet. The numerical results were found to be quite close to the experimental results.
- Abidin et al. (2006) provided a computational model for simulating the solid and fluid domains of a compressor piston-cylinder system, as well as the domain change caused by piston motion. The decision to use only a portion of the compressor domain was made to save money on computational processing. Separately from the solid domains, the fluid domain was simulated. The heat flux boundary conditions at the interfaces between the solid and fluid domains are evaluated using the temperature results from the transient fluid simulation. New values for the interface temperature are acquired after solving the energy equation in the solid domain and passed as a boundary condition to the fluid.

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

4. CONCLUSIONS:

Gas superheating can account for up to half of the thermodynamic losses in a small reciprocating compressor, as illustrated in this research. As a result, gaining a better understanding of the compressor's thermal dynamics is essential. for further tuning and the creation of a family of high-efficiency compressors For this thermal characterization, there are a variety of experimental and numerical methodologies with varying degrees of precision and complexity. In terms of experimental methodologies, in addition to thermocouples, some attempts to incorporate more sophisticated devices to characterize the heat transfer phenomenon inside the compressor, such as infrared cameras, heat flux sensors, and temperature sensors with fast response times, have been observed. Several new strategies for numerical simulation techniques have been proposed in recent years, including improvements to integral models based on lumped energy conservation equations and differential models to solve three-dimensional conduction heat transfer in the solid domain, as well as to resolve thermal coupling between the solid domain and the fluid flow. Naturally, each numerical modelling method has its own set of benefits and drawbacks. Integral models, for example, are computationally cheap and an excellent choice for compressor optimization, but they can't account for the effects of severe changes in compressor layout. The most comprehensive models, on the other hand, provide a very detailed representation of the compressor thermal profile at a significantly greater computational cost. The environment in which the thermal analysis is to be applied determines the numerical simulation model to be used. The optimum method for compressor design, according to experience, is to integrate numerical models with experimental techniques, so that each can complement the other. This enables for more accurate results and a better physical knowledge of the compressor's thermal dynamics, as well as the investigation of ways to reduce superheating losses. Based on the findings of this study, more research will be conducted at both the fundamental and application levels to improve the current ability to address the impact of heat transfer on compressor performance.

REFERENCES:

- 1. H. Sixmith and H. Altmann, "A regenerative compressor." 1976.
- 2. A. M. A. Soliman, S. H. Taher, A. K. Abdel-Rahman, and S. Ookawara, "Performance enhancement of vapor compression cycle using nano materials," 10.1109/ICRERA.2015.7418526.
- 3. J. G. Koomey, S. Berard, M. Sanchez, and H. Wong, "Implications of historical trends in the electrical efficiency of computing," IEEE Ann. Hist. Comput.. 2011. 10.1109/MAHC.2010.28.
- 4. P. Zamparo, A. E. Minetti, and P. E. Di Prampero, "Mechanical efficiency of cycling with a new developed pedal-crank," J. Biomech., 2002, doi: 10.1016/S0021-9290(02)00071-4.
- 5. Å. Jernqvist, K. Abrahamsson, and G. Aly, "On the efficiencies of absorption heat pumps," Heat Recover. Syst. CHP, 1992, doi: 10.1016/0890-4332(92)90015-A.
- 6. R. Balasubramanian, "Superheating of liquid alkali metals," Int. J. Thermophys., 2006, doi: 10.1007/s10765-006-0098-2.
- 7. SMITH CP, "THERMOCOUPLES," Eng Matls Des., 1969, doi: 10.1049/pbce033e ch3.

- **8.** R. D. Jackson and S. A. Taylor, "Heat transfer," in Methods of Soil Analysis, Part 1: Physical and Mineralogical Properties, Including Statistics of Measurement and Sampling, 2015.
- **9.** O. V. Lobach and V. A. Gridchin, "Smart wireless heat flux sensor," 2015, doi: 10.1109/APEIE.2014.7040854.
- **10.** R. Usamentiaga, P. Venegas, J. Guerediaga, L. Vega, J. Molleda, and F. G. Bulnes, "Infrared thermography for temperature measurement and non-destructive testing," Sensors (Switzerland). 2014, doi: 10.3390/s140712305.
- **11.** M. Yang, "Air compressor efficiency in a Vietnamese enterprise," Energy Policy, 2009, doi: 10.1016/j.enpol.2009.02.019.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

KINETIC LAWS OF THE REACTION OF OBTAINING NANO-CARBON AND HYDROGEN FROM THE PROPANE-BUTANE FRACTION

N.I. Fayzullayev*; Sh.B. Djanikulov**

*Professor, Doctor of Technical Sciences, Department of Polymer Chemistry and Chemical Technology,

Samarkand State University, Samarkand, UZBEKISTAN Email id: f-normurot@samdu.uz;

> **Teacher, Temurbek Military Schools, Shahrisabz, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02611.2

ABSTRACT

In the study, the process of obtaining monoglycerides and hydrogen from the propane-butane fraction was studied in the presence of a catalyst containing 15% Ni· 5% Co·5% Fe·5% Cu·2% Mo/HSZ with high catalytic activity and selectivity. The work aims to create catalysts with high catalytic activity for the production of nano-carbons and hydrogen from carbon compounds and to study the catalytic activity of this catalyst. The assessment of the effect of technological parameters of the process on the specific yield of the product and the properties of the obtained materials was carried out by the gravimetric method under isothermal conditions. IRspectroscopy, X-ray phase analysis, benzene adsorption methods studied the pre-processing and subsequent structural characteristics of the first high-silicon zeolite and modified samples, the acidic properties of the catalysts - temperature- programmed desorption of ammonia. The qualitative and quantitative composition of the reaction products were analysed by the gas-liquid chromatographic method. The size and morphology of the catalyst were determined by illuminating electron microscopy, scanning electron microscopy, adsorption (BET) methods. Mesogeneity was assessed based on the study of texture characteristics.

KEYWORDS: Carbon-Retaining Compounds, Catalyst, Temperature, Contact Time, Nanocarbon, Hydrogen.

INTRODUCTION

Hydrogen can change any type of fuel, energy, transportation and industry due to its energy versatility. The growing needs of the chemical industry and energy are helping to increase hydrogen production. For example, over the past decade, global hydrogen production has grown at an annual rate of 4.5%, and the current level of production exceeds 100 million tons per year. Demand for hydrogen is expected to rise sharply in the near future. Depth of oil refining, increase in ammonia and methanol production, production of refined or synthetic liquid fuels, etc. The main contribution to the global demand for hydrogen is expected in the automotive and energy supply systems, where hydrogen serves as an energy carrier, it can be 2 stored and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

transported as natural gas. Unlike methane, hydrogen has no resource limit and does not produce greenhouse gases. At the same time, the use of carbon nanotubes is increasing in various fields such as the development of filters for water purification, the synthesis of multi-purpose hydrogels, the delivery of drugs, and the biosensor. Multi-walled carbon nanotubes [1, 2] are promising materials with low toxicity and adsorption capacity. The production of multi-walled carbon nanotubes is cheaper, and is also preferred in the production of biosensors with high electrical conductivity [3-6]. The term carbon nanotubes bonded to each other by sp2 hybridization refers to nanomaterials composed of carbon atoms with a tubular structure, and many works on carbon nanotubes began to be published 27 years ago after Lijima published the first concrete study. Many results have highlighted the successful use of carbon nanotubes in practice in many areas of science, such as energy, construction, cleaning, and environmental protection [4-9].

Hydrogen is currently a valuable chemical product and is widely used in a number of important industrial processes, such as the production of ammonia [10], methanol [11, 12], hydrazine [13], and synthetic hydrocarbons [14]. Hydrogen is of great importance in the food industry and is used in the hydrogenation of vegetable oils [15,16]. On the other hand, hydrogen is one of the most environmentally friendly sources of thermal energy [17]. On an industrial scale, hydrogen is produced by steam methane reforming, heavy oil oxidation, coal gasification, and water electrolysis [18–20]. It should be noted that biomass is also a potential source of hydrogen [21]. All of these technologies, despite the number of shortcomings, have long been used for commercial purposes. No approach involving the efficiency and environmental safety of hydrogen production is being implemented. An alternative process that produces hydrogen is the catalytic pyrolysis of hydrocarbons, which is traditionally used to synthesize carbon materials. In general, the process can be expressed by the following equation:

$$C n H m \rightarrow nC + (m/2)H 2 (1)$$

This process is widely used to obtain carbon nanotubes [22]. The main advantage of this method in hydrogen production is the absence of carbon monoxide compounds in the produced hydrogen mixture, which does not require an additional stage of deep purification from CO and CO 2. Pure hydrogen is obtained by catalytic decomposition of carbon compounds into carbon and hydrogen [23-43].

In recent years, the issue of nano generation and hydrogen extraction from carbon- containing compounds has become a very topical issue. Based on the above, this work aims to create catalysts with high catalytic activity for the production of nano-carbons and hydrogen from carbon compounds and to study the catalytic activity of this catalyst.

EXPERIMENTAL PART

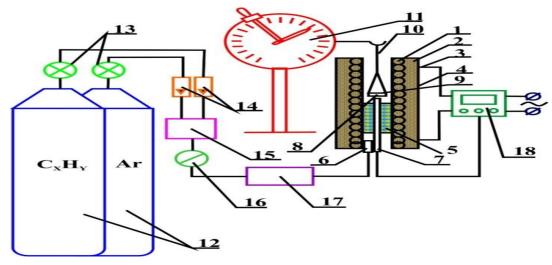
The studies in the formation kinetics of carbon nanotubes. Intermediate metal-based catalysts were used to obtain carbon nanotubes by catalytic pyrolysis of 3 carbon-containing organic and inorganic compounds in the air. The results of theanalysis of the literature show that the use of Ni-based catalyst allows to carry out the pyrolysis process at relatively low temperatures of 550 \div 650 °C.

The experiments were performed on a flow laboratory device (Fig. 1) operating in a differential mode consisting of a vertical reactor made of stainless steel with an inner diameter of 32 mm and a length of 500 mm. The gas mixture is sent from the bottom of the reactor. The bottom of the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

catalyst is filled with a nozzle (quartz particles) 150 mm below to evenly heat the gas mixture supplied from the bottom of the reactor and distribute the gas flow across the cross-section of the reactor. A catalyst-dusted substrate was placed at the bottom of the reactor and hermetically sealed. During the heating of the reactor, it was filled with argon.

The catalyst was distributed on the surface of a flat "LA77-2" brass mesh "boat" made of 77% copper, 2% aluminium and 21% zinc and fastened to a stainless steel wire $09\Gamma2C$. The propane-butane mixture of gases was sent to the reaction zone heated to operating temperature, and the heating circuit of the reactor was driven by an inert gas, which allowed atmospheric air to be expelled from the reaction zone. The torsional balance readings, which record the change in mass of the substance in the boat, were measured at 15 s intervals. After the formation of carbon nanotubes stopped, the hydrocarbon was squeezed out of the reactor with an inert gas.



1 - Reactor for nanoglerode extraction; 2 - heating element; 3 - thermal insulation; 4 - kojux; 5 - nozzle; 6 - nozzle for gas delivery; 7 - thermocouple; 8 - boat; 9 - catalyst layer; 10 - hook wire; 11 - torsion scales; 12 - gas cylinders (Ar, C3H8 + C4H10); 13, 16 - valves; 14 - rotamers; 15 - mixer; 17 - filter; 18 - PID regulator.

Figure 1. A device for studying the kinetics of the process of formation of carbon nanotubes

An experimental study of the production of carbon nanotubes used a catalyst containing 15%Ni·5%Co·5%Fe·5%Cu·2%Mo/HSZ. The thermal decomposition method was used in the preparation of the catalyst. The thermal decomposition method is one of the most efficient methods of catalyst preparation. The catalyst powder was obtained by the thermal decomposition of metal nitrates. The essence 4 of the method is the nitrates of metals (Ni(NO 3) 2 ·6H 2 O, Co(NO 3) 2 ·6H 2 O, Fe(NO 3) 2 ·9H 2 O, Cu(NO 3) 2 ·3H 2 O, (NH 4) 2 MoO 4 ·24H 2 O, ammonium molybdate, which are part of the catalyst. It consists of the interaction of a mixture of high silicon zeolite (HSZ) and organic matter (for example, a mixture of glycine and citric acid) from bentonite imported from Navbahor district, Navoi region, Uzbekistan at a temperature of ≥500 °C in the air. Physicochemical and texture characteristics of high-silicon zeolites have been studied [32-35] and in the aromatization of natural gas, petroleum gases and propanebutane fractions [36-41] and used in the Fisher-Tropsh process as well as in the production of olefins from dimethyl ether [42-43]. High-silicon zeolite forms a well-developed porous structure, on the surface of which Ni, Co, Fe, Cu, Mo particles are distributed.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

During the experimental studies of the process of synthesis of carbon nanotubes, propane-butane mixture (S3N8 / S4N10 = 50% / 50%) and inert gas stored in the cylinder - argon (Ar) were used as carbon-retaining compounds. The removal of catalyst particles from the synthesized carbon nanotubes was carried out by the acid washing method.

Investigation of the process of obtaining carbon nanotubes in reactors with a fixed layer of catalyst. This series of experimental studies aimed to determine the possibility of a large-scale transition from a laboratory device to an industrial device, as well as to determine the rational values of the basic model parameters of synthesis used in the subsequent design of carbon nanotubes. Pyrolysis of the propane-butane mixture (C 3 H 8 /C 4 H 10 =30%/70%) was carried out at atmospheric pressure and at a temperature of 600-650 °C, in laboratory and pilot reactors operating periodically on a stationary layer of catalyst. A zeolite-based filter was used to clean the gas mixtures from impurities and to dry them from moisture. The exhaust gas was examined on a chromatograph - Crystal 7000 chromatograph.

RESULTS AND DISCUSSION

Experimental studies to determine the dependence of the specific yield \bar{e} of carbon nanotubes on the processing time were carried out at a rate of 550 to 700 °C and a flow rate of hydrocarbons of 15 to 20 l/h (Figure 3).

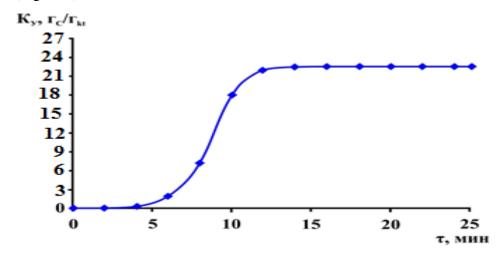


Figure 3. Dependence of specific yield of carbon nanotubes (ē) on pyrolysis time (t)

The initial period of time (≈ 10 min) describes the phase of reduction of Ni, Co, Fe, and Mo oxides to metal, the accumulation of free carbon, and the formation of carbon nanotube particles. The active phase of the synthesis lasts $9 \div 10$ minutes and ensures that η is in the range of 22 g s /g cat . Then the growth of nanostructures stops. To determine the effect of the thickness of the catalyst layer on the yield, etc., different traction of the catalyst was placed on the "boat" (average pile density ρ c ≈ 480 kg/m 3) and distributed evenly over the entire surface (S boa = $0.1 \cdot 10$ -3 m 2). The thickness of the catalyst layer was changed in the range h c = $0.1 \div 2$ mm, the mass of the loaded catalyst was determined as m c = ρ c S boa h c . The experiments were performed for 10 min at a flow rate of 550 to 700 °C and a flow rate of 15 to 20 l/h of hydrocarbons. The timing of the process was chosen based on previous experimental data.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

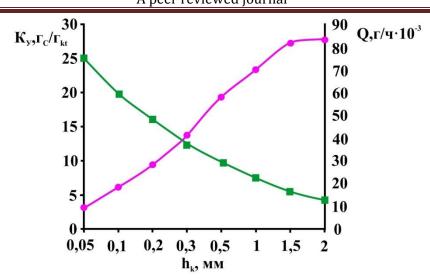


Figure 4. The relative yield of carbon nanotubes (K u) and dependence of reactor efficiency (Q) on catalyst layer thickness (h c)

The thickness of the catalyst layer h c \approx 0,2÷0,3 mm was determined for conducting experiments and setting the calculation parameters of the experimental-industrial device for the synthesis of carbon nanotubes.

The effect of temperature on specific yield was studied in 10 °C steps in the temperature range of $550 \div 700$ °C. The thickness of the catalyst layer was h c \approx 0.2 mm (m = 12 mg), the carbon consumption gas consumption was 9 \pm 0.1 l/h, and the processing time was 12 min. The results of experimental studies (Fig. 5) showed that starting at 620 °C, the process temperature did not affect the specific yield of carbon nanotubes, which was $\eta \approx 22g$ c/g cat.

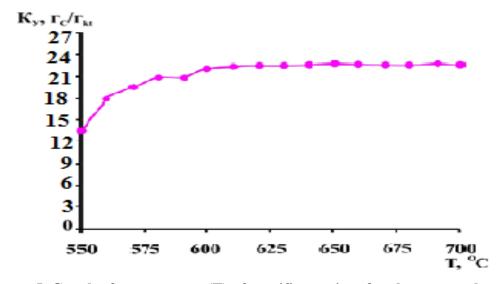


Figure 5. Graph of temperature (T) of specific gravity of carbon nanotubes (\bar{e})

The conducted experiments allowed us to determine the dependence of the laws of the kinetics of MCN (mass of carbon nanotubes) synthesis on the basic mode parameters of η by establishing the exact conditions of its conduction in a flow- type reactor. These studies, carried out at the initial stage of the work, have shown that when using a propane-butane mixture, the synthesis of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

carbon nanotubes with a catalyst of this composition and the technology of production is possible.

A method based on measuring the electromagnetic properties of the material being synthesized. To study the kinetics of the process of formation of carbon nanotubes, an original method was developed based on the measurement of the complex dielectric constant of a catalyst and carbon nanotubes placed in a reaction zone called electrographs. Depending on the size of the catalyst, carbon nanotubes, as well as the material placed in the reactor, the complex dielectric constant of the catalyst, carbon nanotubes, the signal coming to the computing device and reflected on the monitor screen will also change accordingly. To implement this method of studying the kinetic properties of the process of synthesis of carbon nanotubes, an original device design was developed and developed, the scheme of which is shown in Figure 6.



Figure 6. Device scheme for determining the kinetics of the process of formation of carbon nanotubes

The device allows changing the conditions of the process of obtaining carbon nanotubes by catalytic pyrolysis of organic and inorganic compounds containing carbon in the air, to monitor the change in reaction mass in the reactor cell and to monitor the information received on the monitor screen in real-time.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

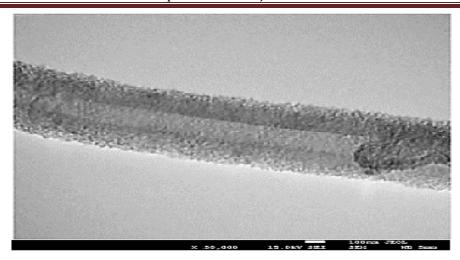


Figure 7. Microstructure of the obtained materials

The timely cessation of synthesis at the end of the growth of nanostructures, which was carried out within the framework of this experiment, not only significantly optimized the processing time but also allowed to obtaining of carbon nanotubes with high-quality properties. From the scanning microscopy data (Fig. 7), it can be deduced that the material to be synthesized consists of an almost complete tubular nano glue with a narrow range of diameters (15-20 nm) with a minimal amount of amorphous carbon (<3-5%).

The studies allow us to conclude that the synthesis of carbon nanotubes is possible by catalytic pyrolysis of the propane-butane mixture (C 3 H 8 /C 4 H 10 =50/50%) in this type of catalyst (15%Ni*5%Co*5%Fe*5%Cu*2%Mo/HSZ). The known regime parameters and the obtained dependencies underlie the recommendations for the design of laboratory reactors for the synthesis of carbon nanotubes by catalytic pyrolysis with a stationary layer of catalyst. The synthesis was carried out at atmospheric pressure in the temperature range of 500 \div 700 °C, the pyrolysis time was changed in the range of 5 \div 30 min. At the end of the process, the reactor was cooled in an argon stream. The processing of the obtained data allows obtaining dependencies that estimate the effect of process time on the specific yield of the product (Figure 8). The maximum η was reached approximately 35 minutes after the start of the process.

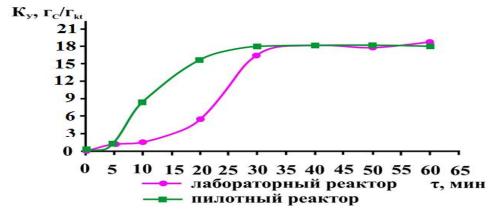


Figure 8. Graph of the dependence of the specific yield of the mass (τ) of carbon nanotubes on the pyrolysis time (t)

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Despite the different characteristics of the mass growth curves of the carbon nanotubes used in the reactors, $\eta \approx 18$ g s / g cat was approximately the same size. A microphotograph of the obtained nanocarbon obtained by scanning electron microscopy is shown in Figure 9 below.

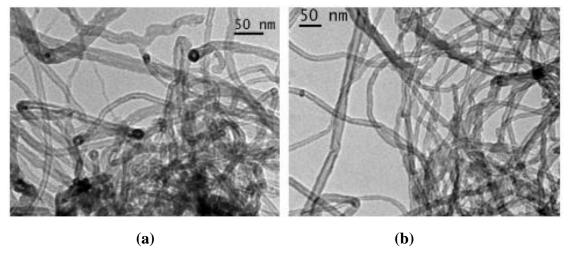


Figure 9. TEM image of nano-carbon initially (a) and treated with nitric acid for 8 hours (b)

CONCLUSION

Thus, the process of obtaining nano-carbon and hydrogen from the propane-butane fraction was studied in the presence of a catalyst containing 15%Ni*5%Co*5%Fe*5%Cu*2%Mo/HSZ with high catalytic activity and selectivity. Experimental studies to determine the dependence of the specific yield of carbon nanotubes on the processing time were carried out at a flow rate of 550 to 700 °C and a flow rate of hydrocarbons of 15 to 20 l/h. The initial period (\approx 10 min) is the phase of reduction of Ni, Co, Fe and Mo oxides to metal, accumulation of free carbon and formation of carbon nanoparticle particles, the active phase of synthesis lasts 9 ÷ 10 minutes and η is in the range of 22 g s /g cat . The effect of temperature on specific yield was studied in 10 °C steps in the temperature range of 550 ÷ 700 °C. The thickness of the catalyst layer was hk \approx 0.2 mm (m = 12 mg), the carbon consumption gas consumption was 9 ± 0.1 l/h, and the processing time was 12 min. According to the results of experimental studies, starting from 620 °C, the process temperature does not affect the specific yield of carbon nanotubes, it was $\eta \approx$ 22 g s /g cat

REFERENCES

- 1. Chen X, Zhang Q, Li J, Yang M, Zhao N, Xu FJ. Rattle-structured rough nanocapsules with in-situ-formed gold nanorod cores for complementary gene/chemo/photothermal therapy. ACS Nano. 2018;12:5646–5656.
- **2.** Zhao N, Fan W, Zhao X, Liu Y, Hu Y, Duan F, et al. Polycation-carbon-nano-hybrids with superior rough hollow morphology for the theNIR-II responsive multimodal therapy. ACS Appl MaterInterfaces. 2020;12:11341–11352
- **3.** Feng L, Yang X, Shi X, Tan X, Peng R, Wang J, et al. Polyethylene glycol and polyethyleneimine dual-functionalized nano-graphene oxide for photothermally enhanced gene delivery. 2013 Jun 10;9(11):1989-97. https://doi.org/10.1002/smll.201202538
- **4.** Naldini L. Gene therapy returns to centre stage. Nature 2015;526:351–360.

- **5.** Ibraheem D, Elaissari A, Fessi H. Gene therapy and DNA delivery systems. Int J Pharm 2014;459:70–83.
- **6.** Taghavi S, Abnous K, Taghdisi SM, Ramezani M, Ali-bolandi M. Hybrid carbon-based materials for gene delivery in cancer therapy. J Control Release 2020;318:158–175.
- **7.** de Menezes BRC, Rodrigues KF, da Silva Fonseca BC, Ribas RG, do Amaral montanheiroThim TLGP. Recent advances in the use of carbon nanotubes as smart biomaterials. J Mater Chem B. 2019;7:1343–1360.
- **8.** Y, Liu S, Li X et al. Facile preparation of biocompatible poly (l-lactic acid)-modified halloysite nanotubes/poly (e-caprolactone) porous scaffolds by solvent evaporation of Pickering emulsion templates. J. Mater Sci. 2018;53:14774–14788.
- **9.** Liu H, Wang ZG, Liu SL et al. Intracellular pathway of halloysite nanotubes: potential application for antitumor drug delivery. J Mater Sci 2019;54:693–704.
- **10.** Rouwenhorst KHR, Krzywda PM, Benes NE, Mul G, Lefferts L. Ammonia Production Technologies. In Techno-Economic Challenges of Green Ammonia as an Energy Vector; Academic Press: Cambridge, MA, USA, 2021; pp. 41–83.
- **11.** Bobomurodova SY, Fayzullaev NI, Usmanova KA. Catalytic aromatization of oil satellite gases. International Journal of Advanced Science and Technology. 2020;29(5): 3031–3039.
- **12.** Tursunova NS, Fayzullaev NI. Kinetics of the reaction of oxidative dimerization of methane. International Journal of Control and Automation. 2020;3(2):440–446.
- **13.** Fayzullaev NI, Bobomurodova SY, Avalboev GA. Catalytic change of C 1 C 4 -alkanes. International Journal of Control and Automation. 2020;13(2): 827–835.
- **14.** Mamadoliev II, Fayzullaev NI, Khalikov KM. Synthesis of high silicon of zeolites and their sorption properties. International Journal of Control and Automation. 2020;13(2):703–709.
- **15.** Sarimsakova NS, Fayzullaev NI, Musulmonov NX, Atamirzayeva ST, Ibodullayeva MN. Kinetics and mechanism of reaction for producing ethyl acetate from acetic acid, International Journal of Control and Automation. 2020;13(2):373–382.
- **16.** Mamadoliev II, Fayzullaev NI. Optimization of the activation conditions of high silicon zeolite. International Journal of Advanced Science and Technology. 2020;29(3): 6807–6813.
- **17.** Omanov BS, Fayzullaev NI, Musulmonov NK, Xatamova MS, Asrorov DA. Optimization of vinyl acetate synthesis process. International Journal of Control and Automation. 2020; 13(1): 231–238.
- **18.** Fayzullaev NI, Bobomurodova SY, Xolmuminova DA Physico-chemical and texture characteristics of Zn-Zr/VKTS catalyst. Journal of Critical Reviews. 2020;7(7): 917–920.
- **19.** Omanov BS, Fayzullaev NI, Xatamova MS. Vinyl acetate production technology. International Journal of Advanced Science and Technology. 2020; 29(3):4923–4930.
- **20.** Fayzullayev NI, Umirzakov RR. To obtain acetone by spontaneous hydration of acetylene. ACS National Meeting Book of Abstracts, 2005; 229(2).
- **21.** Fayzullayev NI, Umirzakov RR, Pardaeva SB. Study of acetylating reaction of acetylene by gas chromatographic method. ACS National Meeting Book of Abstracts, 2005; 229(2)

- **22.** Fajzullaev NI. Kinetics and mechanism of reaction of catalytic hydrochlorination of acetylene. Khimicheskaya Promyshlennost. 2004;39(1): 49–52.
- **23.** Fajzullaev NI, Fajzullaev OO. Kinetic regularities in reaction of the oxidizing condensation of methane on applied oxide catalysts. Khimicheskaya Promyshlennost, 2004;39(4):204–207.
- **24.** Fajzullaev NI, Muradov KM. Investigation of reaction of catalytic vapor- phase synthesis of vinyl acetate on applied catalyst. Khimicheskaya Promyshlennost. 2004;39(3):136–139.
- **25.** Mukhamadiev NQ, Sayitkulov ShM, Ergashev IM, Khafizov KhF., Fayzullaev NI. Optimization of separation on the basis of Unifac parameters and evaluation of the composition of the stationary phase in gas-liquid chromatography. Chromatographia. 2003; 57(11-12): 831–833.
- **26.** Muradov KM, Fajzullaev NI. Technology for producing the ethylene using the reaction of the oxidizing condensation of methane. Khimicheskaya Promyshlennost. 2003;39(6): 3–7
- **27.** Muradov KM, Fajzullaev NI. Optimization of process of synthesis of aromatic nitriles. Khimicheskaya Promyshlennost. 2003;39(4):8–11
- **28.** Muradov KM, Fajzullaev NI. Optimization of process of synthesis of aliphatic nitriles. Khimicheskaya Promyshlennost. 2003;39(3):3–10
- **29.** Fajzullaev NI, Yusupov D, Shirinov KhSh, Keremetskaya LV, Umirzakov RR. Catalytic vapor-phase hydration of acetylene and its derivatives. Khimicheskaya Promyshlennost. 2002;39(7):34–37.
- **30.** Aslanov SC, Buxorov AQ, Fayzullayev NI. Catalytic synthesis of C 2 -C 4 alkenes from dimethyl ether. International Journal of Engineering Trends and Technology. 2021;69(4): 67–75.
- **31.** Khamroev JX, Fayzullaev NI, Haydarov GSh, Temirov FN, Jalilov MX. Texture characteristics of modified and activated bentonite. Annals of the Romanian Society for Cell Biology. 2021; 25(4):12160–12174.
- **32.** Khamroev JKh, Fayzullaev NI, Khaidarov GSh, Temirov FN, Jalilov MKh. Texture and sorption characteristics of bentonite-based sorbents. Annals of the Romanian Society for Cell Biology. 2021; 25(4):828–849
- **33.** Temirov FN, Fayzullaev NI, Khaidarov GSh, Khamroev JKh, Jalilov MKh. Optimization of the process acid activation of bentonite. Annals of the Romanian Society for Cell Biology, 2021;5(4):809–827.
- **34.** Temirov FN, Fayzullaev NI, Haydarov GSh, Khamroev JX, Djalilov MX. Texture and sorption characteristics of modified bentonite made by ash- gel and together equipment. Annals of the Romanian Society for Cell Biology. 2021;25(4):12175–12185.
- **35.** Haydarov GSh and Jalilov MKh. Hydrothermal synthesis of zeolite HSZ-30 based on kaolin. IOP Conf. Series: Earth and Environmental Science. 2021;839:042099 IOP Publishing doi:10.1088/1755-1315/839/4/042099
- **36.** Mamadoliev II, Fayzullaev NI, Khalikov KM. Synthesis of high silicon of zeolites and their sorption properties. International Journal of Control and Automation. 2020;13(2):703–709.

- **37.** Mamadoliev II, Fayzullaev NI. Optimization of the activation conditions of high silicon zeolite. International Journal of Advanced Science and Technology. 2020;29(3): 6807–6813.
- **38.** Bobomurodova SY, Fayzullaev NI, Usmanova KA. Catalytic aromatization of oil satellite gases. International Journal of Advanced Science and Technology. 2020;29(5): 3031–3039.
- **39.** Tursunova NS, Fayzullaev NI. Kinetics of the reaction of oxidative dimerization of methane, International Journal of Control and Automation. 2020;13(2):440–446
- **40.** Fayzullaev NI, Bobomurodova SY, Avalboev GA. Catalytic change of C 1 C 4 -alkanes. International Journal of Control and Automation. 2020;13(2):827–835.
- **41.** Fayzullaev NI, Bobomurodova SY, Xolmuminova DA Physico-chemical and texture characteristics of Zn-Zr/VKTS catalyst. Journal of Critical Reviews. 2020;7(7):917–920.
- **42.** Aslanov SC, Buxorov AQ, Fayzullayev NI. Catalytic synthesis of C2-C4- alkenes from dimethyl ether. International Journal of Engineering Trends and Technology. 2021;69(4): 67–75.
- **43.** Temirov FN, Khamroyev JKh, Fayzullayev NI, Haydarov GSh, Jalilov MKh. Hydrothermal synthesis of zeolite HSZ-30 based on kaolin. IOP Conf. Series: Earth and Environmental Science. 2021;839:042099. IOP Publishing doi:10.1088/1755-1315/839/4/042099

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

MODERN METHODS OF TEACHING HISTORY

Normuratova Lobar Jurayevna*; Muminova Iroda Nizomovna**; Jurayeva Mahbuba Kholmuradovna***; Mavlonova Bashorat Abdivaliyevna***

*Teacher, 41st specialized state secondary school of Karshi city, UZBEKISTAN

**Teacher,

41st specialized state secondary school of Karshi city, UZBEKISTAN

***Teacher,

41st specialized state secondary school of Karshi city, UZBEKISTAN

****Teacher,

41st specialized state secondary school of Karshi city, UZBEKISTAN

Email id: Gulibakoeva@gmail.com

DOI: 10.5958/2249-7137.2021.02619.7

ABSTRACT

Past and historical memory have been in the spotlight throughout human history. This article analyzes the development characteristics of history teaching methods in line with human development on the basis of local and foreign sources.

KEYWORDS: History, Historiography, Methods of Teaching History, Historical thinking

INTRODUCTION

The past and historical memory have been in the spotlight throughout human history. As a result of this attention, many questions related to historical events, individuals, and processes have been sought through scientific research and studies. This process led to the emergence of historiography as soon as man began to write about what had happened in the past. History teaching is a process of educating students through historical material, educating them in the spirit of national independence and fulfilling their tasks of development, mental and internal and external learning activities of teachers and students (external).) process is understood. The content of the history course means, first of all, the scope of historical knowledge defined in the history program, the teaching material: its original content, the system of teaching methods, skills and competencies in the field of using students' knowledge of historical materials, including the simplest forms of their research work. [1]

A comprehensive analysis of history and historical processes, the political-historical situation in the scientific study of the main causes and characteristics of their occurrence is a major factor in the emergence of historical truth. In particular, the different approaches and opinions of authors in historical scientific works created in different periods, the diversity of conclusions, their in-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

depth scientific analysis and drawing the most accurate conclusions based on history, science and objectivity are important tasks for historians today. Students studying history today need to understand how to use historical works, how to analyze them, how to use them effectively, how to do historical research, and how to achieve scientific and historical truth. [2]

Until the nineteenth century, we see history as sometimes written, sometimes oral, and mostly literary. The changes that have taken place in the natural sciences in this century, as well as the historiography and positivist approach in the countries that have experienced the Industrial Revolution, have had an impact. During this period, historical data based on material sources became important due to the positivist understanding. As a result of the analysis, we can see that the science of history has been used for many different purposes from the past to the present. History has been used especially to increase interest in the past, entertainment, moral and religious education, and political and ideological interests. History was seen as an interesting field and was used to attract people's attention. In particular, historical dialogues have been used in every age as a means of propaganda to attract people's attention.

History has also been a means of transmitting moral and religious knowledge and attitudes to new generations. Ethical and religious texts in particular have been used to achieve this goal. Moreover, history, like today, has served ideological and political purposes in every age. In each period, historical sources were used to prove by law the right to come to power. At the same time, history is seen as a powerful tool for personality development. In the past, in addition to being a field of science that sought to understand and interpret human behavior, it was also taught as a subject in schools and universities. [3] By the nineteenth century, the science of history had emerged as one of the main directions of compulsory and modern educational institutions, history is the common memory of this nation, the memory of the past, but the memory of the past is no longer the past in the literal sense of the word. It is a past that is renewed and renewed according to modern norms, focused on the values and ideals of people's lives in the present, because the past exists for us and thanks for that. K. Jaspers expressed this idea in his own words: "History is directly connected with us ... and everything that interests us is thus a modern problem for man." [4]

The reasons for the emergence of compulsory education in Europe are explained as follows.

Training obedient soldiers to serve army purposes.

Training obedient workers to mine the mines needed for industry.

Create a class of civil servants who strictly follow government orders.

Training of civil servants required by industrial institutes.

Educate citizens to think in parallel on important issues and problems

When studying the reasons for the emergence of compulsory education, it can be seen that the history lesson played an important role in fulfilling the tasks assigned to education at that time. History lessons have played an important role in nurturing obedient and like-minded individuals needed by the military, government, and industrial institutions. In this sense, the beginnings of teaching history as a systematic subject were taught in the early nineteenth century to achieve the goal of educating the general public in modern educational institutions. During this period, history was taught for a very long time, mainly for the purpose of developing national identity and educating obedient people. Prior to World War II, history lessons were conducted on the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

basis of cultural assimilation, with the aim of educating obedient and good citizens. However, during this period, the idea that education could play a role in democratization, the importance of human rights, and the prevention of wars changed the concept of teaching history. In addition, technological and economic changes have complicated life and diversified the skills and competencies that people need to have. These events necessitated a rethinking of the traditional history lesson.

In the late 1960s, history lessons in England were criticized for being based on names, numbers, and elements. The debate has escalated to the point that some people have suggested that the history course should be removed from the curriculum because it would not prepare students for life in that day's environment. In the late 1960s, especially in the UK, criticism led to a wideranging study of how history teaching could prepare a learner for everyday life beyond historical knowledge and attitudes. Public opinion polls were conducted. These studies have identified what skills learners can acquire through history lessons. In other words, research has played an important role in showing how history lessons can be linked to modern life. Research in the field of history teaching in England continued into the 1970s. The School Assembly History project was implemented in the UK and has played a particularly important role in imparting practical skills and competencies in history lessons to students. Through this project, history teaching has been proven to be based on research, questioning, evaluation of evidence, and drawing conclusions through evaluated evidence. In schools, it has been found that students learn about the past effectively by conducting surveys based on questionnaires and evaluating evidence such as detective stories. Thus, students were able to acquire basic skills such as scientific reasoning and determining the scientific validity of the information given to them, as well as studying the past, continued at a rapid pace over the years. Research has been going on in Canada and the United States, especially in recent years, with the understanding that a history course should prepare students for daily life. Efforts to study historical events based on first-hand sources have brought "historical thinking skills" to the fore. By the 2000s, historical thinking skills, which had become increasingly important, had been used as one of the most effective, efficient, and creative ways to study history.

Historical thinking skills are grouped into five categories based on the study of historical knowledge and an understanding of its essence.

- Chronological thinking
- Historical understanding
- Historical analysis and interpretation
- Historical research
- Historical issues, analysis and decision making

As noted above, since the 19th century, there have been significant changes in the content and objectives of history lessons, which have begun to enter formal education institutions. As the well-known Methodist AI Strajev said: "The method of teaching history consists of these logical practices based on historical material." It is sometimes recommended to classify teaching methods according to the level of activity of students. This distinction is more about the general nature of teaching than about teaching methods. In the 1960s, the methods of teaching history and their classification were decided differently. Methodist A.I. Strajev "The organization,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

methods and tools of teaching history serve to carry out certain educational tasks of history," he said. However, it also leaves uncertainty in the issue by making the basic teaching methods a method of studying the historical process itself. AI Strajev recommends the following teaching methods: [4]

- Methods of studying historical facts;
- Methods of studying chronology;
- Methods of studying local historical events;
- Methods of forming basic historical concepts;
- Methods of studying cause-and-effect relationships;
- Methods of revealing the laws of the historical process.

It is well known that teaching history is the process of organizing teaching and learning. It is also clear from the classification of Methodist A. Strajev that it implies only that the teacher teaches the students, does not take into account the organization of the students' learning and the teacher's guidance in their learning. Prominent Methodist VG Kartsev takes a different approach. It includes a system of methods with characters of a learning nature ("narrative method", "inquiry method") and general didactic tasks ("material study method", "reinforcement method", "knowledge test method" and others) rather than students 'laws of knowing historical events. The methodological basis of the theory of methods is the transition from live observation to abstract thinking and from it to practice. [5] As for the subject of history, it deals with events that have taken place in the past. Topics in the history program are usually far removed from students 'daily lives and experiences. Although there are many historical relics and materials around us from the past to the present, history can be found as an abstract subject in its own right. Because of this feature of the history lesson, especially young students face difficulties in understanding events that took place long before their time. In other words, because of the attempt to teach history without connecting it to the present day, some students find history lessons boring, confusing, and consist of a series of numbers, figures, and objects. [6] One of the most important elements we use to bring our past to the present is the historical environment. The historical environment has many elements such as buildings, roads, towers, open spaces with historical events and historical objects. In addition, memories, letters, maps, newspapers, plans, postcards, stamps, coins, pictures, books, and historical objects are elements that contribute to the teaching of history. Through the effective use of historical environments and objects in history lessons, history lessons can be made more accurate and effective.

REFERENCES:

- **1.** Mirziyoev ShM. Erkin va farovon, demokratik O'zbekiston davlatini birgalikda barpo etamiz. Toshkent: O'zbekiston, 2016. P.27
- **2.** Doniyev SI, Ibrakhimov FA, Joldasov IS. Trends int the development of primary education (an example of the finnish system of primary education). Journal of innovatsions in pedagogy and psychology. 2020;2:387-393.
- 3. Harris A. Teaching and Learning in the Effective School. Aldershot: Ashgate, 1999. p.401.

- **4.** Abdurashidovna TS. Ta'lim sifati va uni demokratlashtirish ilmiy muammo sifatida Uzluksiz ta'lim. 2020;1(86):5
- **5.** Aslonov SS. O'zbek Va Ingliz Tilida Jins Mazmunini Bildiruvchi So'zlar Tahlili. Студенческий вестник, 2020;(16-10):55-58.
- **6.** Шадриков ВД. Философия образования и образовательные политики. М. Издательская фирма. Логос. 1993. 181р.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

UVAYSI'S ROLE IN EPIC WRITING

Iqboloy Adizova*

* Associate Professor,
Doctor of Philological Sciences,
Tashkent State University of Uzbek Language and Literature named after Alisher Navoi,
UZBEKISTAN
Email id: ataullo98@mail.ru

DOI: 10.5958/2249-7137.2021.02620.3

ABSTRACT

The article is dedicated to the epics "Prince Hasan" and "VokeotiMuhammadalikhan" by the famous Uzbek poet JahonotinUvaysi. Their place in Uzbek literature is defined. There is provided information about the literary environment of Kokand and the history, genesis and methods of artistic expression of "Karbalonoma epics" in Eastern literature. The role of Uvaysi's work in the development of epic poetry is discussed.

KEYWORDS: Karbalonoma, Tradition, Plot, Vazn, Manoqib, Mysticism, Epic, Praise, Na't, Sulh, Narration.

INTRODUCTION

Epic is the largest and most perfect genre in our classical literature. Creating it requires a unique artistic preparation from the creator. For this reason, the poet's maturity in poetry is also determined by his skill in epic writing. [1]

It is known that Uzbek epic poetry developed under the influence of folk epics and traditions of epic writing in the classical literature of the East. "Representatives of the school of epic poetry of the XVIII-XIX centuries took an innovative approach to epic poetry. They enriched it thematically and ideologically. They made new discoveries in plot and compositional construction" [E. Ibrohimova, 1986, 18]. Some poets of this period (Nishoti, Hazikh, Uvaysi) took plots that were popular in all-Oriental literature, introduced into them the spirit of the period in which they lived [A. Qayumov, 1961, 357], and on this basis created their own epics. Such a tradition has existed and continued in the literature of the peoples of the East for many centuries. In particular, the epics included in "Khamsa" are very different in terms of artistic spirit and ideological interpretation, but in terms of plot they are close to each other. The stories of Yusuf and Zulaikha, Ibrahim Adham have also been the basis for many works of art for centuries as such traveling plots. [2-4]

The stories and narrations about the fate of the grandsons of the Prophet Muhammad (s.a.w), the children of Ali and Bibi Fatima, Prince Hasan and Hussein, were also the basis for the creation of many works of art.

Epics on this subject are called "Karbalonomalar" [1] in our literature. There are many copies of them in Eastern literature, both in prose and poetry. Some have known authors, some have

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

unknown authors, and some have been written in the form of folk books. Fuzuli's prose work "Hadiqat us-suado" is also written on this topic. The most complete and famous of such sources is the work of Hussein WazKashifi (1440-1505, Herat) "Ravzatush-shuhado". It is dedicated to the history of Islam and our Prophet Muhammad (s.a.w). These pages of history tell the story of the martyrs who sacrificed their lives in defense of the honor, faith and justice of Muslims. In the play, the narrations received through the Qur'an, hadith and various other famous sacred words are retold in an impressive style, artistically. Kashifi's work has been translated from Persian into Uzbek several times. Among them are the prose translation of Muhammad AyubKashgari "Tazkirayianbiyovaavliyovashuhado" (XVIII century, Kashgar), the poetic translation by Sabir SaykhaliHisari (XVIII century, Hesar).

Especially in the XVIII-XIX centuries, the creation of works in this direction became widespread by Kholis Tashkendi's "Qissai Karbalo (The Story of Karbala)", "Qissai Imam Hasan and Imam Hussein", "Qiyomatnoma", "Musibatnoma" works; Bibi Hajar's Qissai Imam Hussein; Nisa's "Death of Imam Hasan and Imam Hussein"; Hani's "Voqeaihoilai Karbaloyipurbalo" is a unique example. Works based on this plot have been created by artists such as Khasta, Kul Suleiman, Kazakh poet Jusipbek Shaykhul Islam oglu. [5]

JahonotinUvaysi, a prominent representative of the Uzbek literature of the XVIII-XIX centuries, is a poet who was able to demonstrate his skills in more than a dozen active lyrical genres. At the same time, he was able to prove that his talent in epic poetry did not lag behind his lyrical skills. Three epics of the poet have come down to us: "Shahzoda Hasan", "ShahzodaHusayn" and "VoqeotiMuhammadalikhan".

Manuscripts and lithographs of the poet's works dedicated to Prince Hassan and Prince Hussein do not contain the names of epics by the author. This is why there is so much diversity in the literature on this subject. The poet's works are variously called "KitobiUvaysiy", "Karbalonoma", "Qissaipurgussa". Literary scholar E. Ibrahimova suggests naming it "Epic about Prince Hasan", "Epic about Prince Hussein" [E. Ibrohimova, 1960, 38-44]. [3]

Methods

One example of epic poetry of the first half of the 19th century is Uvaysi's epic about Prince Hasan. In the play, the poet created the image of a just and peaceful ruler Hasan. The main essence of the epic is to promote goodness and justice. It is well known that Islam is a religion that is mainly engaged in the propagation of goodness and perfect morality. Therefore, such ideas are predominant in the works about "princes".

"Prince Hasan" is devoted to a religious theme. It describes the life of Imam Hasan. However, this is not the only purpose of the poet from the work. In it, as in his poetry, the main intention of the poet was to open the eyes of his contemporaries, to reflect on them with the lessons learned from the poem. The main idea of the work is embodied in the image of Hasan. The poet has two sides to the emblem for artistic purposes. The first is to illuminate the character system as a king, and the second is to describe his image as an ordinary man, a person.

The poet was able to perfectly illuminate the biography of the main character in both directions. In the play, we can imagine him as a man of all-round character. In one place, Hasan's character as a person is described as follows:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Xushxo'yluqikitobasig'mas,

Shirin so'zinikixalqbilmas.

Ham erdimalihu, ham fasihdur,

Yeryuzidago'yiyoMasihdur [QissaiImom Hasan,1837,201].

(Kindness does not fit in the book,

The people do not know sweet words.

He was both a malihu and a fasih,

He is the Messiah on earth.)

This epic was written at the end of a single copy of the poet's office No. 1837, kept in the manuscript fund of the Institute of Oriental Studies named after Abu RayhanBeruni. The Poet's Office ends on page 187 of the manuscript. It is acknowledged that the date of its compilation was 1274 AH, 1857 AD, and its secretary was MuhammadShahYunus Khan ibn EshanhojaEshan:

"RaqamqildiMuhammadshohYunusxon

Ki, nurichashmEshonxojaEshon.

- 1274/1857"

(Muhammad Shah Yunuskhan accounted,

That light of eyes EshonkhojaEshan)

After a blank page, page 189 is turned and the epic "Qissai Imam Hasan" begins. The title of the epic is written in pencil, not by the secretary, but by the pager. Beginning on page 190, the main text of the work begins with a basmala. The work is clearly, beautifully, literally copied. There are almost no entries in the borders. Only in some places are some spelling errors corrected in the margins. On page "A" there is a race. However, on page B, this is not the case. Each page contains 17 bytes, only 13 bytes on page 1 (page 190) and 15 bytes on page 2 (page 191).

RESULTS AND DISCUSSION

The volume of the epic is 1450 lines, 725 bytes. It begins with 26 lines of praise and 20 lines of naat. Chahoryors are then described in 48 verses. Then begins the description of events related to the main plot of the epic. Initially, the birth dates of Imam Hassan and Hussein, the process of choosing a name, are skillfully described at the level of a dramatic scene.

Uvaysi emphasizes that the epic was written on the basis of manoqibs:

Ko'bdurkimanoqibichrabuso'z,

Gar ummatesangeshittikibko'z[QissaiImom Hasan,1837,197]...

(This word is in the managib,

If you are an ummah, listen and look.)

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As the poet points out, information about the lives of Imam Hasan and Husseyn has come through many manaqibs. Interesting stories about their complex, arduous, and glorious ways of life are prevalent among the people. For this reason, many works of art in the prose and poetry path on which they are based have been created. Although historical events were the basis for the birth of information about them, they cannot be accepted in a purely historical, scientific aspect. Because they were reworked by the creators. In showing his contemporaries how not to lose himself in the face of life's hardships and shortcomings, and how to overcome them with courage and skill, the brothers described the lives of imams as role models and lessons.

As mentioned above, the creation of this type of epics was influenced by Kashifi or Sabir Saikali epics, which were widespread in Central Asia. But when we compare these epics, we see that Uvaysi's works have many places that differ from them. This shows that the epics created by the poet are original works, in which the creative skills are fully reflected:

- 1. First of all, they are created in different weights. The work of Sabir Saikali (1793-1796) is written in the purpose of the Hazajimusammanimaksur (V - -/ V - -/ V - -/ V--), as for the epic of Uvaysi, it is written in Hazajimusaddasiahrabimakbuzimakhzuf (- V/V V /V -).
- 2. The events described in Prince Hasan in the Saikali epic are shorter than in Uvaysi's work. In Uvaysi, the legends about the life of Prince Hasan are more numerous and the events are described in more detail. In particular, the work begins with the narrations about the birth of Hasan and the choice of a name for him. In Saikali, however, the events began a little later, with the death of his father, Hazrat Ali, and the replacement of Prince Hasan as the ruler of Kufa.
- 3. In Saikali's epic, Hasan goes to Mawsil, to the friend's house, where he is poisoned 3 times; then 3 cases of poisoning and death by his wife, the punishment of his wife is described. Uvaysi narrates in detail that Hasan was the ruler, Muawiya, the ruler of Damascus, attacked Kufa with 60,000 troops, and Hasan went against him with 40,000 troops. The poet emphasizes that Hasan was a supporter of peace. Without thinking of his own glory, he prioritizes that the blood of the people should not be shed in vain. In this connection, the poet describes the prince's beautiful character, his perfect morals. Hasan creates an example for his contemporaries in the language:

"El sudiniistagumshabiro'z,

Bu so'znideymanshahidilafro'z.

Oldimdabuelsalomato'lg'ay,

Yo'qxohishimo'lsaelparishon,

To bo'lmasafitna, bo'lsaimkon.

Gar fitnalig'sulhbehrog,

Har vaqtdeganImomiofoq[QissaiImom Hasan,1837,204]".

These images, in a sense, connect the events of the work with the time of the poet. It shows his attitude to the struggle for the throne, for the state, in the social process. It is obvious that he puts peace, tranquility and health in the forefront.

4. In Saikali, Hasan's wife is called Asma. In Uvaysi it is called Juda (She describes Asmo as described as the nanny of princes). While Saikali describes Asma's severe punishment, Uvaysi does not cover the process. In the poet's epic, the story ends by describing Hali's conversation

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

with Juda after her poisoning. Hassan's death is also not described. When reading the end of the epic, the question arises as to whether this work was not completed at first. But we conclude that Uvaysi preferred to conclude the epic in this way, leaving it to the reader to conclude and learn from it in a manner peculiar to the poet's style. After the epic in the manuscript, another work of the poet, "The story of Muhammadalikhan" is quoted, which indicates the end of "Prince Hasan".

In the Uvaysi epic, several narrations related to the life of the princes are narrated. Initially, their disappearance is narrated. The poet notes that this narration was narrated by Ibn Abbas. Ibn Abbas was one of the great Companions, the teacher of the Makkah school of the three schools of tafsir. He then pays special attention to the martyrdom of Hazrat Ali and the enthronement of Prince Hasan on the throne of Kufa, and the use of this to draw the army of Muawiya, the governor of Damascus, who was in constant conflict. Apparently, Uvaysi narrates the narrations with certainty from authentic sources, in relation to specific individuals.

The composition of the epic is unique. As the main plot is told, lyrical digressions are given. They are sometimes told in the language of the poet, and sometimes in the language of the protagonist - Hasan. Then, in the style of folk epics, the narrator is addressed and returns to the leading plot:

"Roviyqalamingnitezyuritgil,

Xunobaijigardinonchayutgil...[QissaiImom Hasan,1837,212].

Or:

"Roviyyanaso'zboshig'akelg'il,

Shahzodakaromatiniayg'il...[QissaiImom Hasan,1837,210]".

Lyrical retreats play an important role in the epic. They serve both to enrich the plot of the work and to serve as a lyrical relation. It is as if the poet connects the events with his time. It shows them the attitude of the poet.

Lyrical retreats are given in a variety of genres and forms. There are ghazal, masnavi, fard appearances. The individual genre is used in one place. It is written in the healthy weight of the hazajimusammanisolim(mafoiylun-mafoiylun-mafoiylun-mafoiylun; V - - - V - - - V - - - V.

Even after the lyrical retreats in the ghazal genre, the thoughts are directly linked to the plot of the epic:

"Ammodedilarkiholtilida

Kechdikibubaytpokdilida:

"Vafoko'ztutmag'ileldinkiolaminvafosiyo'q,

G'aribo'lmaynetarya'nikishi gar asnosiyo'q.

Tutubhurmatkanora, elarosidinvafoketti,

Bu kunuzgilko'ngilharikkisidinkimbaqosiyo'q.

Nazarsolsangagarchandekibuyolg'onchiolamg'a,

Aningjuzdardiranjimehnatjavrijafosiyo'q"[QissaiImom Hasan,1837,207]".

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

This lyrical retreat is created in the ghazal genre. It is written in the healthy weight of the hazajimusammanisolim. It is not in vain that the ghazal is given in the language of the protagonist. This weight plays an important role in conveying the pain and suffering in Hasan's heart. The protagonist's philosophical thoughts about the universe and man also have a universal meaning.

In some places a lyrical retreat is also given from the poet's language. In particular, the lyrical retreats given after the events of 3 times given by his friend that he was not affected by the poison, his friend's letter to Sham to Muawiya, and the man who took him to be eaten by a wolf on the way are given in the poet's language. He draws a generalized conclusion, a lesson, from the relationship between Hasan and his friend and its consequences. It serves as an example and guide for people at all times:

Gar qilsasitamkishikishig'a,

Go'yositamaylamisho'zig'a[QissaiImom Hasan,1837,209].

(Translation: If a person oppresses someone,

It's as if the oppression is self-inflicted.)

Here the lyrical retreat given from the poet's language is the same as the weight of the epic. The use of different weights in the epic served to reveal the general rhythm of the work, the mood and processes in it. The weights and genres used are not random. Perhaps they were all used for a specific purpose. The author has played an important role in shedding light on his views.

It is known that in Uzbek classical literature, epics are written mainly in 7 weights. "The weight of the hazajimusaddasimahzuf, which is widely used in epic poetry, is the weight" [D. Yusugova, 2011,98]. However, when Uvaysi chooses the weight for his epic, we see that it comes from the content of the work. In this regard, the poet-teacher follows the path of the poet Navoi. We know that the epic "Layli and Majnun" is tragic in terms of plot. For this reason, it is written in the weight of hazajimusaddasiahrabimakbuzimahzuf(maf'ulu - mafoilun - fauvlun; - - V V - V - V - V - -), which is convenient for expressing the sad state of mind. Taking into account the sad and tragic ending of the plot in this epic, Uvaysi also creates it in the weight of "Layli and Majnun", that is, in the mahzuf of the last syllable of the hazajimusaddasiahrabimakbuzimahzuf. In some places, he uses other variations of hazaj in order to express different moods.

In addition to the use of the style and composition of folk epics in the creation of the epic, the poet also uses folk proverbs:

"Chahqozsakishikishig'a, eyyor,

O'ziyiqilur",-deganmasalbor"[QissaiImom Hasan,1837,212].

(If a man digs a well,

he himself will fall)

As the poet describes the symbols and events in the epic, it is felt that he approached each of them from a unique point of view, from a different point of view. In particular, Prince uses the traditional style of classical literature when describing the image of Imam Hasan. Drawings on his image are represented by traditional metaphors, comparisons and means of artistic representation:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

"Keldilarimomishahsuvori,

Kunxiraetardiguluzori.

Qulerdisanubar ul xiroma,

Abro'sig'achokerdixoma.

Maherdiqoshida soya yanglig',

Lab olidala'lsangixorayanglig'.

Zulfingoshidaxaserdisunbul,

Lafziolida gung erdibulbul" [QissaiImom Hasan, 1837, 214].

But this is not the case in the description of the main events in the plot. The poet seems to have avoided the use of the silent, artistic allusions of the word. In our opinion, the author has taken such a path in order to convey the plot to the reader in a clear and understandable way.

In literary criticism, Uvaysi's epics are evaluated differently. Some studies also suggest that poetic epics are shallower in terms of artistic skill than poetry. However, all of these criteria are, to a certain extent, balanced by Oybek's conclusions. It clarifies our understanding of her work: "However, I do not think it is true to say that the poet's epics are inferior to his poems. The poet's epics Hasan and Hussein are highly artistic epics written with great skill. There is a lot of religious mood, but the poetess created these works with her heart because she has sincere feelings, tender feelings and deep feelings" [Oybek, XIII tom, 1989, 402] When we studied the epic, we witnessed that Oybek's views were not unfounded. Perhaps, due to the demands of the time, its creation on the basis of religious stories may have led to such an assessment. However, if we look at the work in terms of plot, composition, artistic design, content and ideology, we can see that it is a work that can meet the high requirements of art. The above-mentioned examples show the poet's fluent language, unique artistic means of expression, and a pleasant folk style.

The events of the epic end in a tragic mood. It is as if with Hasan's death, evil seems to have triumphed over good. But Uvaysi used the epic, which was based on a historical event, to express his views on goodness. From the poet's point of view, goodness always wins. His victory is in eternal stability, in eternity. Evil is always defeated. His defeat lies in being exposed by goodness. In the boundless hatred of the people for him. Uvaysi was able to convey these views to the reader with his skill. Therefore, at the end of the epic, we feel a growing sense of confidence in the eternal triumph of goodness in our hearts, despite the death of Prince Hassan. This is a product of the poet's skill. [6]

The epic "VokeotiMuhammadalikhan" was also copied along with Uvaysi Devon. He arrived unfinished. It is kept at the Institute of Oriental Studies under inventory number 1837. The text of this epic consists of 14 pages in the manuscript (pp. 233-246). Each page has 22 lines of text. So, the part of the epic that has come down to us is 208 lines, 104 bytes. The first bytes of the work consist of praise and notes (). Then Muhammadalikhan talks about his lineage. Some important points in the biography are remembered. The reasons for sitting on the throne are mentioned. Finally, attention is drawn to the main event that led to the writing of the epic - the Kashgar invasion. It is not divided into chapters.

There are several characters in the epic. Their nature, especially the character of Muhammadalikhan, is vividly expressed. In his style, the peculiarities of folk epics stand out.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

But the epic does not end. This is probably due to the defeat of Muhammadalikhan in this war. Hakimkhan Tura's historical work "Muntahabut-tavorikh" gives detailed information about this march: "They immediately took control of Kashgar province, and the next day surrounded Gulbog fortress like a ring, and began the siege and war. Days later, the siege was extended to three months. With no action was it possible to capture the Gulbog fortress. Without choice, he evacuated several thousand people and returned to Hokand with their heads bowed" [Муҳаммадҳакимхон тўра, 2010,629]. [7]

Is 'hakhonJunaydullahojaogluIbrat's "Farg' onata' rifi(History of Fergana)" (1916) also contains some important information about Muhammadalikhan and his history. In particular, the historian comments on the war of conquest in Kashgar: he did not achieve the nickname of Gazi without fighting. In fact, Amir Timur's grandson did not achieve the title of a ghazi, but in sermons and verses he was described as a master, but they did not call him a ghazi [Ibrat, 1991, 292].

In Hakimkhan Tora's work, it is said that Khan began to march to the Gulbog district of Kashgar, and in Ibrat's "History of Fergana" this situation is further clarified. In other words, IsobekMehtar and Buzrukkhan Tora, who were expelled from Kokand by Muhammadalikhan in 1832, merged and occupied the Gulbog district under Chinese rule. In our view, because of their conflict with them, the khan organized a march against them. But, as mentioned above, it ended in defeat: "O'ninchiyili (Muhammadalixonhukmronligining, ya'ni 1832 yil) Isobekmehtar ham qochib,

Buzrukxonto'railanbirgalashibXitoynimahkumidagiGulbog'nimuhosaraqilibdurlar (Translation: In the tenth year (of Muhammadalikhan's reign, i.e. 1832) IsobekMehtar also fled and went to Kashgar. Joining with Buzrukkhan Tura, they invaded Gulbog, the district of China)"[Ibrat, 1991, 296].

It seems that such information in these historical works, to a certain extent, serves to enrich our understanding of the reason for the writing of Uvaysi's epic "VokeotiMuhammadalikhan (The Story of Muhammadalikhan", its history and the reasons for its incompleteness. [8-9]

CONCLUSIONS

As a result of studying the evolution of genres in Uvaysi's creative heritage, we came to the following conclusions:

Each genre in the poetry of the poet, the history of its perfection, the special study of its peculiar new aspects, is extremely relevant. Because the interpretation of this heritage in this context provides an opportunity to find solutions not only to Uvaysi, but also to many genre-related problems of Uzbek classical literature.

Uvaysi was able to show his unique talent in epic writing with three epics he created during his creative activity. In the works of the poet, we witness the embodiment of the traditions of classical poetry of the East and the style of expression typical of folk epics.

The author's epic "Qissai Imam Hasan" differs from other epics on this topic by many peculiarities. The principles of the poet's weight selection and use of artistic means are reflected in the poem.

The epic is of great importance for us today with its work that promotes the ideas of universal morality, such as purification of heart, living with the grief of the people, kindness, generosity, forgiveness, devotion. Thus, a comprehensive study of Uvaysi's work allows us to conquer many

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

unexplored frontiers not only of the poet, but also of Uzbek classical literature. It leads us to the comprehensive, deep thinking world of our ancestors.

REFERENCES:

- 1. Kayumov A. Kokand literary environment. Tashkent, 1961, 357
- **2.** Ibrohimova M. Mirzaev. Compositional features of the poem. Literary heritage. A collection of scientific works. 1986;1(35):18-b.
- **3.** Ibragimova. About the stories of Uvaysi. Journal of Uzbek Language and Literature, 1960;6:38-44.
- **4.** Orzibekov R. Lirikada kichik janrlar. T.: Fan, 1976.
- 5. Jaloliddin R. Uchmoqqa qanot yoʻq (J.Kamol tarj.). T.: Adabiyot va san'at, 1994.
- 6. Serikova LN. Struktura i spetsifika farda Alishera Navoi. V kn.: Malыe formы liriki Alishera Navoi. Т.: Nauka, 1981.
- 7. Jalolov T. O'zbek shoiralari. T.: Fan, 1980.
- **8.** Jaloliddin R. Masnaviy hikoyalariga sharhlar. T.: Muharrir, 2011.
- 9. Kuronov D. et al. Dictionary of Literary Studies. T.: Akademnashr, 2013.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

REVIEW OF ARTICLE 17 AND PRACTICE OF MANUAL SCAVENGING **IN INDIA**

Pradeep Kashyap*

*Lecturer,

Department of Business Law, Faculty of Commerce, Management & law, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: pradipprgnul@gmail.com

DOI: 10.5958/2249-7137.2021.02633.1

ABSTRACT

In Part III of the Indian Constitution, commonly regarded as the highest law of the country, there is a provision guaranteeing "the right to eradication of untouchability". "Untouchability" is abolished, and its practice in whatever form is prohibited, according to Article 17. The imposition of any handicap resulting from "Untouchability" will be a criminal offense punishable by law, implying that the Indian constitution prohibits the practice of untouchability as a fundamental right of human life. Even while the Constitution prohibits such abuses, we may nevertheless find remnants of them in behaviours such as manual scavenging. The topic of whether manual scavenging is a breach of Article 17 and how to deal with the problem of manual scavenging is addressed in this study paper.

KEYWORDS: Article, Constitution, Labour, Manual, Scavenging.

1. INTRODUCTION

Manual scavenging is a practice common in the states of Uttar Pradesh, Madhya Pradesh, and Maharashtra, among others that entails cleaning human excrement from public streets and dry latrines. People from the lowest castes, particularly the 'Dalits,' often engage in this activity in rural regions. Even though India passed the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, this issue still appears to be prevalent in many parts of the country, necessitating a thorough investigation and resolution because a large number of people are exposed to danger and discrimination as a result of this practice[1]. Manual scavenging is one of the causes of untouchability in India, despite the fact that it was proclaimed illegal under Article 17 of the Indian Constitution. As a result, there is a need to work in this area and to find any possible solutions to this problem, which will be addressed in this research article.

Manual scavenging is defined by the International Labour Organization as the removal of human excreta from public streets or dry latrines, as well as the cleaning of septic tanks, guttars, and sewers. It's the word for the procedure of manually or with shovels removing untreated human feces from pit latrines. It has been illegal in India since 1993 due to its inhumane caste-based nature. It has also proven to be very hazardous, since the "scavengers" are often given little to no safety gear. It is primarily a caste-based profession, with women accounting for the majority of the "scavengers." Maharashtra is renowned for having the highest instances of manual scavenging, with almost 64,000 cases on its own; Uttar Pradesh, Madhya Pradesh, Tripura, and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Karnataka follow. According to the 2011 census, 794,000 instances of manual scavenging were found throughout India[2].

2. LITERATURE REVIEW

Manual Scavenging- A case of Denied Rights

The author of this essay has detailed the horrors that individuals who work in such circumstances endure. The author has attempted to illustrate the prejudice that such individuals face in society. The author also attempted to highlight the numerous changes enacted by the Indian government via different legislation, as well as the reasons for their inability to be implemented.

Right to Dignity, not for Manual Scavengers: The neglected state of rights of scavengers in India

Swapnil Tripathi's article focuses on the violations of rights that occur as a result of such heinous work. This article not only discusses the right to the elimination of untouchability, but it also attempts to link the right to life and other basic rights to the issue of manual scavenging. It also considers the different changes that may be implemented in order to eliminate such behaviors from society as a whole.

India's female scavengers enslaved by caste, gender discrimination

This article discusses the gender disparities that are prevalent in this dangerous industry. The author, Rina Chandran, attempts to illustrate how women make up the majority of manual scavengers and how they confront more challenging conditions while dealing with them. She attempts to provide an in-depth examination of the horrors perpetrated against such women, as well as the society's lack of compassion for them. The oppression of the downtrodden has been emphasized as a major element of this atrocity in this essay. While being a member of a community that is exposed to this terrible situation, the ladies suffer a bleaker destiny. This article emphasizes that in order for the upliftment of this oppressed class to be successful, effort must be done to uplift others who are even more oppressed.

3. DISCUSSION

Under the leadership of G.S. LaxmanIyer, the Gobichettypalyam municipality was the first to prohibit manual scavenging in the 1950s. In 2013, Delhi became the first state to prohibit manual scavenging under topic 6 of the state subject, sanitation, and district judges are now responsible for ensuring that the ban is implemented. Even though many governments have attempted to enact legislation to end discrimination as a result of such practices, they continue to exist, breaching not only state and national laws, but also international agreements[3].

Convention of the International Labour Organization

In 1958, the International Labour Organization (ILO) issued a convention in which they attempted to emphasize the problem of job discrimination. This conference was founded on the Philadelphia Declaration, which said that "all human beings, regardless of race, religion, or sex, have the right to seek both their material and spiritual well-being in circumstances of freedom and dignity, economic stability, and equal opportunity." India was a signatory to the agreement, and numerous Acts and decrees relating to the prohibition of manual scavenging have been enacted by the Indian parliament with this treaty in mind. The Employment of Manual Scavengers and the Construction of Dry Latrines (Prohibition) Act of 1993 prohibits the use of manual scavengers and the construction of dry latrines.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

After six states asked that the center create laws to impose a stringent prohibition on manual scavenging, this Act was enacted. Only after such a request did the Narsimha Rao government's ministry of urban affairs incorporate this act into the country's law in 1993. The use of manual scavengers or the construction of dry latrines were both punishable under this law. The penalty may include up to a year in jail and/or a fine of up to Rs. 2000.

The Prohibition of Employment as Manual Scavengers and Rehabilitation Act of 2013 (M.S. Act 2013) prohibits employers from employing manual scavengers. The prohibition of work as manual scavengers and their rehabilitation Act, 2013, is the most recent addition to the collection of laws prohibiting manual scavenging. The Ministry of Social Justice and Empowerment issued this act. The major goal of this law was to eradicate unclean latrines, ban the use of manual scavengers and dangerous manual sewer and septic tank cleaning, and keep track of manual scavengers and their rehabilitation. This Act was drafted as a significant step in enacting the prohibition on manual scavenging[4].

Manual scavengers are discriminated against.

Discrimination against this segment of the population has existed in the country for a long time. Often referred to as the "dirtier" side of society, this group has had to deal with events and circumstances that the broader public would find unfathomable. The Supreme Court, High Courts, and other subordinate courts of India have emphasized prejudice against this segment of the population in a number of instances, some of which are summarized below:

Union of India v. Safai Karamchari Andolan

The Supreme Court of India ruled in this case that manual scavenging is an inhumane, demeaning, and humiliating occupation in India. The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013 acknowledges Article 17 of the constitution as a right given to the Manual Scavengers by the constitution as their basic fundamental right, according to the Supreme Court. "The official figures of the Ministry of Social Justice and Empowerment for the year 2002-2003 placed the number of recognized manual scavengers at 6, 76,009," stated P. Sathasivam, CJ[5].

Over 95 percent of them are Dalits who have been forced to do this dehumanizing job. The Supreme Court also referred to several international covenants and instruments, including the Universal Declaration of Human Rights (UDHR), the Convention on the Elimination of Racial Discrimination (CERD), and the Convention on the Elimination of All Forms of Discrimination Against Women, to which India is a signatory, that seek to guarantee a dignified human life in respect of his profession and other walks of life, such as the Universal Declaration of Human Rights (UDHR), the Convention on the Elimination of Racial Dis (CEDAW)[6].

In this decision, the Supreme Court emphasized the need of all state governments implementing the Act in their individual states for the preservation of the right under Article 17 of the constitution to protect Manual Scavengers from discrimination.

National Campaign for Dignity and Rights of Sewerage and Allied Workers v. Delhi Jal Board

The Supreme Court recognized and emphasized the suffering of the oppressed elements of society, particularly manual scavengers, who risk their lives cleaning sewers without appropriate safety equipment and have been denied the right to be free from discrimination for decades. "Workers are suffering from excessive mortality and morbidity as a result of occupational

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

exposure," the Supreme Court said. In the past two years, 33 employees have died as a result of accidents while working on clogged sewage systems. 59 percent of employees go into sewage manholes more than ten times each month, and half of them work more than eight hours every day. Syncope was recorded by 41 employees, and transient loss of consciousness was reported by another 24[7].

A bit more than a third of the employees had had tetanus vaccinations, but none had received hepatitis B vaccinations. According to the Body Mass Index (BMI) assessment, about 46 percent of employees of all ages are underweight. Regardless of employment duration, all day workers received a monthly salary of about 2950 rupees with no additional benefits." While hearing this case, the Supreme Court chastised the federal and state governments for failing to pay more attention to these employees, who are forced to work in such deplorable conditions due to their poverty and subsequently face prejudice and the threat of death under any circumstances. The government was also ordered by the Supreme Court to take guidance and action in this regard.

Obstacles to Overcoming During Implementation

The inability of the governmental system to identify the unlawful hiring of manual scavengers in rural areas is one of the main difficulties encountered during the execution of legislation related to manual scavenging and manual scavengers. According to the National Advisory Council, "almost no one has been punished under this legislation." This was said in the context of penalties meted out in the context of acts enacted by the legislature[8]. Another reason for the lack of implementation is that individuals who attempt to break free from the vicious cycle of manual scavenging encounter hostility from the society in which they live. Manual scavenging has become so ingrained in society that it is difficult to escape it without suffering the repercussions. Even the government fails to offer sufficient assistance to those who voluntarily want to leave such jobs.

Because of the prevalence of caste dominance in India, many criminal cases involving crimes perpetrated against the allegedly lower caste of the society, the Dalits, go unreported. It has been observed that police do not record such complaints, particularly when the offender belongs to the dominant caste. As a consequence, there is no effective check on the elimination of such activities[9]. People that engage in such work are those who are from the poorest sections of society and therefore do not have any other other forms of employment; thus, it is difficult for them to give up the only source of income that allows them to meet their basic needs. These individuals are also restricted from crossing specific geographical borders, and as a result, they lack access to other broad kinds of work that others with similar economic stakes have.

Analyze the Situation

When all of the aforementioned data is examined, it becomes clear that there is a pattern behind the non-implementation of this major prohibition, which turns out to be the insufficiency of the measures taken to put the Acts into effect. Owing to the government's failure to execute the established legislation, the whole system of discrimination has persisted due to a lack of detection. As a result, the remedy to the breach of Article 17 of the constitution in relation to the abhorrent practice of manual scavenging is to take sufficient steps to ensure that the action plan is carried out properly. According to the author, if this problem is to be dealt with effectively, the government must strive to raise knowledge about the illegality and danger of the practice, as well as provide specific methods for victims to be successfully removed from this vicious cycle. It is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

also critical to provide victims with alternative job options in order to better their economic situation and maintain their social standing[10].

4. CONCLUSION

Finally, it can be said that manual scavenging is one of the most heinous kinds of prejudice that exists in society, and that it must be eliminated. Even though India passed the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, this issue still appears to be prevalent in many parts of the country, necessitating a thorough investigation and resolution because a large number of people are exposed to danger and discrimination as a result of this practice. Manual scavenging is one of the causes of untouchability in India, despite the fact that it was proclaimed illegal under Article 17 of the Indian Constitution.

The legislature should take a number of measures not only in formulating programs to safeguard the basic fundamental rights of individuals who are denied such rights while working under such conditions, but also in ensuring that they are properly implemented to achieve the best possible outcomes. Work should be done to find alternative work for these Manual Scavengers in order to improve their social and economic situation, and information should be disseminated to the general public so that people are aware of their predicament. Manual scavenging should be abolished completely in the name of the fundamental right against eradication of untouchability guaranteed by Article 17 of the Indian constitution. Only then can the nation and judicial system realize its core values of justice, equality, and morality.

REFERENCES:

- **1.** L. Dadwal and K. Chauhan, "Manual scavenging: An abhorrent practice," Vidhigya J. Leg. Aware., 2008.
- **2.** A. Baruah, "The prohibition of employment as manual scavengers and their rehabilitation act, 2013: A review," Space and Culture, India. 2014, doi: 10.20896/saci.v1i3.41.
- **3.** R. K. Singh and Ziyauddin, "Manual scavenging as social exclusion: A case study," Econ. Polit. Wkly., 2009.
- **4.** S. Permutt, the Manual Scavenging Problem: a Case for the Supreme Court of India. 2011.
- **5.** R. S. Shukla, "Manual Scavenging: The Story of Untouchables Among Untouchables," SSRN Electron. J., 2011, doi: 10.2139/ssrn.1501265.
- **6.** J. Kumari, "Anti-Manual Scavenging Efforts in India: An Evaluation with respect to Labour Welfare," Pacific Bus. Rev. Int., 2014.
- 7. Hake Damodar M, "Manual Scavenging And Social Problem Of Untouchability In India," Indian Streams Res. J., 2015.
- **8.** P. Singla, "The ex-scavengers of Delhi: Into alternative sources of livelihood exploring unexplored terrain," in Minority Groups: Coercion, Discrimination, Exclusion, Deviance and the Ouest for Equality, 2012.
- **9.** P. Singla, "The ex-scavengers of Delhi: Into alternative sources of livelihood exploring unexplored terrain," in Minority Groups: Coercion, Discrimination, Exclusion, Deviance and the Quest for Equality, 2014.
- **10.** S. Paul, "India and Its Unwashed Reality, Manual Scavenging," SSRN Electron. J., 2013, doi: 10.2139/ssrn.2272551.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

UNITED STATES FIGHT'S AGAINST TERROR

Amit Verma*

*Assistant Professor,
Department of Law & Legal Studies, Faculty of Commerce, Management & law,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh
Email id: amit.law@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02634.3

ABSTRACT

For the previous nineteen years, the United States had been at war in Afghanistan, and for the previous seventeen years, it had been at war in Iraq. This initiative addresses issues such as what constitutes global terrorism. What are the characteristics of international terrorists? The project focuses on the policies, tactics, and actions implemented by the United States of America to combat worldwide terrorism. In what ways have their policies, tactics, and foreign alliances worked to combat global terrorism? This study delves into the aims and objectives of the United States in the battle against global terrorism. I've also spoken about the Taliban Peace Treaty and how it's affected the international scene. What was the response of different nations to the treaty? In addition, I have highlighted the difficulties that Afghanistan may confront as a result of this deal.

KEYWORDS: Afghanistan, international terrorists, Global Terrorism, USA's strategy, Taliban Peace Treaty.

1. INTRODUCTION

The assault on September 11, 2001 in New York was a war against the United States and the entire concept of civilized civilization. Terrorism can never be justified. The whole globe should struggle against this, which aims to endanger and destroy fundamental freedoms and ways of life. Terrorism is being combated, which is defined as "premeditated, politically motivated violence committed against non-combatant targets by sub national organizations or clandestine operatives, typically with the goal of influencing an audience." These terrorists believe that stealing, extorting, murdering, kidnapping, and wreaking havoc in order to frighten others are acceptable political actions[1].

The US should use all aspects of national power — intelligence, information, law enforcement, military, economics, and diplomacy – to combat terrorist networks and all those who assist them in spreading fear across the world. The United States' aims and objectives will be realized when people of the United States and other civilized societies throughout the world may live their lives without fear of terrorist assault. In the battle against terrorism, there will be no easy victories. The US will ensure that these terrorists do not have a safe haven anywhere in the globe, as well as limiting their reach and capabilities. The United States' National Strategy demonstrates that success can only be achieved via the methodical and continuous deployment of all components of national power. "Through persistent action, we will destroy global terrorist groups. Terrorists will not be given the sponsorship, support, or shelter they need to survive. We will triumph in the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

battle of ideas, reducing the underlying circumstances that foster despair and harmful political visions, leading people to embrace, rather than reject, terrorism. Throughout, we will utilize every tool at our disposal to protect the United States, our people, and our interests throughout the globe against terrorist assaults[2].

The United States aims to bring nations together in a mutually beneficial democratic partnership that will safeguard them against violent and disorderly forces. By harnessing humanity's potential to combat terrorism in all of its forms, the United States promotes a prosperous, safe, and free world for future generations. This battle against terrorism will ensure the security of democratic interests and the preservation of free principles.

2. LITERATURE REVIEW

Terrorism by Hannah Ritchie, Joe Hasell, Cameron Appel and Max Roser

In this article, they define terrorism as acts of violence committed by non-state actors against civilian populations with the intent of instilling fear in order to accomplish a political goal, as defined by the Global Terrorism Database (GTD). Government-initiated violence is not included in this definition (State terrorism). This article sets forth the criteria for classifying a violent act as terrorism. Terrorism is also distinguished from other kinds of violence. This page also includes information on how many people are murdered by terrorists across the globe. Which areas are the most prone to terrorism? Etc.

New US Counter-Terrorism Strategy

This article focuses on the United States of America's national counter-terrorism policy. Since the terrorist attacks on September 11, 2001, the United States of America has been actively fighting terrorism. The strategies mentioned in this article state that they will defeat their enemies with all of America's strengths, that they will not just focus on any individual organization but will counter all terrorist activities with the ability and intent to harm the United States, that they will strengthen security at all ports of entry into the United States, that they will build strong borders, that they will not just focus on any individual organization but will counter all terrorist activities with the ability and intent to harm the United States, that they will not just focus on any individual organization but will counter all terrorist activities

3. DISCUSSION

Defeat Terrorists and Terrorist Organizations is the goal.

The US has developed a 4D Strategy (Defeat, Deny, Diminish, and Defend) for eliminating terrorist organizations with worldwide reach via the employment of law enforcement, information, economic, diplomatic, financial, intelligence, military, and other instruments of power, both indirectly and directly. Terrorist organizations are fragmenting into tiny, informal groupings, making it harder to fight them. The United States will employ all of its available strength and resources to combat this and prevent the formation of new organizations. State sponsors, multinational networks, and individuals that encourage the spread of terrorism will be targeted. The United States will not wait for terrorists to strike before intervening. Terrorists' capacity to act will be destroyed or weakened, and terrorist sympathizers will be forced to stop supporting them. Preventing terrorists from gaining access to technology, particularly weapons of mass destruction, is one of the United States' top objectives[3].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Identifying terrorists and terrorist organizations is the goal.

Many terrorist organizations' inner workings are unknown to the United States. As a result, law enforcement and intelligence services will intensify their efforts to identify terrorist organizations, terrorists, their base camps, and inner workings, among other things. Their main emphasis will be on the most dangerous organizations who want to obtain and use weapons of mass devastation. Priority will be given to issues of national importance and imminent danger.

Terrorists and their organizations must be destroyed.

Following the identification of terrorists and their organizations, the United States, its allies, and friends will employ all means at its disposal to destroy and impair their capacity to commit acts of terrorism. They will target their leadership, control, communication, sanctuaries, money, and material support with a vigorous and offensive approach. The United States focuses on three major areas:

- 1. They will increase their law enforcement efforts to capture, detain, and prosecute known and suspected terrorists;
- 2. They will use special military and intelligence forces to combat terrorism around the world; and
- 3. They will implement an aggressive plan to eliminate terrorist financing with the help of appropriate international organizations and partners. Regional scientific plans will be established as well[4].

Terrorists must be denied sponsorship, support, and sanctuary.

The US's second major concern is to deny these terrorists funding, sponsorship, and shelter, which allows them to survive, train, build strength, plot, and carry out their operations. This goal may be achieved in three ways:

- 1. All states must carry out their responsibilities to fight terrorism both inside and beyond their borders:
- 2. The United States will assist countries that wish to combat terrorism but lack the means to do so; and
- 3. If countries refuse to comply with their international obligations to deny terrorists shelter and assistance, the US, its allies, and friends will take the necessary measures to persuade them to alter their policies.

Establishing and maintaining an international norm of accountability in the fight against terrorism is the goal[5]. There is a responsibility where there is a right. Under UN Security Council Resolution 1373, states have a responsibility to fight terrorism. This resolution calls on all countries to work together to combat terrorism by denying terrorists a safe haven, prohibiting people from financially supporting terrorists, and adopting measures to prevent terrorists from moving about. There are additional twelve international counterterrorism treaties and protocols, as well as UN Security Council Resolution 1373, in place to enforce international counterterrorism obligations.

The goal is to eliminate terrorists' safe havens and sanctuaries.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Terrorists should not be given a safe haven. It should be eliminated and annihilated. Terrorism should be eradicated wherever it occurs, and the international community and the United States should create structures and methods to do so. Promoting national legal systems and international standards of behavior to remove terrorist refugees is an important component of this effort. If the US learns that terrorists are using a province in a regional partner's province as a safe haven, the US, together with its allies and friends, will remove the terrorists from the sanctuary and ensure that the area is not utilized by terrorists again. The intelligence community and other agencies will undertake an annual evaluation of terrorist organization sanctuaries and develop a strategy to eliminate them.

The goal is to reduce the conditions that terrorists seek to exploit.

Terrorists have an easier time growing in nations where people are suffering from hardship, poverty, and unsolved regional and political conflicts. Terrorists take advantage of these circumstances by manipulating them. Promoting economic liberty and upholding democratic principles are crucial in this regard. The United States cannot take on this task alone because it lacks the means to be present all around the world, and the fight against terror is not just an American battle. In this issue, the US, its allies, and friends should work together[6].

Goal: To protect US citizens and interests both at home and abroad.

The fourth and final strategy in its 4D strategy is to defend its territory, sovereignty, and national interests both at home and abroad. It includes cyber and physical security for its people and property, as well as safeguarding democratic ideals. The US recognizes the capabilities and strength of its adversary, who is well-equipped with contemporary technology and exudes great confidence as a result of their previous successes. Before gaining majority, the US will utilize its many departments and all of its technical know-how to detect and disrupt terrorists' plans. Only with the collaboration and coordination of the federal, state, and municipal governments, as well as the business sector and people, can this goal be achieved. We may infer from the September 11 assault that they can target transportation, communication, and the global system of trade, instill terror through devastation and death, and decrease public confidence and willingness to fight. As a result, the United States should be prepared to combat terrorism. The United States should be aware of all events, actions, and trends in all domains (sea, land, cyber, and air) that may jeopardize the country's security, safety, population, and environment.

The United States will enhance its current programs to warn people traveling outside the nation about the terrorist risks they may face. In addition, the US government will work with the host government to expand support and improve training in order to strengthen the legal infrastructure and the rule of law. Solid preparation, planning, and quick reaction are critical in preventing terrorist attacks. The activities must be coordinated from the federal level to the local level. They should all be on the same page. The Departments of Defense and State, as well as other relevant agencies, should ensure that the Foreign Emergency Support Team has sufficient training, equipment, personnel, and transportation[7].

Treaty of Peace with the Taliban

After more than eighteen years of warfare, the US and the Taliban reached an agreement in an attempt to put an end to the conflict. The major element of the agreement is a significant reduction in US military levels and assurances from the Taliban that the country would no longer be a safe haven for terrorists. Experts, on the other hand, believe that the agreement reached

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

between Taliban commanders and US President Donald Trump's administration is just the first step toward establishing long-term peace. Negotiating a deal on Afghanistan's future between the Afghan government and Islamist extremist groups is a greater task. Many Afghans, fed up with a war that has killed thousands of people and caused millions to leave as refugees, worry that the United States' departure would spark a new battle, allowing the Taliban to reclaim power[8]. Protecting women's rights was also a priority for US authorities. The Taliban had shuttered girl's schools and banned women from working, among other things, until their fall in 2001. During intra-Afghan discussions, this problem should be addressed[9].

Challenges

When a significant majority of Afghans support the peace process, many issues remain to be resolved during intra-Afghan talks, including power sharing, disarming and reintegrating Taliban militants into society, and determining the future of Afghanistan's democratic institutions and constitution. Following the February agreement between the US and the Taliban, things had already gotten off to a sluggish start. The United States and the Taliban agreed to free up to 5000 Taliban detainees in exchange for up to 1000 Afghan security personnel, although the Afghan government denied that such an agreement had been reached. The process may be hampered by a weak central authority, which is influenced by ethnic, tribal, and sectarian divisions. Many problems plagued the country's 2019 election: just 1.8 million registered voters cast ballots, polling booths were assaulted, and the results were not published for many months. When incumbent President Ashraf Ghani was proclaimed the victor, Chief Executive Abdullah Abdullah, the opposition candidate, disputed the results and announced that he would establish his own government[10].

4. CONCLUSION

Political violence is a common occurrence in human life, but terrorists using weapons of mass destruction and modern technology to threaten a civilized society is intolerable. It's a battle between those who want to destroy civilization and those who want to destroy civilization. When terrorists take advantage of the global environment, the US should take a global approach and operate globally. This war on terrorism has been going on for a long time, and it isn't easy to win.

The United States' National Strategy demonstrates that success can only be achieved via the methodical and continuous deployment of all components of national power. "Through persistent action, we will destroy global terrorist groups. Terrorists will not be given the sponsorship, support, or shelter they need to survive. We will triumph in the battle of ideas, reducing the underlying circumstances that foster despair and harmful political visions, leading people to embrace, rather than reject, terrorism. Throughout, we will use all of the tools at our disposal to protect the United States, our citizens, and our interests around the world from terrorist attacks."

The aforementioned strategies rely on the people of the United States' strength and innovation. The United States, in collaboration with its international partners, must establish a long-term mechanism to combat terrorism and facilitate cooperation and coordination. Working with those states that are capable and willing to be a full-time partner in combating terrorists both indirectly and directly, assisting weaker states in building their capacity to combat terrorism, and pressuring unwilling states to meet their terrorism-fighting obligations to the international community. The United States is steadfast in their determination to achieve their ultimate goal.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

According to experts, the Taliban is now stronger than it has ever been in the last 18 years. It has control of many districts across the country and continues to carry out major attacks, including on Afghan security bases and in Kabul, with an estimated 60,000 fighters. Its millions of dollars in revenue comes mostly from opium poppy farming and illicit drug trafficking, both of which exacerbate the peace process.

Nations bordering Afghanistan, such as Pakistan, which serves as a basis for Taliban leadership, may feel left out of the negotiations and rally against them. Furthermore, according to Afghan authorities, the danger of terrorist activity remains, with more than 20 terrorist organizations operating inside the nation. Many of these organizations are linked to al-Qaeda or the Taliban, and the Islamic State's resurgence is a cause for worry.

REFERENCES

- **1.** A. Boutton and D. B. Carter, "Fair-Weather Allies? Terrorism and the Allocation of US Foreign Aid," J. Conflict Resolut., 2014.
- **2.** M. I. Ugwueze, V. C. Onah, and C. Nwangwu, "The United States' National Interests and the Fight Against Boko Haram Terrorism in Nigeria," Mediterr. J. Soc. Sci., 2016.
- **3.** P. J. Katzenstein, "Same War Different Views: Germany, Japan, and Counterterrorism," International Organization. 2003.
- **4.** S. Peyrou, "Anti-terrorism struggle versus the protection of personal data: a European point of view on some recent transatlantic misunderstandings," J. Policing, Intell. Count. Terror., 2015.
- **5.** E. Stepanova, "Russia and the United States in the fight against terrorism (comparative threats and approaches, Syria, Afghanistan, countering violent extremism)," Pathways to Peace Secur., 2017.
- **6.** "Taking science to school: learning and teaching science in grades K-8," Choice Rev. Online, 2008.
- **7.** J. A. Khan, "War on Terror in Regional and Trans-Regional Context," J. Soc. Sci. Res., 2018.
- **8.** E. J. Dahl, "Local approaches to counterterrorism: the New York Police Department model," J. Policing, Intell. Count. Terror., 2014.
- **9.** European Parliament, "BRIEFING US counter-terrorism since 9 / 11 Trends under the Trump administration," Eur. Parliam. Res. Serv., 2018.
- **10.** T. Stahlberg and H. Lahmann, "A paradigm of prevention: Humpty Dumpty, the war on terror, and the power of preventive detention in the United States, Israel, and Europe," Am. J. Comp. Law, 2011.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

DEVELOPMENT OF ALGORITHM AND PROGRAMS FOR TWO-DIMENSIONAL FILTERING PROBLEMS OF INCOMPRESSIBLE **LIQUIDS**

Dilmurod Tuhtanazarov*

*Senior Teacher, Department of Modern ICT, International Islamic Academy of Uzbekistan, Tashkent, UZBEKISTAN. Email id: dtuxtanazarov@gmail.com

DOI: 10.5958/2249-7137.2021.02621.5

ABSTRACT

The paper presents the task of controlling the filtration process of oil and gas fields. A computer model has been created for controlling filtration processes using mathematical models of the oil and gas field development process. With the help of the created model, the permeability, viscosity, porosity and production were selected to a minimum of the differences between the computational and actual pressures. Certain optimal parameters are used for control and forecasting in the development of oil and gas fields.

KEYWORDS: Field, Control, Control Task, Oil, Gas, Model, Mathematical Model, Wells, Permeability, Filtration, Equations, Viscosity, Porosity, Reservoir.

1. INTRODUCTION

Trends in the development of the oil and gas industry imply the introduction of modern innovative ways of development that ensure economic efficiency at every stage from hydrocarbon exploration to their final implementation. The transition to an innovative way of development in the geological and oil and gas industries involves the technical re-equipment of the means of obtaining geological information, its processing, interpretation and provision for use at all stages from prospecting to the final development of deposits. One of the main stages of increasing innovative ways of developing geological exploration and development of oil and gas condensate fields is the introduction of full-scale innovative technologies for the study of the subsoil of oil and gas fields and their development. One of the main elements of this is threedimensional geological and geophysical modeling at all stages from prospecting to field development and complex processing of GIS materials based on the latest programs. A threedimensional geological and geophysical model allows a more reliable representation of the geological structure of the field, the production and refinement of hydrocarbon reserves and the preparation of the basis for hydrodynamic modeling of the field. In hydrodynamic calculations associated with the development of oil and gas fields, which are arbitrarily located in the earth's crust, one-dimensional approximations are insufficient. This largely depends on taking into account the non-uniform nature of the flow in the system of many wells. [1-10]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2. STATEMENT OF THE PROBLEM.

The mathematical formulation of a two-dimensional problem is reduced to the following. Let there be a reservoir with an area D. It is used to improve the dynamic viscosity μ . It is sealed using randomly applied wells with coordinates x and y in the mode of specified volumetric flow rates $Q_i(t)$.

Using Darcy's law, the equation of continuity and state, we obtain the power-averaged twodimensional equation of fluid filtration, taking into account internal effluents:

$$\begin{cases}
\frac{\partial}{\partial x} \left(K(x, y) \frac{\partial P(x, y, t)}{\partial x} \right) + \frac{\partial}{\partial y} \left(K(x, y) \frac{\partial P(x, y, t)}{\partial y} \right) = M(x, y) \frac{\partial P}{\partial t} + F(x, y, t) \\
\{(x, y) \in D, t > 0\}
\end{cases}$$
(1)

at the initial

$$P(x, y, t)\Big|_{t=0} = P^{0}(x, y)$$
 (2)

and the boundary condition along the contour:

$$\frac{\partial P(x, y, t)}{\partial n}\Big|_{(x, y) \in \Gamma} = 0$$

$$P(x, y, t)\Big|_{(x, y) \in \Gamma} = P_R(t)$$

where, P - is the pressure, $K = h \frac{k}{\mu}$, k - is the permeability of the formation, μ - is the viscosity of the fluid, $M = mh\beta_n^*$, h - reservoir thickness, m - porosity, β_n^* - reservoir fluid elasticity, $F = Q_i(t) \cdot \delta(x - x_i)(y - y_i)$, δ - is the Dirac delta function.

To calculate problem (1) - (3), we pass to the dimensionless variables:

$$\overline{K} = \frac{K}{K_{x}}, \quad \overline{x} = \frac{x}{L_{x}}, \quad \overline{y} = \frac{y}{L_{x}}, \quad \overline{H} = \frac{H}{H_{x}}, \quad Q = A \sum_{i=1}^{N} \delta(x - x_{i}, y - y_{i}) q_{i}, \quad t = \tau \frac{K_{x}}{\beta^{*} \cdot L^{2}}.$$
 (4)

3. SOLUTION METHOD.

To solve the dimensionless problem, we use one of the following schemes of the finite-difference method:

- 1. Longitudinal-transverse scheme [1].
- 2. Locally one-dimensional scheme [2].
- 3. Splitting [3].

To do this, cover the given area with a uniform mesh:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

$$\omega_{x,y} = \{ (x_i = i \cdot h_x, h_x = \frac{1}{N_x}, y_j = j \cdot h_y, h_y = \frac{1}{N_y}, i = \overline{1, N_x}, j = \overline{1, N_y}, \}.$$

Then the finite-difference form of the given problem will take the form

$$m_{i,j} \frac{H_{i,j}^{k+1} - H_{i,j}^{k}}{\tau} = \left(K_{i+1/2,j} \frac{H_{i+1,j}^{k} - 2H_{i,j}^{k} + H_{i-1,j}^{k}}{h_{x}^{2}}\right) + \left(K_{i,j+1/2} \frac{H_{i,j+1}^{k} - 2H_{i,j}^{k} + H_{i,j-1}^{k}}{h_{y}^{2}}\right) - Q_{i,j}.$$
 (5)

For convenience, we will write it like this:

$$A_i H_{i-1} - C_i H_i + B_i H_{i+1} = -F_i. (6)$$

To solve equation (5), we use a longitudinal-transverse scheme using the method in the version of a conventional sweep in a chain of one-dimensional equations. A_i, B_i, C_i, F_i take the following form:

$$A_{i} = B_{i} = \frac{K_{i+1/2,j}}{h_{x}^{2}}; \quad C_{i} = A_{i} + B_{i} + m_{i,j} \frac{2}{\tau}; \quad F_{i} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k} + \left(K_{i+1/2,j} \frac{H_{i,j+1}^{k} - 2H_{i,j}^{k} + H_{i,j-1}^{k}}{h_{y}^{2}} \right) - Q_{i,j},$$

$$A_{j} = B_{j} = \frac{K_{i,j+1/2}}{h_{y}^{2}}; \quad C_{j} = A_{j} + B_{j} + m_{i,j} \frac{2}{\tau}; \quad F_{j} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k+\frac{1}{2}} + \left(K_{i,j+1/2} \frac{H_{i+1,j}^{k+\frac{1}{2}} - 2H_{i,j}^{k+\frac{1}{2}} + H_{i-1,j}^{k+\frac{1}{2}}}{h_{x}^{2}} \right) - Q_{i,j}.$$

$$(7)$$

When applying the locally one-dimensional scheme, Ai, Bi, Ci, Fi take the form:

$$A_{i} = B_{i} = \frac{K_{i+1/2,j}}{h_{x}^{2}}; \quad C_{i} = A_{i} + B_{i} + m_{i,j} \frac{2}{\tau}; \quad F_{i} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k} - Q_{i,j},$$

$$A_{j} = B_{j} = \frac{K_{i,j+1/2}}{h_{y}^{2}}; \quad C_{j} = A_{j} + B_{j} + m_{i,j} \frac{2}{\tau}; \quad F_{j} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k+\frac{1}{2}} - Q_{i,j}.$$

$$(8)$$

Calculating the equations using the splitting method, we get the following sequences:

$$K_{i+1/2,j} \frac{H_{i+1,j}^{k-\frac{2}{3}} - 2H_{i,j}^{k-\frac{2}{3}} + H_{i-1,j}^{k-\frac{2}{3}}}{h_{x}^{2}} = m_{i,j} \left(\frac{H_{i,j}^{k-\frac{2}{3}} - H_{i,j}^{k-1}}{0.5\tau} \right), \quad 1) A_{i} = B_{i} = \frac{K_{i+1/2,j}}{h_{x}^{2}}; \quad C_{i} = A_{i} + B_{i} + m_{i,j} \frac{2}{\tau}; \quad F_{i} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k-1},$$

$$K_{i,j+1/2} \frac{H_{i,j+1}^{k-\frac{1}{3}} - 2H_{i,j}^{k-\frac{1}{3}} + H_{i,j-1}^{k-\frac{1}{3}}}{h_{y}^{2}} = m_{i,j} \left(\frac{H_{i,j}^{k-\frac{1}{3}} - H_{i,j}^{k-\frac{2}{3}}}{0.5\tau} \right), \quad 2) A_{j} = B_{j} = \frac{K_{i,j+1/2}}{h_{y}^{2}}; \quad C_{j} = A_{j} + B_{j} + m_{i,j} \frac{2}{\tau}; \quad F_{j} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k-\frac{2}{3}},$$

$$3) H_{i,j}^{k+\frac{1}{3}} = H_{i,j}^{k-\frac{1}{3}} + 2 \cdot \tau \cdot Q_{i,j},$$

$$K_{i,j+1/2} \frac{H_{i,j+1}^{k+\frac{2}{3}} - 2H_{i,j}^{k+\frac{2}{3}} + H_{i,j-1}^{k+\frac{2}{3}}}{h_{2}^{2}} = m_{i,j} \left(\frac{H_{i,j}^{k+\frac{2}{3}} - H_{i,j}^{k+\frac{1}{3}}}{0.5\tau} \right), \quad 4) A_{j} = B_{j} = \frac{K_{i,j+1/2}}{h_{y}^{2}}; \quad C_{j} = A_{j} + B_{j} + m_{i,j} \frac{2}{\tau}; \quad F_{j} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k+\frac{1}{3}}.$$

$$(9)$$

$$K_{i+1/2,j} \frac{H_{i+1,j}^{k+1} - 2H_{i,j}^{k+1} + H_{i-1,j}^{k+1}}{h_{1}^{2}} = m_{i,j} \left(\frac{H_{i,j}^{k+1} - H_{i,j}^{k+\frac{2}{3}}}{0.5\tau} \right), \quad 5) A_{i} = B_{i} = \frac{K_{i+1/2,j}}{h_{x}^{2}}; \quad C_{i} = A_{i} + B_{i} + m_{i,j} \frac{2}{\tau}; \quad F_{i} = m_{i,j} \frac{2}{\tau} H_{i,j}^{k+\frac{2}{3}}.$$

Algorithm for computing one-dimensional problems with a conventional sweep [4]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

$$\alpha_{0} = \lambda_{1}; \quad \beta_{0} = (1 - \lambda_{1}),$$

$$i = 0...(N_{x} - 1), \quad i = 0...(N_{y} - 1),$$

$$\alpha_{i+1} = \frac{B_{i}}{C_{i} - \alpha_{i} \cdot A_{i}}, \quad \beta_{i+1} = \frac{A_{i} \cdot \beta_{i} + F_{i}}{C_{i} - \alpha_{i} \cdot A_{i}},$$

$$i = (N_{x} - 1)...0, \quad i = (N_{y} - 1)...0,$$

$$H_{N} = \frac{(1 - \lambda_{2}) + \lambda_{2} \beta_{N}}{1 - \lambda_{2} \alpha_{N}}, \quad H_{i} = \alpha_{i+1} H_{i+1} + \beta_{i+1}.$$

$$(10)$$

Now let us consider the algorithm for solving the problem by the stream sweep method in variants of schemes I-III.

To apply streaming run, we introduce the variable $w_x = K \frac{\partial H}{\partial x}$ $w_y = K \frac{\partial H}{\partial y}$.

Then (1) takes the following form:

$$\frac{\partial w_x}{\partial x} + \frac{\partial w_y}{\partial y} = m \frac{\partial H}{\partial t} + Q. \tag{11}$$

The finite-difference form of equation (11) when calculated using the longitudinal-transverse scheme is as follows:

$$\begin{pmatrix} w_{x_{i+\frac{1}{2},j}}^{k+\frac{1}{2}} - w_{x_{i+\frac{1}{2},j}}^{k} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+\frac{1}{2}} + \frac{h}{\tau} F_{i}; \quad F_{i} = \tau \cdot \begin{pmatrix} w_{y}^{k} - w_{y}^{k} \\ Q_{i,j} - \frac{w_{y}^{k} - w_{y}^{k}}{h} \end{pmatrix} - m_{i,j} H_{i,j}^{k}, \\
\begin{pmatrix} w_{y}^{k+1} - w_{y}^{k+1} \\ w_{y}^{k+1} - w_{y}^{k+1} \\ \vdots \\ w_{i,j+\frac{1}{2}} - w_{y}^{k} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+1} + \frac{h}{\tau} F_{j}; \quad F_{j} = \tau \cdot \begin{pmatrix} Q_{i,j} - \frac{w_{x}^{k+\frac{1}{2}} - w_{x}^{k+\frac{1}{2}}}{h} \\ Q_{i,j} - \frac{w_{x}^{k+\frac{1}{2}} - w_{x}^{k+\frac{1}{2}}}{h} \end{pmatrix} - m_{i,j} H_{i,j}^{k+\frac{1}{2}}.$$

$$(12)$$

The use of calculations of the locally one-dimensional scheme leads to the following form:

$$\begin{pmatrix} w_{x_{i+\frac{1}{2},j}} - w_{x_{i-\frac{1}{2},j}} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+\frac{1}{2}} + \frac{h}{\tau} F_{i}; \quad F_{i} = \tau \cdot Q_{i,j} - m_{i,j} H_{i,j}^{k},
\begin{pmatrix} w_{y_{i,j+\frac{1}{2}}} - w_{y_{i,j-\frac{1}{2}}} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+1} + \frac{h}{\tau} F_{j}; \quad F_{j} = \tau \cdot Q_{i,j} - m_{i,j} H_{i,j}^{k+\frac{1}{2}}.$$
(13)

Now we give the sequences by the splitting method:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

$$\begin{pmatrix} w_{i+\frac{1}{2},j}^{k-\frac{2}{3}} - w_{i-\frac{1}{2},j}^{k-\frac{2}{3}} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k-\frac{2}{3}} + \frac{h}{\tau} (F_i) \quad F_i = m_{i,j} H_{i,j}^{k-1},
\begin{pmatrix} w_{i,j+\frac{1}{2}}^{k-\frac{1}{3}} - w_{i,j-\frac{1}{2}}^{k-\frac{1}{3}} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k-\frac{1}{3}} + \frac{h}{\tau} (F_j) \quad F_j = m_{i,j} H_{i,j}^{k-\frac{2}{3}},
\begin{pmatrix} w_{i,j+\frac{1}{2}}^{k-\frac{1}{3}} - w_{i,j-\frac{1}{2}}^{k-\frac{1}{3}} + 2 \cdot \tau \cdot Q_{i,j},
\begin{pmatrix} w_{i,j+\frac{1}{2}}^{k-\frac{2}{3}} - w_{i,j-\frac{1}{2}}^{k+\frac{2}{3}} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+\frac{2}{3}} + \frac{h}{\tau} (F_j) \quad F_j = m_{i,j} H_{i,j}^{k+\frac{1}{3}},
\begin{pmatrix} w_{i,j+\frac{1}{2}}^{k-1} - w_{i,j-\frac{1}{2}}^{k-1} \end{pmatrix} = m_{i,j} \frac{h}{\tau} H_{i,j}^{k+1} + \frac{h}{\tau} (F_i) \quad F_i = m_{i,j} H_{i,j}^{k+\frac{2}{3}}.$$

$$(14)$$

To calculate (12) - (14) by the stream sweep method [4], we use an algorithm of the following form:

$$\alpha_{N} = \frac{-\lambda_{2}}{0.5 \cdot \lambda_{2} + (1 - \lambda_{2})}, \quad \beta_{N} = \frac{\lambda_{2} - 0.5 \cdot \lambda_{2} * F_{N}}{0.5 \cdot \lambda_{2} + (1 - \lambda_{2})},$$

$$i = (N_{x} - 1)...0, \quad i = (N_{y} - 1)...0,$$

$$\alpha_{i} = \frac{\frac{h^{2}}{\tau} - \alpha_{i+1}}{1 + \frac{h^{2}}{\tau} - \alpha_{i+1}}, \quad \beta_{i} = \frac{\beta_{i+1} - F_{i} \left(\frac{h^{2}}{\tau} - \alpha_{i+1}\right)}{1 + \frac{h^{2}}{\tau} - \alpha_{i+1}},$$

$$H_{0} = \frac{\frac{h}{\tau} \cdot \lambda_{1} \cdot \beta_{0} - \gamma_{1} \cdot \left(\alpha_{0} - \frac{h^{2}}{\tau}\right) - 0.5 \frac{h}{\tau} \lambda_{1} \cdot F_{0} \cdot \left(\alpha_{0} - \frac{h^{2}}{\tau}\right)}{\left((1 - \lambda_{1}) - 0.5 \cdot \frac{h}{\tau} \lambda_{1}\right) \cdot \left(\alpha_{0} - \frac{h^{2}}{\tau}\right) + \frac{h}{\tau} \lambda_{1}},$$

$$i = 0...(N_{x} - 1), \quad i = 0...(N_{y} - 1),$$

$$H_{i+1} = \left(\frac{\alpha_{i+1}}{\frac{h^{2}}{\tau} - \alpha_{i+1}}\right) \cdot \left(\beta_{i+1} - H_{i}\right) + \beta_{i+1}.$$

$$(15)$$

4. COMPUTATIONAL EXPERIMENT.

Let's check the accuracy of the algorithms created using the data given below. Let's create results for each method using programs using the Delphi programming language. An oil reservoir has a length and width $0 \le x, y \le 1000$ M, constant thickness h = 50 M, viscosity $\mu = 2$ and initial reservoir pressure $P_0 = 25$ Atm.

The reservoir is being developed by 5 wells. Table 1 shows the pressure field at t = 1800 days.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 1								
25.00	25.00	24.99	24.96	24.97	25.00	25.00	25.00	
25.00	24.98	24.83	24.81	24.83	25.00	25.00	25.00	
24.99	24.84	23.77	24.49	23.77	24.83	24.97	25.00	
24.99	24.82	24.49	22.96	24.49	24.82	24.96	25.00	
25.00	24.84	23.77	24.49	23.78	24.86	24.99	25.00	
25.00	24.95	24.82	24.81	24.84	25.00	25.00	25.00	
25.00	25.00	24.97	24.96	24.97	25.00	25.00	25.00	

Figure 1 shows the view of the considered region D, and Fig. 2 shows the isoline of the pressure field at t = 1800 days.

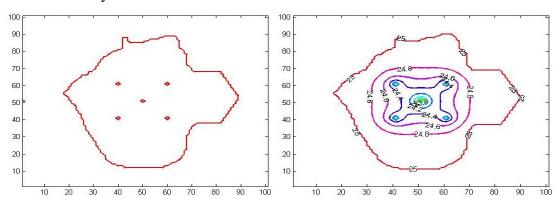


Figure 1. area D.

Figure 2. Isoline of the pressure field at t = 1800 days.

5. CONCLUSION

In conclusion, the most effective way to calculate the problem of two-dimensional liquid filtration is to apply the flow drive to the locally one-dimensional scheme. Because by applying this combination it is possible to reduce the calculation time by reducing the calculations and results close to other methods are achieved.

REFERENCES

- **1.** Konovalov AN. Filtration problems for multiphase incompressible fluid. Novosibirsk: Nauka, 1988. 165 p.
- **2.** Samarskiy AA. Introduction to the theory of difference schemes. Moscow: Nauka, 1971. 550 p.
- **3.** Tuhtanazarov D, Xolmatova I, Abdulbosit K. Model And Algorithm For Solving One-Dimensional Two-Phase Of Filtration Task. In 2019 International Conference on Information Science and Communications Technologies (ICISCT) 2019. pp.1-5.
- **4.** Mirzaev S, Tukhtanazarov D, Karimova K, & Samadov N. Software for Determining Residual Oil Reserves in Oil Deposit Development. In IOP Conference Series: Materials Science and Engineering. 2020;883(1):012119.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **5.** Tukhtanazarov DS. Models for process management of developing oil and gas fields. Problems of Computational and Applied Mathematics, 2017;(2):41-46.
- **6.** Tukhtanazarov DS, Sunnatov MS. Computational algorithm and program for determining well performance based on processing information from oil fields. In Modern technologies in oil and gas business. 2018. pp. 315-318.
- **7.** Alimov I, Pirnazarova TE, Tukhtanazarov DS. Computational algorithm and software for determining residual oil reserves in the development of oil fields. Problems of Computational and Applied Mathematics, 2016;(4):95-99.
- **8.** Pirnazarova TE, Tukhtanazarov DS. Mathematical modeling of two-dimensional problems of filtration of incompressible fluids. In Informatics: Problems, Methodology, Technology. 2015. pp. 374-376.
- **9.** Dadamukhamedov AI. Virtual Youth Game "Blue Whale" Risk Elimination. Actual scientific research in the modern world, 2017;(3-2):138-142.
- **10.** Dadamuxamedov A, Mavlyuda X, Turdali J. Cloud technologies in islamic education institutions. ACADEMICIA: An International Multidisciplinary Research Journal, 2020;10(8):542-557.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ON THE POETRY OF OMON MATJON

Pirnazarova Manzura Matnazarovna*

*Faculty of Philology,
Department of Uzbek Literature, Urgench State University,
Urgench, UZBEKISTAN
Email id: manzuramatnazarovna@gmail.com

DOI: 10.5958/2249-7137.2021.02622.7

ABSTRACT

A sensitive artist Omon Matjon has gained the hearts of the people. From the day of the publication of his first works, "Ochiq oynalar" (Open Windows) in 1970, the poet was warmly received by the poets and had a special place in Uzbek poetry.

KEYWORDS: Poetry, Creativity, Image, Literature, Talent, Artistic Skill, Principle, Beauty.

1. INTRODUCTION

Meanwhile, the poet with more than forty years of creative experience and work has published poetic, prose, and dramatic books as "Karvon qo'nghiroghi" (Jingle bells of Caravan, 1973), "Quyosh soati" (The Sun-dail, 1974), "Dramatik dostonlar" (Dramatic Epics, 1975), "Yonayotgan daraxt" (Burning Tree, 1976), "Yarador chaqmoq" (Wounded lightning, 1977), "Haqqush qichqirighi(The Scream of the Hawk", 1979), "Seni yaxshi ko'raman" (I Love You, 1981), "Daraxtlar va giyohlar kitobi" (The Book of Trees and Herbs,1984), "Gaplashadigan vaqtlar (Talking Times, 1986), "Ming bir yog'du" (A Thousand and One Light", 1989), "O'rtamizda birgina olma" (A Single Apple between Us, 1990), "Odamning soyasi quyoshga tushdi" (The Shadow of Man on the Sun,1991), "Qush yo'li (Bird's Route,1993), "Iymon yoghdusi"(Light of Faith,1995), "Diydor Aziz" (Divine Dating,2011), "Khaloskor ruh" (Savior Soul, 2012). Following Erkin Vahidov and Abdulla Aripov, the creator became a great poet. We can observe the tide of creative thinking saturated with passionate emotions in the lyrics of Omon Matjon. When we read the works of the poet, we can see that he glorified the goodness, hatred of injustice, spiritual beauty, devotion to goodness, love of nature, devotion to friendship, love, and the beauties of life in general. Omon Matjon presented his poems and dramatic epics about the distant past of Khorezm. The epic "A Thousand and One Lights", which was warmly received by the general public, delights the reader with its poetic interpretation of the priceless treasure of Hazrat Navoi. Along with lyrical poems, the poet has created rich works in the genres of lyrical short stories and dramatic epics. As we enjoy the work of Omon Matjon, we can see and feel the poet's firm and fierce sparks of hope longing and suffering in path for freedom, independence. We can observe the image of a vivid expression of the spirit of the period. Literary scholar Ulugbek Hamdam rightly noted that the generation of the poetry of the 60s enriched the Uzbek social poetry with the social problems of the time, as well as reinterpreted its traditional themes, in particular, the themes of the Motherland and the common people. We think that when the scientist says the generation of the 60s, he also means the work of the poet Omon Matjon certainly. [1-6]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

There was a desire to understand the events, people's lives and destinies and draw conclusions in poet's lyrics philosophically. He encouraged the poet to think sincerely in the early stages of his career, but later he called for philosophical observation about life and people, about life. It is well known that poetry in the true sense arises from the harmony of the poet's thoughts and feelings, and in this case the harmonization is manifested in a single unity, which is a characteristic feature of the poetic image. Any poem is not free from thoughts and feelings. Therefore, the content of the poem desirably should have acquired a universal content in order to have a philosophical significance for the reader. To prove our point, let us turn to the poems of the poet:

In Uzbek:

"Bu - yolghon!" – kokrakka mushtladi kimdir.

"Yolghon bu..." ingrandi kimdir baghri qon.

"Hm-m...yolghon" ishshaydi borov nechundyr

Kim "Ha, yolghon!" dedi. Kimdir "Yoq, yolghon!"

Biri "Yolghon!" deya ketdi erka, to`q.

Biri "Yolghonchi!" deb ohista ko`ndi.

Shundoq bitta rost so`z aytilguncha

Kim qancha jonlarning umidi so`ndi.

English interpretation:

"This is a lie!" - Someone punched on his own chest.

"It's a lie ..." someone groaned.

"Hmmm ... that's a lie," someone said

Who said, "Yes, that's a lie!" he said.

Someone said, "No, that's a lie!"

One said, "Lie!" said the man, darkly.

One said, "Liar!" he agreed softly.

As long as one true word is said

How many souls have lost hope

In the above poem, Omon Matjon tries to highlight the issue of purity of conscience and injustice in the main theme, the fact that the thought in each line has a vital basis ensures the naturalness of the emotional movement, i.e. the creator highlights a clear picture of justice and injustice in life: In Uzbek: 'Qadimdan bir yurtning nodon haqoni Varrak kashf etganning to kibdi qonin. English interpretation: In ancient times, the ignorant governor of a country ordered to shed the blood of the creator of the kite". The real scene is reflected in our imagination by such verses. The fact that the basis of the processes of reality in life depends on the relationships and activities of people, reveals that they are created by people themselves. [6]

In Uzbek:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

"Eh, bir shayton urdi", deysan har safar,

O'zingga olmaysan aybni hech mahal.

Mundoq qarab tursam butun vujuding

Shaytanatga o'nglab qurilgan shahar.

English interpretation:

"Oh, the devil went astray", -you say every time,

You never feel guiltyabout your sin

I think observing your whole body

It's a city built for the Devil's kingdom.

In Uzbek: "Tenglik yo'q joylarda yomondir qismat,Tili omon bo'lsa o'lmaydi millat." English interpretation: Where there is no equality, the fate is bad, if the language survives, the nation will not die.

Apparently, the poet feels a constant spiritual responsibility to society and people in his poem,. The sense of responsibility encourages the poet to look for the spiritual and social foundations of good and evil in his poems: Omon Matjon uses the poetic words in a unique way. The poet uses the word in such a way that its meaning seems expanded in reader's mind. The poetic expression became more understandable as a result of the fact that the meaning and expression were under the influence of the living language of the people in the above lines, which seemed to warn the man himself from the degrading actions of the wicked man. As a poet with awakened spirit, he wrote in order to purify the world, the hearts of the people. Omon Matjon lived in disagreement with the evil in human behavior. The following lines of him testify it:

In Uzbek:

Ters fe'lli kimsalar kimning zuryodi,

Tag'in har birining bordir ustodi!

Pokdil el "Yo haq!" deb ruju qilganda

Bularning nimada bo'larkan yodi!

English interpretation:

Whose offspring are those whose behaves badly,

Moreover, everyone has own master!

I've no idea what these people think about,

When downright people ask for the truth, "Oh, Godl!"

The poet's heart is never satisfied, as for the shortcomings of human behavior. The philosophical thoughts in the poems of Omon Matjon arise from vital facts. Especially when the artist observes life, the processes of reality, his contemporaries, he thinks and creates emotionally rich qualities of human life, the beauties of life associated with his spiritual beauty. Of course, it is from these mental states that philosophical thought emerges.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In Uzbek:

Bu g'urbat dashtidan nechuk o'tdim men,

Kimlarga ishonib jadal etdim men?!

Izimga qarasam jilmayib turgan

Ishq bilan Imonni idrok etdim men.

English interpretation:

How could I pass through this desert of pain,

Whom did I trust and act in advance?!

Looking back I could see the smiling face of

The Faith with the Love only.

The poet-creator wants to free people from the cage of lust and to be perfect. There is a desire to understand life and realityin every distich of the poet's verse and poetry, the truth of the soul. Literary critic Q.Yuldashev says: "It is known that no matter what image the artist draws, he actually describes himself. The world doesn't seem to everyone as it is, but what the state and mood of a person is, the world seems him like that." Observing Omon Matjon's collection of quatrains, commonly referred to as "Short Conversations", we found out that it is characteristic of the poet to draw general conclusions about social reality, the life of a person and life in general sense from a small life detail.

In Uzbek:

Qay kuni sinchiklab boqdim bir qushga:

Nafsi deb tutildi olako'z Moshga!

Ming shukur, xudoyim, qorin bermabsan

Mendagi qanotli xayolga – hushga!

English interpretation:

Once I kept an eye on a bird:

That was caught by the cat in the act for lust!

Thank goodness you didn't give a belly

To my winged wish, and endless desire!

Such qualities as goodness, spirituality, and perfection in the nature of people are prominent in Omon Matjon's poetry. The lyrical hero in the poet's interpretation is embodied in the image of our contemporaries, who embody the radiant qualities of the people of the nation, such as kindness and beauty. E.g. (In Uzbek) Yashash, bu - umrning gulgun damlarin El uchun yashamoq, el uchun bermoq. English interpretation: Living means living for and devoting your life in blossom to your homeland.

The image of human-being embodied in the poems of Omon Matjon is interspersed with philosophical observations about the essence of life, the role of a human in life, nature and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

society. This written piece is especially aimed at describing the experiences and lives of our contemporaries in a troubled and restless world: In Uzbek: Daryoni opichib turgan tog'u tosh Bari dard bilgan bir odamcha yo'qdir English interpretation: Even the mount rock holding the river over his shoulders cannot stand for the agony of a single man. Topics such as the beauty of the hearts of great and ordinary people, their connection with time, life, people, people's destiny and future, their duty to the motherland determine the main content of the poet's work. [3]

Apparently, one of the important factors determining Omon Matjon's poetic style is his inner drama, which consists of deep and wise thoughts.. According to literary critic M. Kochkarova's article, the poet owns a deep knowledge of the history, culture, customs, folklore, history of other nations, in a word, great knowledge and thinking. These edges appear vivid in the examples cited above from the poet's work. Literary critic Umarali Normatov described him as "Omon is a globe-trotter poet." We know that the poet is a creator who has seen many worlds, met many people, deeply felt their life, pain and suffering in our mind. The closeness to the people, symbolism, sociality, the poetic expression of the broad image of the prose, the truthfulness, the bold expression of the tragedies of the time, the human suffering are vividly demonstrated in the poems of Omon Matjon. We can see that these cases are clearly manifested in the poetic narration such as "Gaplashadigan vaqtlar (Talking times", dramatic, philosophical, historical epics "Pahlavon Mahmud", "Khorazmiyning tort sayohati va sakkiz bashorati(The Four Travels and Eight Prophecies of Khorezmi), "Toghon(Dam)", "Haqqush qichqirighi (Scream of the Hawk), the tragedy "Najmiddin Kubro", the short story "Turabekakhanim" of the poet.

As a skilled translator, Omon Matjon translated works by Schiller, Baudelaire, Evgeny Evtushenko, Rasul Hamazatov, Justinas Martsinyakivichyus, Shandor Petefi, Berdi Kerboboev, Suhrob Tohir, and Ibrayim Yusupov. In general, our people are proud of the poet of our nation, who stands out in the Uzbek poetry of the new era with his voice and his style of writing.

REFERENCES

- **1.** Artyunova ND. Metaphor and discourse. (in Russian) Метафора и дискурс. Теория метафоры. М. 1990. р 5 –51.
- **2.** Umurkulov B. The lexis if Poetic Speech. (In Uzbek). Поэтик нутк лексикаси. Tashkent, 1990. p.109.
- **3.** Matjon O. Ming bir yog'du. Toshkent. G'afur G'ulom nomidagi adabiyot va san'at nashriyoti, 1989. 9.
- **4.** Qo'chqorova M. O'zim-o'z qalbimning bo'lsam Kolumbi. Sharq yulduzi. 2013;(1).
- **5.** Qozoqboy Yo'ldosh. So'z yolqini. G'afur G'ulom nomidagi nashriyot-matbaaijodiy uyi, 2018. 117p.
- **6.** Matjon O. Iymon yog'dusi. G'afur G'ulom nomidagi adabiyot va san'at nashriyoti, 1995. 20p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DEVELOPMENT OF AN ORDER FLOW MANAGEMENT INFRASTRUCTURE IN THE FORMATION OF A RELIGIOUS DATABASE

Alimjon Dadamuxamedov*

*Senior Teacher,
"Department of Modern ICT",
International Islamic Academy Of Uzbekistan,
Tashkent, UZBEKISTAN
Email id: a.dadamuhamedov@iiau.uz

DOI: 10.5958/2249-7137.2021.02624.0

ABSTRACT

The article suggests the use of replication methods to increase the reliability and optimal presentation of data stored in distributed information systems of a religious database. The software architecture of the replication mechanism determines the interaction of software components in the process of exchanging information with a separate node of the system. In the context of parallel operation of the server with many client applications, the operation of a system with such an architecture is considered. The problems that arise and ways to solve them are also considered and suggested.

KEYWORDS: Religious Database. Replication, Distributed Information System, Query Intensity, Telecommunication Network, Datacenter,

INTRODUCTION

E. Tanenbaum in his book "Distributed Systems. The fundamental monograph "Ideas and Principles" [1] describes the distributed system as follows:"A distributed system is an interconnected set of independent computers using communication channels, which is viewed from the user's point of view as a single system based on special software."It is known that the level of practical logic and the level of data access perform the functions required by the software components to work with the set of applications that make up the system. A set of client components on the server automatically creates a set of copies of software components during simultaneous operation. A similar confirmation can be added to the simultaneous running account of the application using the replication mechanism function. Activating copies of application layer components involves activating copies of data entry layer components.

The recent data warehouse explosion has led to the development of innovative systems for large-scale data processing. In processing BigData databases, Google Megastore and other systems have been introduced to process large amounts of data across data center boundaries. However, most transactional databases are less than 1-2 TB in size, which shows that data overgrowth is not a mandatory requirement for small and medium enterprises. Modern applications that are currently in use tend to experience the rapid growth and variability of users due to the advent of the internet and devices connected to the internet. Therefore, the increase in workload volume,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

i.e., the ability to meet the increasing demands of the workload, as well as support the flexibility to process changes in these workloads, is critical for existing database samples[2].

LITERATURE REVIEW

The strategy we used to create the search strings was as follows [3]: • finding papers about distributed information system. • Listing keywords mentioned in primary studies, which we knew about. • Use synonyms word (usage) and sub subjects of network technology in data replications such as (distributed information system, database, replication, query intensity, telecommunication network, datacenter). • Use the Boolean OR to incorporate alternative spellings and synonyms. • Use the Boolean AND to link the major terms from population, intervention, and outcome. The complete search string initially used for the searching of the literature was as follows: network technology AND data replications. It has been highlighted in [4] that there are two main issues on conducting an SLR search which are the sensitivity and specificity of the search. In our preliminary search, when we used the complete search string defined above we retrieved a very high number of articles. For instance, Google scholar, Scopus, ProOuest education, IEEEXplore, Science Direct, Springer Link retrieved more than two hundred results. Therefore, we have deepened our search and used this search string: (Adoption OR Usage)AND (religious database. OR database) AND (query intensityOR telecommunication network). The revised search string has given us a reasonable number of studies and we finally selected relevant empirical studies

THE MAIN PART

Reliability of information storage and functional stability of servers within distributed databases are one of the main factors determining the quality of modern distributed systems. A common way to protect yourself from data loss is to back up these databases. When data is lost from memory for a variety of reasons, the availability of a backup allows the database to be restored quickly. The backup process does not require additional hardware to be added to the system, as backups can be made on the server itself or on external storage media [5].

In this case, each group of copies of components activated by one application is installed in the database as shown in Figure 1.1. Thus, there is no limit to the number of components that can be activated, leading to an uncontrolled increase in the number of active connections to the database.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

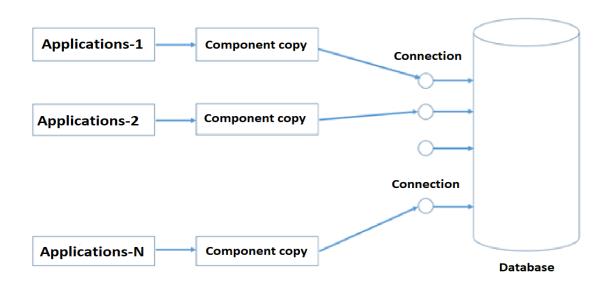


Figure 1.1 (install each group of copies of activated components in the database)

Any combination of a client application with a database server will, firstly allocate additional memory space and secondly the load on the server's computing resources will increase as the number of active connections running in parallel increases. As a result when the number of active connections increases to a certain critical level, there is a significant decrease in the efficiency of the database server. The development of large-scale distribution computing systems is based on the inefficiency of the client-server architecture. One of the conditions for the rapid operation of the system is to limit the number of active connections to the database [6-9].

SOLUTIONS METHOD

In addition, an unlimited increase in the number of running components reflects an increase in the number of active database transactions, which can negatively affect the stability of the system. The nature of this effect can be assessed by considering the following model. Suppose there is a database of m tables. There are n active transactions for writing and K transactions for reading in this database. We assume that each transaction works in a single table from its database.

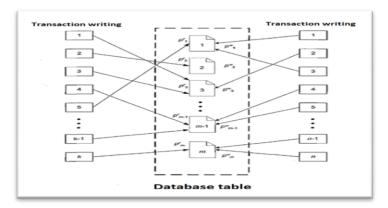


Figure 1.2 cannot be considered inconsistent.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As you know read and write transactions are generated in different encryption databases as shown in Table 1.1.

Transaction type)		Reading	Writing
Concealment rate			A range of keys in individual	Tables, indices
			records and indexes	
Compatibility	with	readable	Yes	possible
transactions				
Compatibility	with	writing	possible	No
transaction				

TABLE 1.1.

We enter probabilities for each table in the database and

$$\sum_{i=1}^{m} p_{i}^{r} = 1, \quad (1.1.1)$$

$$\sum_{i=0}^{m} p_{i}^{r} = 1, \quad (1.1.2)$$

In that p_t^r i-the probability that a newly started transaction to read the table will apply, p_t^r - in that 1-corresponds to the probability that a newly started transaction will apply to the record in the table. The distribution of tables between transactions is considered non-contradictory if no transaction between n transactions in writing refers to a table that uses at least one transaction in writing or reading at that time. Example of non-contradictory distribution. The distribution shown in Figure 1.2 cannot be considered inconsistent [10,11].

Let us consider the relationship property of the probability of a non-contradictory distribution obtained from the parameters m, n and k. We denote this probability by P(k, n, m). The case is maintained if k transactions only work with tables remaining n = m. The general expression for the probability of non-contradictory combinations in an equally probabilistic selection of tables is as follows.

$$P(0, m, m) = \prod_{i=1}^{m} p_{i}^{w}.$$
 (1.1.3)

Since all tables are engaged in write operations, the occurrence of at least one read transaction leads to a conflicting situation in this case. If N=1, if all the read transactions distribute the m-1 tables in any way, the situation is conflict-free, except for a single table involved in the status recording operation. The probability of this distribution is as follows

$$P(k,1,m) = \sum_{i=1}^{m} p_{i}^{w} \left[1 - (p_{i}^{w})^{k} \right].$$
 (1.1.4)

1 <n <m has non-conflict distribution options $\binom{m}{n}$ tables between write operations. If the read transactions split the remaining m - n tables, a conflict-free situation is maintained.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

If $p^r_i = p^w_i = \frac{1}{m}$, $1 \le i \le m$, then the problem of finding the probability m of the distribution of tables between operations to write combinations is not reduced to the problem of selection by regression. As shown in [12], $\left(\frac{m}{n}\right)$

There is a repetitive selection of N objects with a total number of possible combinations of M equal to M.Thus, for each record, the probability of distributing disputes for transactions is equal.

Tables
$$p^{i}(0, n.m) = \frac{\frac{m}{n}}{m^{n}} = \frac{1}{m^{n}} \square \frac{m!}{n!(m-n)!} = \frac{1}{m^{n}} \square \frac{(n+1)...(m-1)m}{(m-n)!}.$$
 (1.1.5)

If the read transactions only work with the remaining m-n tables, a conflict-free situation is maintained. Therefore, the general expression for the probability of a non-collision combination with the selection of tables with the same probability looks as follows:

$$P^{i}(k, n.m) = \frac{(m-n)^{k}}{m^{k}} \square \frac{1}{m^{n}} \square \frac{(n+1)...(m-1)m}{(m-n)!} = \frac{(m-n)^{k}}{m^{n+k}} \square \frac{(n+1)...(m-1)m}{(m-n)!}.$$
 (1.1.6)

For each table, as mentioned above $\{p^r_i\}_i^m$ and $\{p^w_i\}_i^n$ if the specific values of the probabilities are determined, then the probability of a conflict-free combination is calculated as follows: P(k, n,m) = P(A)P(B) =

$$=\sum_{i=1}^{m-n+1} p_{i}^{w} \sum_{j=i+1}^{m-n+2} p_{j}^{w} \sum_{l=j+1}^{m-n+3} p_{l}^{w} ... \sum_{u=i+1}^{m} p_{u}^{w} \left[\sum_{\substack{v \neq i, \\ v \neq j, \\ v \neq i, \\ \dots \\ v \neq u}} p_{v}^{r}\right], \quad (1.1.7)$$

In this case, the events representing the transactions in records A and B are distributed without intersections, and the transactions in the reading work with the remaining m-n tables.

The ratio (1.1.5) - (1.1.7) allows us to conclude that the probability of distribution without contradictions quickly disappears as we approach n m. (1.1.5), (1.1.6) grow much faster than n in the relationship. (1.1.7). The probability of a non-contradictory distribution decreases with increasing n.In this model, even under the influence of n parameters, the stability of the system is much more importan.

Limiting the number of self-active transactions is an important condition for ensuring the stability of the system. Thus, in order to ensure high efficiency of the server part of the system in the mass operation of client applications, two problems need to be solved:

- 1. Enable a set of client applications to work with a limited number of active connections to the database
- 2. Limit and control the number of active transactions in the database.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The problem of limiting the number of active combinations with the database [13,14] can be solved in two ways.

- By setting the maximum number of connections that can be used in the BD server settings
- By creating a set of associations with a specially organized set of components used by the objects to access the data when accessing the BD.

The disadvantage of these methods is that any new task that attempts to access the database while all connections are running will be rejected. This option is much preferred in the mass work environment of client applications. A message sequence should be used to organize such a scheme of work.

Using the message queue allows the client module and server components to interact asynchronously. By queuing the message, the client module takes control immediately. It can wait for the results of the message to be processed as needed, or continue to work on a state-of-the-art basis. If the required system resources are available at the time of queuing, the order will be processed immediately. The asynchronous type of interaction is required for the client module primarily if the system notifies the server part of certain events and the outcome of server operations is not critical to system performance. For example, in the case of a replication distribution mechanism, asynchronous interaction is used at the stage of recording evidence of uploading updated information about an object in a local database.

The client application does not have to wait for the server to confirm that the data storage evidence has been successfully recorded in the central database. An interruption in this operation will result in the object data being re-uploaded to the workstation during the next update session. At this time, asynchronous interaction involves ways to notify the server of an interruption in the execution of an order if the interruption is critical to the operation of the system [13].

While the client application expects to receive certain information from the server as a result of message processing, it is advisable to develop a compromise option that combines both synchronous and asynchronous interaction features. Its essence is that after the server sends a message to the queue, the client application for a predetermined period of time, firstly a confirmation that the message was successfully queued, and secondly, a confirmation that the server has started processing the message, the third waits for the results of the operation. When any of the three listed breaks is completed, the operation is considered invalid and the application user receives an appropriate error message.

The main stages of the client module operation in the interaction with the server are described in the status diagram shown in Figure 3.5. The duration of the waiting period for each stage of the work is set individually depending on the operating conditions of the system.

The second task is to limit the number of objects to be activated in the system, taking into account that excessive reduction of the maximum allowable number of objects to be activated leads to an unwanted reduction in the bandwidth of the system. This leads to a rapid accumulation of orders in the queue, which leads to an increase in the time of the order in the system and the response time. To optimally solve this problem, it is recommended to use a two-factor decomposition of a set of practical components in the system.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The first factor is the functional orientation of the components. In a multifunctional database system, as a rule, information is collected that belongs to different subsystems. Tables containing this information form a set of groups that are independent of each other. Based on the analysis of the practical logic of the components, they can be divided into appropriate functional groups. This division allows you to minimize the number of possible conflicts between components during data access.

The second factor in decomposition is the way the database components are accessed: read or write. As mentioned above, to increase the stability of the system, it is necessary to limit the number of transactions running in parallel in writing, which leads to a limit on the number of activated components running in writing.

Based on the results of the two-factor decomposition, component packages are formed, on the basis of which server applications are created. Server applications represent multi-threaded processes that process incoming messages. The number of streams in a process determines the number of copies of practical components received from a single component packet, which in turn determines the limit number of connections used by the database.

By summarizing the above, it is possible to form a generalized approach to the decomposition of a set of components of the practical level of the system. It includes the following main steps:

- 1. Separating logically separated pieces of information from a system database
- **2.** Divide the set of practical components of the system into groups corresponding to the allocated information subsystems
- **3.** Separate the components of each group according to the form of operations performed on the data
- **4.** Formation of component packages based on the performed decomposition
- **5.** Defining the scope of server applications that manage component packages.

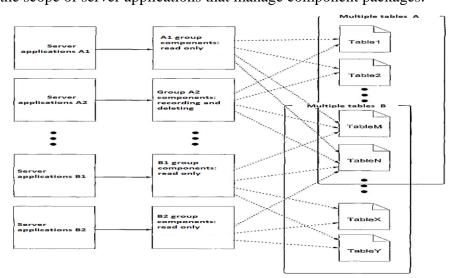


Figure 1.6(cross-section of logical subset sets of database tables)

An important condition for system efficiency when using this approach is the low cross-section of logical subset sets of database tables. In the example of the scheme shown in Figure 1.6, this condition can be expressed as follows:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

$$\Box = A \cap B,$$

$$\dim(C) \Box \dim(A),$$

$$\dim(C) \Box \dim(B).$$
(1.1.8)

In the example of the architecture of the data replication mechanism discussed earlier, we consider the use of two-factor decomposition of components. According to this scheme, the components of SourseTable1 SourseTableN refer to the database only for reading data. The RegUpdate component performs reverse write operations. The Fetcher application level component is read-only, and the Registrar is a group of components that work with data from subset sets of tables. Components that work with other sub-collections are grouped separately while maintaining read-write constraints [14].

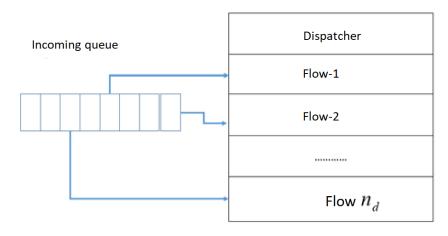
RESULTS

To organize the work of a set of server applications, a multi-channel process is implemented in the system structure, which performs multi-channel processing of incoming messages, which are then redirected to the server applications. During start-up, the dispatcher must define the following configuration parameters:

- The amount of identifying information in the queue
- Parallel execution flows of processing for each queue
- Criteria for choosing the direction of forwarding incoming messages

Adjusting the number of incoming messages allows you to ensure high flexibility of the dispatcher to the system environment. Normally, a single queue that receives messages from all applications will suffice to organize the interaction of a client module with a level of practical logic. In the case of integration of several functional subsystems into a single core of practical logic, there may be a need to create an additional queue. To avoid the need to include a separate dispatcher for each queue, it is recommended to consider the possibility of parallel processing of several queues within one dispatcher.

It is recommended that server applications use a range of message codes as a criterion for choosing a forwarding route. A schematic of the order flow management infrastructure structured taking into account the above is shown in Figure 1.7.



ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

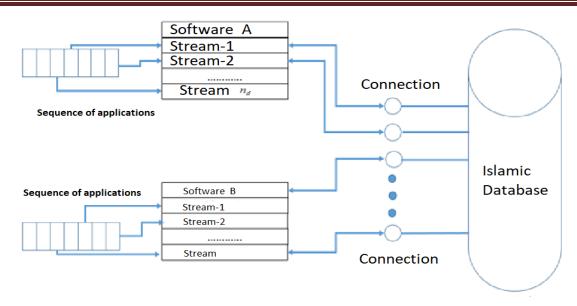


Figure 1.7. (A schematic of the order flow management infrastructure)

The proposed approach to the organization of public service infrastructure within the level of practical logic is more universal. For example, server applications can manage both local nodes and component packages installed on a database server. The placement of the incoming message dispatcher is optional. It can be extended in the server node or in the server application.

CONCLUSION

As a replication-based mediation system, it can provide workload scalability for existing databases without compromising consistency. The parallel replication algorithm allows faster access to extension databases, the routing algorithm prevents delay by redirecting the read data to sequential replications. We believe that automated flexibility and cloud-based innovation can be the basis for exciting research.

The described principle of building a public service system has the following advantages:

- 1. Universality and flexibility to system environment conditions
- 2. Ability to control the number of activated copies of components
- 3. Minimize the risks associated with parallel flow collisions when accessing resources
- 4. Provide queue processing at high intensities.

REFERENCES

- **1.** Tanenbaum E, Van-Steen M. Distributed system. Principles and pa-radigmy. Spb.: Peter, 2003. P.877.
- **2.** Georgiou M, Panayiotou M, Odysseos L, Paphitis A, Sirivianos M, Herodotou H. Attaining Workload Scalability and Strong Consistency for Replicated Databases with Hihooi. Proceedings of the International Conference on Management of Data. 2021
- **3.** Belousov VE. Algorithms of replication of data in distributed systems of information processing (Doctoral dissertation, Penza: PGU, 2005. 184 p..

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Nishonboev T. Software Configured Networks. Study Guide. (Griffith). TUIT printing house named after Muhammad al-Khwarizmi. 2017 (p. 186)
- **5.** Nishanbayev TN,, Abdullayev MM,, Maxmudov SO. The model of forming the structure of the 'cloud' data center. International Conference on Information Science and Communications Technologies: Applications, Trends and Opportunities, ICISCT 2019.
- **6.** Belousov V E. Algorithms of replication of data in distributed systems-max processing of information. Int mat: http://diss.rsl.ru/diss/05/0591/050591031pdf.
- 7. Irgashevich DA. Development of national network and corporate networks (in the case of Tas-IX network). International Journal of Human Computing Studies. 2019;1(1):1-5.
- **8.** Irgashevich DA. Development of national network (tas-ix). ACADEMICIA: An International Multidisciplinary Research Journal, 2020;10(5):144-151.
- **9.** Dadamuhamedov IA. Cloud technologies in islamic education institutions. The Light of Islam, 2020;2 (23).
- **10.** Dadamuxamedov A, Mavlyuda X, Turdali J. Cloud technologies in islamic education institutions. ACADEMICIA: An International Multidisciplinary Research Journal. 2020;10(8):542-557.
- **11.** Dadamuxamedov A. The impact of online communication on youth education. International Engineering Journal For Research & Development, 2020;5(6):10.
- **12.** Jumayev TS, Mirzayev NS, Makhkamov AS. Algorithms for segmentation of color images based on the allocation of strongly coupled elements. Studies of technical sciences. 2015; 4: 22-27.
- **13.** Abdujabborovich MA. Human personal identification algorithms from the image of the ear. International Engineering Journal For Research & Development, 2020;5(6):5-5.
- **14.** Тухтаназаров ДС. Computer models for process management of developing oil and gas fields. Проблемы вычислительной и прикладной математики, 2017;(2):41-46.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

MODERN APPROACHES TO PERINATAL DISEASE IN DIABETES IN PREGNANT WOMEN

Karimov R.X*; Tursunov X.Z**; Ruzmetova D.T***

*Assistant,

Department of Pathomorphology, Urgench branch of the Tashkent Medical Academy, Tashkent, UZBEKISTAN Email id: karimov.r.x00@mail.ru

** Professor,

Department of Pathological Anatomy, Tashkent Medical Academy, Tashkent, UZBEKISTAN

***Assistant,

Department of Obstetrics and Gynecology, Urgench branch of the Tashkent Medical Academy, Tashkent, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02623.9

ABSTRACT

According to the US National Institute on Maternal and Child Health, diabetes accounts for about 4% of pregnancies that result in live births. Diabetes is one of the most common diseases in the age of civilization. At present, its prevalence among the population has reached the level of epidemic diseases, reaching 1-8.6%. According to statistical studies, the doubling of the number of people with diabetes every 10-15 years has made this pathology one of the most pressing problems in the medical and social spheres.

KEYWORDS: Pregnancy, Immaturity, Diabetes, Diabetic Embryophetopathy, Diabetic Fetopathy, Embryonapanopathy, Respiratory Distress Syndrome, Hyperglycemia, Fibroplast.

1. INTRODUCTION

Disorders of carbohydrate metabolism, which cause pathological changes in the fetus and newborn during pregnancy, are divided into two main groups: 1) Pre-pregnancy type 1-2 diabetes. 2) Pregnancy diabetes mellitus or individual diabetes mellitus, which in some women is characterized by hyperglycemia that occurs during pregnancy and usually disappears spontaneously after childbirth.

Gestational diabetes is characterized by the following risk factors: obesity, susceptibility to skin and urinary tract infections, birth of overweight children, pathological conditions of previous pregnancies, the presence of birth defects and perinatal death. Among all endocrine diseases, diabetes negatively affects the development of pregnancy and causes complications, adversely affecting the internal development of the fetus and the ability of the newborn to adapt. According to the U.S. National Institute on Maternal and Child Health, diabetes accounts for about 4 percent of pregnancies that result in live births. Of these, 80% were for women with gestational

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

diabetes, 8% for type 2 diabetes and 4% for type 1 diabetes. Between 50,000 and 150,000 children are born with diabetes mellitus. Diabetes mellitus is more common in Asian, Indian and Central Asian women [1, 2].

About 75-85% of pre-diabetic women experience various complications of pregnancy. If the mother has type 1 diabetes, diabetic embrionopathopathy is present in 75% of newborns [9].

Fetopathy occurs in 25% of fetuses of mothers with gestational diabetes. The prevalence of diabetic fetopathy in boys and girls is approximately the same. The incidence of isolated defects is 6-8%, which is 2-3 times higher than the children of non-diabetic mothers. Despite the prevalence of highly purified insulin types, the methods of monitoring carbohydrate metabolism, the use of genetically engineered insulin, and the establishment of obstetric departments specializing in the prevention of perinatal death in diabetes are at the high level. 95 per mille for gestational diabetes, and early neonatal mortality was 3-4 times higher than the corresponding figure for the general population.

Diabetic mbriofetopathy is a clinical-laboratory complex, which includes a set of specific phenotypic appearances and malformations in children of mothers with diabetes mellitus. common name. Diabetic fetopathy is manifested during pregnancy by a set of phenotypic symptoms that develop in the uterus of the fetus. These changes occur under the influence of hormonal stimuli (insulin deficiency, increased adrenal function, changes in thyroid function) and metabolism (hyperglycemia, hypoproteinemia) [3]

The phenotype includes at least 14 symptoms of diabetic fetopathy that occur at different frequencies and in different combinations. The most common symptoms are hepatomegaly, moon-shaped z, short neck, overweight, like soft tissue pastes

Women with diabetes give birth to overweight children (weighing more than 4500 g, length 55-60 cm) due to excessive proliferation of adipose tissue. In addition, the more severe the condition in children from birth to the day after birth, the more pronounced the symptoms of diabetic fetopathy. In young children with uterine growth retardation syndrome and microsomes, general pastosis, hepatomegaly, cervical and short hypertrichosis predominate. However, hypertrophy of some organs (cancer, adrenal glands, liver, kidneys) may be associated with a decrease in the mass of others (brain and thymus gland). Mbriofetopathy is one of the most common causes of death among newborns whose mothers have diabetes. It has a greater effect on the central nervous system, cancer, water retention, gastrointestinal tract and urinary tract. The cause of the defect is hypoxic damage to the tissues of the volk sac at the first important period of pregnancy (4-6 weeks) due to hyperglycemia. The greatest risk is observed in the neural tubes (9 times faster than in normal pregnancy) and cancer (5 times faster). Congenital malformations occur 2-4 times more often than during normal pregnancy. Non-life-threatening defects occur in 2.6% of cases, accounting for 40% of perinatal deaths. Risk factors for their occurrence in type 1 diabetes include poor control of diabetes before pregnancy, the duration of the disease is more than 10 years, vascular damage. In this case, miscarriage occurs in 15–31% of women aged 20–27 years and older during pregnancy.

If the amount of glycosylated hemoglobin in the first 3 months of pregnancy exceeds 12% and the level of gluten in the blood of a person on an empty stomach exceeds 6.7 mmol / l, the risk of unintended abortion is reduced. It is assumed that normalization of plasma glucousaand glycosylated hemoglobin in the prenatal and mid-pregnancy stages reduces the risk of fetal

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

malformations. Hypoglycemia during pregnancy and hyperglycemia are different in the treatment of the fetus. 20 ha qinnegestaticostr cells cannot respond to hyperglycemia. Aembrion with hyperglycemia does not control it and may stop growing. Anembrion with hyperglycemia loses control and may stop growing. Hypoglycemia is accompanied by death of the embrion and leads to swelling of the cells, which leads to their serious damage [5].

In the second trimester (after 20 weeks), along with hyperglycemia, the fetus responds with beta-cell hyperplasia and increased insulin levels. This leads to the growth of sa cells (increased protein production, lipogenesis). Synthesis of somatomedins in hyperglycemia of the liver, spleen and fibroblasts (growth factors - insulin-like growth factor 1 and protein insulin)A similar growth factor is increased by 3 ha), which leads to the formation of macrosomes under conditions of increased amino acids and fatty acids in the blood. Under conditions of hypoglycemia, the production of glcocorticoids and glkagon increased. When hyperglycemia and hypoglycemia change frequently, hypercortisolism develops along with hyperinsulinism. Chronic fetal hyperglycemia and hyperinsulinemia increase the basic metabolic rhythm and increase tissue oxygen consumption, which leads to the development of hypoxic state. Chronic mbrional hyperglycemia and hyperinsulinemia increase the basic metabolic rhythm and increase tissue oxygen consumption, which leads to the development of hypoxic state. In response to the need for oxygen, the fetus responds by increasing the production of ritropo and accelerating the release of extra red blood cells due to the activation of ritropo, presumably, this may be the cause of polycythemia. In this case, in order to form a large number of red blood cells, there is a redistribution of iron in the tissues of the fetus, the separation of brain tissue and cancer muscles, which can later lead to their serious injury. Thus, the accumulation of fatty acids, triglycerides, ketones in the mother's blood and their entry into the fetal blood, the breakdown of carbohydrates leads to an increase in fetal insulinemia, hyperfunction of its adrenal glands. Hypoglycemia and hyperglycemia, ketoacidosis adversely affect the fetus [4, 5].

The second critical period of pregnancy, the placental period, is associated with diabetes, as well as a number of specific conditions that are often the result of maternal vascular complications. Placental angiopathy leads to increased hypoxia, impaired fetal trophism, in which case children with uterine developmental syndrome are often born. The condition of the maternal-placental-fetal complex depends on the type and condition of diabetes mellitus (compensation for impaired carbohydrate metabolism), the presence of complications of diabetes exacerbated by pregnancy complications (gestosis, etc.). Disorders are manifested by hormonal and enzymatic changes.

Due to arterial and venous sclerotic and trophic changes in the uterus, it is impossible to reconstruct the ndo- and myometric segments of the uterine arteries on the basis of a complete pregnancy. There are no conditions for the implementation of the first and second waves of cytotrophoblast invasion, which provide the necessary conditions for the development of primary placental insufficiency and gestosis. Functional disorders of the placental complex are caused by morphological changes in the placenta. The degree of severity and severity of uterine bleeding in the uterine arteries was determined by the ratio of carcinogens to Apgars [6, 7, 8].

In addition, a decrease in the body's synthetic functions as a result of insufficient insulin in the blood and the production of plasma coagulation cyanides, heparin, as well as the activity of antithrombin III. The increase in cyanotic potential is manifested by the appearance of intravascular edema syndrome, which leads to satrombotic complications, the development and worsening of circulatory failure, as well as fetal miscarriage. Against the background of diabetes

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

mellitus, especially in the second trimester of pregnancy, the development and growth of the fetus is characterized by a special pattern, which begins in the 24th to 26th week of pregnancy. The first is characterized by delayed fetal development and is due to the premature birth of a small child with diabetic fetopathy. The second clinical picture develops from 26-28 weeks of gestation.

Diabetes mellitus of pregnancy is characterized by the birth of unborn uninjured anthropometric indicators. In the third case, which begins at 26 weeks of gestation, the fetal anthropometric population is characterized by a significant increase in the norm, Pregnancy macroscopy and diabetic fetopathy are associated with the birth of preterm infants. Delayed development of the uterus in the second and third trimesters of pregnancy and fetal death in the presence of diabetic microangiopathy are directly related to hypoxia and fetal placental insufficiency due to hypoxia and acidosis. Macrosomal pathogenesis has not been studied, possibly due to the accumulation of excess fat in the butyroid and the enlargement of the abdomen. The head of the fetus remains within normal limits. When the fetus is enlarged (due to hyperglycemia), x-ray centers of hematopoiesis develop. Tissue hydrophilicity is accompanied by swelling of the peritoneal wall and limbs. In cancer, cardiomegaly changes occur. During fetal hypoglycemia, maternal hyperglycemia and hypoglycemia, changes in hormonal status slow the growth of the fetus. Macrosomes make it difficult for the fetus to grow through the birth canal, which can lead to birth defects and even the death of the fetus. The slowing down of uterine development is less pronounced than the fall of the fetus and the chromosome.

The most common complication of pregnancy in the background of diabetes mellitus is polyhydramnios, which occurs in 20-60% of women. Polyhydramnios plays a role in the pathogenesis of fetal poliuria and it'samniotics in response to an increase in the amount of gl cocoon in the skin. Typically, in 29% of patients with polyhydramnios at 36-38 weeks of gestation, fetal death is observed, due to mechanical pressure of the amniotic fluid on the placenta, which is associated with cytoplasmic anoxia. Children born to mothers with diabetes often suffer from respiratory failure syndrome, because against the background of hyperinsulinemia, the synthesis of extracellular substances in the lungs is broken down. It is the most important cause of pregnancy. Against the background of diabetes, there are significant changes in local and general immunity, which contributes to the development of infectious diseases of the gastrointestinal tract in 16% of pregnant women. Asymptomatic bacteriuria in patients is 2-3 times higher than in the population, in 6% of cases clinically diagnosed pyelonephritis is diagnosed. The speed of birth of a healthy child depends on the correctness of the dental mechanisms that lead to birth defects. Severe cases and late complications of diabetes mellitus, polyhydramnios, gestosis and urogenital infections are the main causes of preterm birth in pregnant women. Their frequency depends on the type of diabetes and ranges from 25 to 60%. The rate of premature births in patients with type 1 diabetes is 60%, and only 23% of women develop independent births. In about 20% of cases, the process of childbirth is carried out immediately in the process of acute development of polyhydramnios and critical conditions of the fetus [10].

The most common complication of birth in patients with diabetes mellitus is amniotic thrombosis with a frequency of up to 40%, which is due to the presence of urogenital infection in the foci and changes in the amniotic membranes. Serious metabolic diseases, as a result of disruption of the tissue moxibustion system, are observed in 30% of cases during childbirth. The large size of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the fetus, the violation of the proportion of the head between the size and width of the shoulders of the fetus, the weakness of the movement causes difficulties in the formation of the shoulder girdle, and in 13% of cases the cause of fetal dystonia.

Babies born to mothers with diabetes need special care, just like premature babies, despite the fact that they are overweight. From the first hours of life it is necessary to identify and fight against respiratory disorders, hypoglycemia, acidosis and central nervous system disorders.

About 50% of preterm infants with rheumatoid arthritis have dyslucosemia syndrome. From the first hours of life, attention should be paid to the diagnosis and treatment of respiratory disorders, hypoglycemia, acidosis and damage to the central nervous system. Dyslucoseemia syndrome is observed in 50% of preterm infants with rheumatoid arthritis. The manifestation of this syndrome in the form of hyperglycemia depends mainly on the severity and compensation of the mother's disease, the presence of complications of pregnancy (gestosis) and childbirth (injury), the nature of postpartum neonatal disorders. In children with diabetic fetopathy, the process of rheumatoid arthritis is more difficult, the development of jaundice, toxic rhythms, and the state of the fetus and preterm infants with diabetes have been studied in detail. Carbohydrates, water-electrolytes, neurotransmitters, which determine the course of the neonatal period

Respiratory and renal malformations of the fetus and newborn are described. However, the state of children's health in later life has not been studied in the scientific literature. We have found only a few studies on this category of children. Further research will allow doctors to evaluate the results of travel in the postpartum period, pregnancy, rheumatoid arthritis. He wished that children born to mothers with diabetes should be referred not only to a local pediatrician, but also to a neurologist (from 1 month), as well as a cardiologist. The child should be monitored not only in the first year of life, but also in later childhood, because in children, the frequency of dental and neurological pathologies is much higher than in others. Periodicity of observation - 3, 6, 9, 12 months, then 1 time per year. Due to the fact that at each stage of a child's life there are special morphological, physiological and psychological features, it is recommended to assess the state of health of children by childhood (infancy, adolescence, preschool, school and adolescence). V.I. According to Krasnopolsky and other authors, the pathology of the central nervous system at different levels is the main disease of infants.

In the first year of life, the central nervous system of poxic or hypoxic-traumatic genesis in all children is observed perinatal damage. This fact is due to the fact that the development of fetoplacental abnormalities during pregnancy is associated with chronic hypoxia of the developing fetus, and there is no doubt that in the case of abnormal birth, the risk of acute hypoxia and fetal harm is aging. Evaporation also plays a role in the redistribution of iron content and tissue breakdown. Most often (70.2%) children are diagnosed with a syndrome of musculoskeletal disorders, which is manifested by muscular dystonia or hypotension. Impairment of muscle tone is associated with age-related delays in the development of the musculoskeletal system and the formation of musculoskeletal skills (observed in 41.1% of secondary children). Only a quarter of all patients in the early years are under the dynamic supervision of a neurologist, because the parents of children assess their development in a satisfactory way and do not suffer from anything. At the same time, in 78.4% of children there is a violation of the central nervous system, in which the leading syndrome (16.4%) is a delay in the development of neuropsychological development. There is a slightly lower tendency (up to 75%) for preschool children with neurological disorders. The structure of this injury is as

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

follows: in 1/4 of patients there is a neurotic reaction in the form of tics and hyperkinesis, to a lesser extent, 16.6% of children are diagnosed with impaired activity, in 12.5% of cases there is a slow development of psychomotor skills.

45.4% of infants have gastrointestinal diseases, most often caused by functional disorders (regurgitation, colitis) and dysbacteriosis. It remains to be seen how much it will remain in the senses and how it will slow down.

Deficiency of certain morphofunctional functions of the fetus during childbirth is the basis for this. Approximately the same frequency of rickets is recorded, which can be explained by a functional deficiency in the background of cortical metabolic rate. The incidence of carcinogenic disorders (cardiopathy, uterine rupture) is explained by hyperglycemia and the direct impact on the development of carcinogenesis in pregnancy. The fourth child was diagnosed with cutaneous dysplasia, and the child was diagnosed with sapopic dermatitis. 34.5% of children suffer from sandy diseases, mainly viral thrush, due to impaired general and local immunity. By the end of the first year of life, 4.8% of children with 1st and 2nd degree obesity are registered. According to subsequent observations, the incidence of cancer is still high, reaching 40.4% of preschool children and 37.5% of preschoolers. In the structure of the disease, autonomic dysfunction syndrome is the first. Children are characterized by an increase in weakness and fatigue (38%), emotional instability (11.1%), chronic headache (16.6%), pigastral pain (27.7%), weather sensitivity (27.7%). 70.1% of patients with chocardiography have mitral valve dysfunction, additional cytopic chords in the left ventricle; 23.6% have saregurgitis with symitral valve prolapse. A similar tendency is gastrointestinal, it is also observed in the assessment of intestinal diseases, which are recorded in 36.1% of preschool children and 50% of preschool students. Adult saprodyskinesia (55.5%) and gastroduodenitis (11.1%) are the most common diseases. In summarizing these data, it should be noted that with age, the nerves of the internal organs and systems become stronger due to the tone of the blood vessels. The increase in the frequency of endocrine pathology with age is especially significant. From the structure of the disease, malnutrition (varying degrees of obesity) takes the first place (88.8%). In 11.2% of children, the language of acetonemic vomiting is mentioned in the literature.

In summary,

- 1) Gestational diabetes mellitus was a prevalent disease among the population, accounting for 1-8.6%.
- 2) The number of people with diabetes has doubled in the last 10-15 years.
- 3) Pregnancy type 1-2 diabetes mellitus and hyperglycemia during pregnancy, individual diabetes mellitus were identified in disorders of carbohydrate metabolism, causing pathological changes in pregnant women and newborns with diabetes.
- 4) Obesity, predisposition to urinary tract infections, fetal overweight, birth defects were identified as risk factors in pregnancy.
- 5) Phytopathy was detected in the fetuses of 25% of pregnant women with diabetes.
- 6) Diabetic mbriofetopathy and diabetic fetopathy were observed in newborns as pathologists.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 7) In the first 3 months of pregnancy, glycosylated hemoglobin exceeded 12%, and the risk of unintended abortion was observed in pregnant women with an increase in blood glucose levels of 6-7 mmol / l.
- 8) Against the background of diabetes mellitus, polyhydramnios was observed in 20-60% of pregnant women, fetal polyuria and its amniotic fluid increased gl cocoon, and in pregnant women with polyhydramnios, 29% of fetal deaths were observed at 36-38 weeks of gestation, as well as amniotic fluid. was found to be associated with increased anoxia due to placental function resulting from mechanical pressure of water.
- 9) Monitoring of infants born to pregnant women with diabetes determines not only the medical and social status, but also the condition and quality of life of infants during childbirth. All this requires different approaches in the prophylactic and dispensary control of a group of patients at all stages of the newborn.

REFERENCES:

- **1.** Antonov OV. Realization of programs of prevention of congenital malformations in a large industrial center: method. rekomendasii dl vrachey. Omsk: Izd-voOmGMA, 2008. 58 p.
- **2.** Baranov AA, Namazova-Baranova LS, Al biskiy V., Terleska RN. Legitimacy and tendencies of mladencheskoy and children's mortality in the Russian Federation. Problems of social hygiene, health care and medical history. 2015;23(1):35-41
- **3.** Volouk IA. Diseases of childhood vozrasta Pathological anatomy: nas. ruk. M.: G OT AR-Media, 2011. pp.1119-1152.
- **4.** Gorbunov EF. Otdalennyeposledstvi u detey s patologieyposleda. Trudy III Congress Ros. about estva children's pathologists. SPb., 2008. pp.39-42.
- **5.** Kiseleva MK, Bayramova IX. Algorithm leading to pregnancy and birth in patients with diabetes mellitus type I. Materials of the VIII Rossiyskogo forum "Mat and dit". Moscow 2006; 110–111.
- **6.** Krasnogorska OL. Perinatal to death detey s kstremal no nizkoymassoytela v Sankt-Peterburge. Aktualnyevoprosypatologicheskoyanatomii: materialy III sъezda Ros. about this pathologist. Samara, 2009. pp. 63-65.
- 7. Mills JL. Malformations in Infants of Diabetic Mothers. Birth Defects Res A Clin Mol Teratol 2010;88(10):769–778. DOI: 10.1002 / bdra.20403
- **8.** Persson M, Pasupathy D, Hanson U, Norman M. Birth size distribution in 3,705 infants born to mothers with type 1 diabetes: a population-based study. Diabetes Care 2011;34–36: 114512.
- **9.** Syed M, Javed H, Yawar YM, Bhutta ZA. Effect of screening and management of diabetes during pregnancy on stillbirths. BMC Public Health. 2011;11(Suppl 3):S2. DOI: 10.1186 / 1471-2458-11-S3-S2
- 10. Yevsyukova II, Kosheleva NG. Diabetes: pregnant and newborn. Moscow. 2009; 272.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE PRACTICE OF HUMAN TRAFFICKING IN BANGLADESH

Amit Verma*

*Assistant Professor,

Department of Law & Legal Studies, Faculty of Commerce, Management & law,

TeerthankerMahaveer University, Moradabad, Uttar Pradesh, INDIA

Email id: amit.law@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02635.5

ABSTRACT

Human trafficking by organized criminals is a long-standing crime. Apart from conventional land routes, the use of maritime routes for people trafficking is a relatively new issue. Several international and regional instruments exist to fight human trafficking throughout the globe, notwithstanding the use of maritime instruments to reduce human trafficking via water routes. In Bangladesh, there are many regulations for combating human trafficking that are ordinarily successful, but they are insufficient to prevent people trafficking by sea. Bangladesh is susceptible to women's and children's trafficking, which must be properly avoided. Bangladesh's maritime laws include a number of measures that seem to be effective in combating human trafficking by water. As a result, the goal of this essay is to determine how maritime laws may be used to combat people trafficking at sea. The study's goal is to examine human trafficking from a global, regional, and Bangladeshi viewpoint. It ends by determining the extent of maritime law implementation in combating human trafficking by sea, as well as specific recommendations in the area.

KEYWORDS: Crime, Maritime Laws, Sea, Human Trafficking, Implementation.

1. INTRODUCTION

Human trafficking is one of the world's most lucrative criminal enterprises. Human trafficking is not a new problem; it has existed for centuries. Several anti-slavery laws were passed throughout the nineteenth century, mostly as a result of vigorous anti-slavery movements. Previously, there was no globally agreed-upon meaning of the term "human trafficking." During the early twentieth century, the word "trafficking" was first employed in an international context. For the first time, the United Nations Protocol to Prevent, Suppress, and Punish Human Trafficking in Persons, 2000' recognized human trafficking, which was reciprocated by a United States legislation named the 'Trafficking Victims Protection Act, 2000'. Human trafficking is also described under the SAARC Convention on the Prevention and Combating of Trafficking of Women and Children for Prostitution. Bangladesh, India, and Nepal are the most susceptible countries in South Asia to the crime. In light of the above, Bangladesh is vulnerable to human trafficking owing to its geological location. In recent years, traffickers have increasingly utilized

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the maritime route, which is the most inhumane method of human trafficking, owing to the more secure route and more reward[1].

Human trafficking by sea is a global crime that is linked to maritime issues. Offenders from various states are generally the perpetrators of the aforementioned crime. As a result, fighting this inhumane crime only via current laws is difficult due to its limitations in terms of operation and structure. Despite the fact that state laws are well-drafted, there is room to combat people trafficking by enacting marine laws, which include numerous sections connected to maritime crime. As a result, there is a potential opportunity to conduct research on the application of maritime laws in the prevention of people trafficking by sea[2].

2. LITERATURE REVIEW

In Bangladesh, there are less literatures focused on maritime legislation and the problem of people trafficking. However, in conjunction with the study, several legal books, research papers, and current write-ups were examined. In his paper titled 'Human Trafficking in Bangladesh: An Overview' studied the current problem of human trafficking, particularly through the water route, and correctly identified the causes as well as the government's responses. In another piece titled 'Trafficking in Bangladesh: Humanity Lost in a Sea of Inhumanity,' describes the inhumane consequences of human trafficking by the sea, as well as the reactions of concerned governments on a national and international level. It's worth noting that the results of the articles were based only on situational data; no in-depth discussion was conducted, and no alternative or novel ideas were produced as a result of the article. In his study article titled 'Bay of Bengal maritime delimitation cases: Upholding the Rule of Law in International Relations,' an Indian legal expert has left a major impact on marine criminal problems, including human trafficking, in this subcontinent. The UNCLOS, according to the researcher, has a number of important prohibitions against marine crimes. The importance of the UNCLOS, an international legal instrument, in maritime problems in South Asia was discovered by the researcher. He has not, however, offered any suggestions for addressing the problem[3].

Apart from the foregoing, in his research paper "Human Trafficking in South Asia (Special Preferences on Bangladesh, India, and Nepal): A Human Rights Perspective" has focused on the fact that human trafficking is an age-old issue, and that South Asia is a trafficking-prone region where countries are vulnerable to organized crime. Human trafficking was compared to a violation of a human right on a degree of severity in the research. It has been suggested that states follow the convention. The document, although recommending it, was unable to address the current phenomenon of people trafficking by water, and therefore maritime regulations were not discussed. "Data and Research on Human Trafficking: A Global Survey," produced by the International Organization for Migration in Geneva, Switzerland, is an interesting pamphlet. The authority has compiled a large amount of data and information on human trafficking across the globe in this book. This article showed that human trafficking has become a major social, legal, and humanitarian issue that is being researched across the globe, and that study in this area is very valuable [4].

A research-based study issued by the United States Department of Status titled "Trafficking in Persons Report - Bangladesh" has also been examined, which analyses the state of human trafficking, the current scenario, and makes recommendations on the government's duties. The existing literature covered many aspects of maritime law, but the topic of people trafficking by sea in conjunction with maritime laws is conspicuously missing. The majority of current

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

activities have been concentrated on marine and admiralty issues, ship and linked party standards, maritime law execution, and dispute resolution procedures. However, there is a potential information vacuum when it comes to investigating the function of maritime regulations in combating people trafficking at sea. As a result, there is a lot of room for study into maritime legislation in order to combat people trafficking by water. As a result, a new method is required to evaluate the likelihood of discovering some superior approaches via future research.

3. DISCUSSION

Human Trafficking in the Present Situation

Bangladesh has been a source and transit nation for men, women, and children trafficking due to its geographical position. Manpower, Bangladesh's most precious asset, has been misled, kidnapped, forced to labor, and died inhumanely. According to a research, a lot of children and women have been smuggled out of Bangladesh in the past decade. Previously, traffickers in Bangladesh utilized different land routes for this purpose. In recent years, traffickers have increasingly utilized the maritime route, which is the most inhumane method of human trafficking, owing to the more secure route and more reward. In the recent past, new transit sites for smuggling people from Bangladesh to South-East Asian nations through sea routes have been identified. However, following the discovery of mass graves in Thailand, all of this material became public. The magnitudes of the issues of the current situation of human trafficking in Bangladesh are shown in the overall research and recorded data.

Bangladesh's government has made a number of steps to increase its efforts to fight human trafficking. The 'Human Trafficking (Deterrence and Suppression) Act, 2012' and the 'Overseas Employment and Migration Act, 2013' were passed in response to the growing need to combat this crime. However, according to recent studies on human trafficking, the amount of human trafficking via water is growing by the day[5].

In a Global Context, the Regulatory Framework

Every year, an estimated two and a half million individuals are trafficked throughout the world; about half of them are trafficked for sexual exploitation, one-third for labor exploitation, and the rest for a mixture of both. To combat human trafficking, a variety of international and regional tools have been created. There are many legal instruments/frameworks that are relevant to the study goals, which are as follows:

The 1949 Convention

A number of international accords have addressed human trafficking and prostitute exploitation, which are the most common and widely used instruments in the world. The following treaties were combined in the 1949 Convention for the Suppression of Human Trafficking:

- The International Agreement for the Suppression of White Slave Traffic (1904),
- The International Convention for the Suppression of White Slave Traffic (May 1910),
- The International Convention for the Suppression of Traffic in Women and Children (1921), (1933).

The Convention on Transnational Organized Crime

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In response to the absence of a Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children, the United Nations General Assembly approved the Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children (the Trafficking Protocol). The UN Convention against Transnational Organized Crime (the Transnational Crime Convention), which went into force in September 2003, is supplemented by the Trafficking Protocol[6].

Its goal is to guarantee that national policy, legislative, administrative, and enforcement responses to the issue are more consistent and coordinated, resulting in a more efficient and successful worldwide effort to manage it. The parties to the Transnational Crime Convention are legally bound by it. States The parties agree to criminalize these offenses in line with the Transnational Crime Convention's provisions. The United Nations High Commissioner for Human Rights created the following instruments to enhance the Protocol's human rights principles and perspective:

- The Human Rights and Human Trafficking Recommended Principles, and
- The Human Rights and Human Trafficking Recommended Guidelines

The concepts and standards that should be followed

The Trafficking Protocol was mainly designed as a law enforcement tool rather than a human rights one. The Human Trafficking Protocol addresses human rights issues by setting some baseline human rights standards and ensuring that its provisions do not conflict with current international human rights safeguards. According to Article 2, the Protocol's goals are to: • prevent and combat human trafficking, with a focus on women and children; • protect and assist victims of such trafficking while maintaining full respect for their human rights; and • promote cooperation among States Parties in order to achieve those goals[7].

The Transnational Crime Convention defines an organized criminal group as a structured group of three or more people who have been working together for a period of time with the goal of committing one or more serious crimes or offenses defined by the Transnational Crime Convention or the Trafficking Protocol in order to obtain a financial or other material benefit, either directly or indirectly. The World Congress Against Commercial Sexual Exploitation is a non-profit organization dedicated to ending commercial sexual

To fight commercial sexual exploitation of minors, two global congresses have been organized (CSEC). In 1996, the First World Congress and the Second World Congress were convened in Stockholm, Sweden. In 2001, the Congress was held in Yokohama, Japan. The Stockholm Declaration, the Stockholm Agenda for Action Against Commercial Sexual Exploitation of Children, and the Yokohama Global Commitment are the result papers that include states' pledges to combat CSEC. The scope of this Resource Guide does not include a description of these instruments[7].

The Millennium Declaration of the United Nations

The Millennium Declaration was adopted in September 2000 during the Millennium Summit. The Millennium Summit was the world's biggest meeting of leaders ever. All 189 members of the United Nations General Assembly voted in favor of the Millennium Declaration. The Millennium Declaration "sets out in a single framework the key challenges confronting humanity at the turn of the millennium, outlines a response to these challenges, and establishes concrete

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

measures for judging performance through a set of interrelated commitments, goals, and targets on development, governance, peace, security, and human rights."

Bangladesh's Laws on Human Trafficking

Human trafficking is one of the most serious crimes in the world, and Bangladesh is no different. A large number of children and women are reportedly trafficked out of Bangladesh. Many of the victims of human trafficking are murdered inhumanely by organized slave traffickers on the sea or in the jungles off the coast of other countries. Bangladesh's government is usually tough and has done a remarkable job enacting many laws with a range of penalties. In order to combat human trafficking, Bangladesh has enacted a number of laws that include harsh penalties[8].

Under the "Nari-O-Shishu Nirjaton Daman Ain, 2000," the crime of human trafficking and sexual exploitation of women and children is punished by life imprisonment (amended in 2003). Sections 372 and 373 of the Penal Code, 1860, likewise make such offenses illegal. The Human Trafficking (Deterrence and Suppression) Act of 2012 and the Overseas Employment and Migration Act of 2013 were passed in response to the issue. However, according to recent studies on human trafficking, the amount of human trafficking via water is growing by the day. As a result, it is assumed that the regulations stated above are effective against human trafficking in general but insufficient when human beings are trafficked by sea. As a result, there is room to explore alternative legal options for combating people trafficking by sea. Human trafficking by sea is a global crime that takes place mostly in the maritime domain. Offenders and crime scenes are often on an international platform, necessitating the use of a marine legal instrument[9].

4. CONCLUSION

Human trafficking, along with the weapons trade, is considered to be the world's second biggest criminal enterprise. Bangladesh has been a source and transit nation for men, women, and children trafficked for the purposes of forced labor and commercial sexual exploitation due to its geographical position. Manpower, Bangladesh's most precious asset, has been misled, kidnapped, forced to labor, and died inhumanely. Previously, traffickers in Bangladesh utilized different land routes for this purpose. However, in the recent past, new transit sites for smuggling individuals from Bangladesh to South-East Asian nations through sea routes have been identified. However, following the discovery of mass graves in Thailand, all of this material became public. The magnitudes of the issues of the current situation of human trafficking in Bangladesh are shown in the overall research and recorded data.

To combat people trafficking by water, it is now essential to include maritime elements and players. Exploring Bangladesh's Maritime Laws in order to justify the current laws against people trafficking by sea is a top priority. It is possible that current maritime regulations will be a useful weapon in combating people trafficking at sea. Maritime rules may play a part in this problem, which requires more investigation. The study that I have suggested will play an important part in determining an all-encompassing answer for the future and will result in a useful suggestion in this area. Examining the efficacy of maritime laws may reveal a wide area of jurisdiction and all-encompassing method for combating people trafficking by sea from Bangladesh.

REFERENCES

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **1.** M. R. Rahaman, "'Human Trafficking in South Asia (Special preferences on Bangladesh, India and Nepal): A Human Rights perspective," IOSR J. Humanit. Soc. Sci., 2015.
- **2.** M. B. Uddin, "Human Trafficking in South Asia: Issues of Corruption and Human Security," Int. J. Soc. Work Hum. Serv. Pract., 2014, doi: 10.13189/ijrh.2014.020103.
- **3.** A. R. Wulandari, "Peran United Nations Office on Drugs and Crime (Unodc) Dalam Menanggulangi Human," eJournal Ilmu Hub. Int., 2018.
- **4.** S. Ghosh, "Anti-trafficking and its discontents: women's migrations and work in an Indian borderland," Gender, Place Cult., 2015, doi: 10.1080/0966369X.2014.970139.
- **5.** A. Ahmed, "Combating Sea-route Human Trafficking in Bangladesh: A Critical Analysis on Legal and Institutional Framework," Asian J. Res. Soc. Sci. Humanit., 2016, doi: 10.5958/2249-7315.2016.00481.0.
- **6.** M. A. M. Joarder and P. W. Miller, "Empirical Evidence on Human Trafficking and Migration-Debt Contracts in Bangladesh," J. Dev. Stud., 2014, doi: 10.1080/00220388.2013.858128.
- 7. M. Rezaeian, "The frequency of burns among the victims of sex trafficking in some lower-middle-income countries," Burns, 2017, doi: 10.1016/j.burns.2016.07.010.
- **8.** C. Joffres, E. Mills, M. Joffres, T. Khanna, H. Walia, and D. Grund, "Sexual slavery without borders: Trafficking for commercial sexual exploitation in India," International Journal for Equity in Health. 2008, doi: 10.1186/1475-9276-7-22.
- **9.** M. A. M. Joarder and P. W. Miller, "The Experiences of Migrants Trafficked from Bangladesh," Ann. Am. Acad. Pol. Soc. Sci., 2014, doi: 10.1177/0002716213518722.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

LAW OF INDIAN COPYRIGHT

B. R. Maurya*

*Assistant Professor,
Department of Business Law, Faculty of Commerce, Management & law,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: brmourya.mourya321@gmail.com

DOI: 10.5958/2249-7137.2021.02636.7

ABSTRACT

The manifestations of ideas, rather than the ideas themselves, are protected under copyright law. All original creative, musical, literary, dramatic, sound recording, and cinematograph works are granted copyright protection. The copyright protection of a work begins the minute it is produced, and registration is optional. However, obtaining a registration is recommended for maximum safety. Instead of granting any rights, copyright registration is simply a prima facie evidence of an entry in the Copyright Register kept by the Registrar of Copyrights in respect of the work. The word "copyright" (or "author's right") refers to the legal rights that artists hold over their literary and creative works. Books, music, paintings, sculpture, and films are all protected by copyright, as are computer programs, databases, advertising, maps, and technical drawings. Thousands of individuals register copyrights every month, indicating the caliber and quantity of creative brains in our community. However, just submitting a copyright application isn't enough. It is critical to protect the same from being readily violated and infringed upon by someone who is not the creator. This is why the copyright act has been written in such a way that changes are made on a frequent basis. The more accurate the law is, the safer the creative brains are. This article discusses some of the key aspects of India's copyright law.

KEYWORDS: Author, artistic, copyright, law, work.

1. INTRODUCTION

With the invention of the printing machine, which made it possible to duplicate literary works through a mechanical process, the history of copyright protection began to emerge. Johannes Gutenberg developed the printing press in 1440 in Germany. When Gutenberg's invention reached England in 1483, King Richard III, the monarch at the time, lifted the ban on the import of manuscripts and books. As a consequence, writers began sending their works to be printed in England. They had a royal license, and due to the proliferation of books, England quickly became the epicenter of printing across Europe. King Henry VII established a privilege system in 1529, making the printing business a monopoly of the crown. During this time, the Stationer's Guild was formed, which brought together all of the people who had previously been involved in writing manuscripts and making copies[1]. The stationer's guild became a corporation in 1516.

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

The company's members had the exclusive right to reprint works in perpetuity in the name of other company members who had the sole right to publish the work. The books may be printed and published by the registered members.

Under the guise of encouraging the growth and development of England's publishers and printers, King Henry banned the importation of books and stationery in 1533. The Stationer's Company received a royal charter in 1557 and was given the authority to regulate the book trade. Three factors necessitated the establishment of the business.

- Ensure the quality of the trade
- Minimize unethical behavior.
- **Restriction of Competition**

2. LITERATURE REVIEW

- 1. LICENSING ACT OF 1662: The licensing act of 1662 allowed the business to take legal action if its rights were infringed upon. A list of licensed books was kept, and some members were given the authority to look for and seize unauthorized publications. This was the first step towards combating piracy.
- 2. ANNE'S STATUTE: The Anne's Statute was enacted on April 10, 1710. The copyright world saw a paradigm change as a result of this legislation. It recognized the rights of writers of previously published works. This became regarded as the first copyright legislation in the world.

3. DISCUSSION

India's pre-independence copyright legislation

The British colony of India established the Copyright Law of India, which, like most other legislation of the period, was a copy of English law. During the East India Company's reign, the first copyright legislation of India was established in 1847. The copyright period was either for the lifetime of the author plus 7 years or for 42 years, according to the legislation. If the owner of the copyright denied permission, the government had the authority to issue the publication license after the author's death. The highest local civil court has jurisdiction over all copyright lawsuits and infringements. The legislation was repealed in 1914, and the copyright act took its place. The legislation of 1914 was India's first copyright law. It was the first legislation to extend copyright protection to all works of art and literature. It was a carbon copy of the 1911 English legislation. The British did it to make it easier for literature to go throughout the colonial subcontinent[2].

India's Post-Independence Copyright Law

On January 21, 1958, the Copyright Statute of 1957 took effect, superseding the 1911 act. Apart from revising the copyright legislation, the act also included landmark measures such as the establishment of a copyright office under the authority of the Registrar of Copyright for the registration of books and other works of art. It also created a copyright board to resolve copyright-related issues. According to Section 14 of the Copyright Act, 1957, a copyright is a bundle of exclusive rights vested in the copyright owner. These rights may only be exercised by the copyright owner or any other person who has been licensed in the same respect by the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

copyright owner according to law. These rights include the right to publish, the right to translate, the right to adapt, the right to reproduce, and so on. The author or creator of the work is the initial owner of the copyright, according to Section 17 of the Copyright Act of 1957[3].

One of the most significant benefits of copyright protection is that it is accessible in a number of nations across the globe, even if the work is initially published in India due to India's membership in the Berne Convention. In respect of all nations that are member states of treaties and agreements to which India is a member, works originally published in India are protected. Copyright protection is therefore accessible to works originally published in India, across multiple nations, without the need to apply for it officially. In addition, the Indian government has extended copyright protection to works originally published outside India by the International Copyright Order, 1999.

The Copyright Act's Highlights

Section 18 of the copyright act is only concerned with royalties due to the author for the exploitation of his work by a third party. Cinematography, when the creator participates in creative, literary, and musical activity, makes extensive use of this term. When your customized clothes of a distinctive style is utilized by a third party for no consideration, it may lead to difficulties and dissatisfaction. The idea of copyright assignment is similar. It enables the owner to delegate the job to anybody for whatever long the duration is. The author may no longer avoid his "equal share of royalties" if his work is used by a cinematographer or producer in any manner other than communicating to the public in a movie theater, according to the modification of this Act. The screenplay writer, lyricist, and composer will all get an equal part of the theatrical exploitation royalties. There are exceptions to this rule, such as in the case of a copyright organization or a legal heir. Regardless matter how important this has been stated, there is considerable ambiguity in this clause about the "equal share of royalty." There is no indication of where the author and assignee will be taken. Its intended meaning is not clearly stated, which leads to misunderstanding and infringement. The plaintiff, ZEE Tele films Ltd., is a media and entertainment broadcasting company that has transferred its rights for a nine-year term. All problems sided with plaintiff, and the cause of action for bringing the lawsuit was observed. However, the appeal was rejected due to a limitation problem[4].

Assignment style

The new provisions in the Mode of Assignment, section 19 of the Copyright Act (clauses 8, 9, 10) and copyright assignment complement each other for better treatment and compensation of the author's work. Assignment of a work to cinematography film or any other, whether or not it is a member of the copyright organization, has the right to an equal share of royalties. It's essential to remember that there's no need to fill out a form for an assignment; a letter with the author's signature will suffice. In terms of giving licenses, issuing licenses in violation of society or by the author has no bearing on royalty claims. This modification, however, does not have a significant impact on the License provision[5].

Copyright

The copyright society clause has undergone a number of revisions to clarify numerous ambiguities and create more severe consequences for the society, author, and licensee. To begin, individuals who want to engage in the business of issuing licenses for works such as literary, musical, dramatic, and artistic works must first establish a society. Anyone wishing to do such

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

business must file an application with the registrar, which is then submitted to the central government, which will approve it subject to specific conditions. It shall be ensured that in each class of labor, just one society is carried out. A copyright society is typically registered for a duration of five years, with the option to renew before the first term expires. On the author's permission, the central government may suspend the copyright registration. There must be no discrimination in the treatment of any of the parties[6]. A tariff system must be imposed by the Copyright Society, from which any individual who is dissatisfied may appeal to an appellate board. This step may only be done when all dues to the copyright society have been paid. The appeal board will conduct an investigation, and if an unfair plan is discovered, the unreasonable aspect will be removed. The society's parties ask the author for administration powers to administrate by granting licenses, charging a licensing fee, or both. With authorization, the author also has the right to withdraw.

License

The copyright (Act, 2012) received a number of favorable amendments in the licensing clause that supported the authority of the original creator of a work and his interest in it in terms of protection. Previously, obtaining the author's signature was required for granting a license; however, writing to acquire a license is now sufficient. The legal representative of the author will get the benefit of the license if the author dies before the work is completed. A person may seek for a license to publish or communicate to the public if the author is deceased or cannot be located. If a work is published within the period, the owner may file a complaint with the appellate board, claiming that the owner has refused to republish or transmit the work to the public. The copyright board has authority to issue broadcasting and sound recording licenses, according to Section 31 of the Act[6]. Anyone who want to create a cover version of a literary, theatrical, or musical work must do so with the owner's permission and license. Provided, however, that the sound recording shall not be sold in a container or with a labeled cover that would confuse the public as to its identification. It's critical that the individual who creates the cover doesn't change anything from the original agreement[7]. In relation to the supply, broadcasting of literary, musical, and sound recordings to the public is possible. The organization specifies the coverage length and regions. Royalty rates that are fixed should be stated. Mentioning the writers' names as well as the work's main performance. The original should not be altered in any way.

Disabled

A person who works for the benefit of handicapped people may seek for a license to publish a copyrighted work for that person's benefit. It is also essential to make a follow-up enquiry after receiving an application to verify the applicant's qualifications and determine whether the application was submitted in good faith. The registrar of copyright would be able to issue a license to publish the work sought if it was done in good faith. The Copyright Act has evolved through time, and changes have been made. This is primarily to support and protect an author's production of a work. This has the right to be safeguarded from being exploited by a third party, resulting in him receiving credit and profit for work he did not create. There was a question in the Lok Sabha Parliamentary Question Hours about copyright violations and plagiarism, and if the government had set up a one-member investigation commission. The minister responded that, although there is no such committee, there is a Copyright Enforcement Consultative Council, which is a strictly advisory organization that reviews the success of copyright enforcement [8].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Characteristic Copyright Act

1. Establishment of a statute

The Copyright is granted by the statute. Other than that, there is no other common law right. There will be no copyright for any work that does not fall within section 16 of the Copyright Act.

2. Several Rights

Copyright is a collection of rights in a single work. In the case of literary works, it includes the right to modification and reproduction of the work, as well as the right to translation, the right to convert the work into a cinematographic version, and the right to serial publishing of the work. The author or artist also has a monopoly right under copyright. It also grants the right to protect his work from illegal replication or exploitation, as well as the right to prevent others from duplicating it[9].

3. It exists only in the presentation of a concept.

Only the original work is protected by copyright. The simple act of doing a job does not constitute copyright. For example, if a bright individual gets a book concept but does nothing to convey the idea, he cannot claim copyright for the idea alone since the idea must be represented.

4. The art has to be unique.

The work's originality is the most important criterion for claiming copyright. The work that is being considered for copyright must be that person's original creation. Original work is defined as work that has not been duplicated by another individual[8].

4. CONCLUSION

A country's socioeconomic growth is constantly dependent on its people's innovation and invention, and it is impossible to achieve without efficient administration and enforcement of copyright laws. The new route of global financial growth is one of creativity and innovation. Copyright is a significant problem when it comes to safeguarding intellectual property. Piracy literature has a large market nowadays, which has an impact on the author of the original copyright work. As a result, there is a pressing need to raise public understanding of the economic, social, and cultural significance of copyright in today's society. Today, society also demands that robust and effective Copyright laws be enacted and enforced, which balance the interests of rights holders with the broader public interest.

There are other essential aspects connected to library services nowadays, such as copyright education for all librarians in India in order to grasp the fundamental ideas and concepts of copyright laws in India, which is beneficial to the author for his work. Many individuals in India duplicate the author's original work for a variety of reasons, including a poor economic background, a lack of education, and so on. The unlawful act of copyright is increasing in this area as a result of the lack of penalty and incorrect application of the law. As a result, a thorough understanding and research of customer behavior is required in order to successfully address the issue. As a result, it is critical and timely to raise awareness about intellectual property rights for the growth of a nation, as well as to safeguard the rights of original author work.

REFERENCES

1. G. Mahesh and R. Mittal, "Digital content creation and copyright issues," Electron. Libr.,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2009, doi: 10.1108/02640470910979615.

- **2.** T. James, "Copyright Law of India and the Academic Community," J. Intellect. Prop. Rights, 2004.
- **3.** C. Dureja, "Historical Development of Copyright Law in India," Int. J. Adv. Res. Manag. Soc. Sci., 2015.
- **4.** P. R. Pillai, "Accessible Copies of Copyright Work for Visually Impaired Persons in India," Creat. Educ., 2012, doi: 10.4236/ce.2012.326159.
- **5.** A. Kumar, "Internet intermediary (ISP) liability for contributory copyright infringement in USA and India: Lack of uniformity as a trade barrier," J. Intellect. Prop. Rights, 2014.
- **6.** S. Bharti, "Legal Protection of Fashion Design in Apparels in India: A Dilemma Under the Copyright and Design Law.," Int. J. Bus. Insights Transform., 2016.
- **7.** G. Booth, "Copyright law and the changing economic value of popular music in India," Ethnomusicology. 2015, doi: 10.5406/ethnomusicology.59.2.0262.
- **8.** A. Sharma, "Indian perspective of fair dealing under copyright law: Lex lata or lex ferenda?," J. Intellect. Prop. Rights, 2009.
- **9.** B. V. Rajasingh, "India enacts laws to protect copyright over digital content," J. Intellect. Prop. Law Pract., 2013, doi: 10.1093/jiplp/jpt007.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE IMPORTANCE OF ALTERNATIVE SCHOOLS AND ALTERNATIVE EDUCATION

Charos Turabovna Kadirova*

*Lecturer,

Department of Mathematics, Geometry and Informatics Teaching, Faculty of Mathematical Informatics, Chirchik State Pedagogical Institute, Chirchik City, UZBEKISTAN

Email id: charos.kadirova9@bk.ru **DOI:** 10.5958/2249-7137.2021.02613.6

ABSTRACT

When you hear the words "alternative education," what comes to mind? Alternative education is a popular term these days. More and more people are demanding a better system that works for their children rather than one that only wants to graduate small factory employees. After all, that was the foundation of the conventional educational approach. More industrial employees were needed during the Industrial Revolution, and what better way to accomplish it than to create educational institutions where future generations might learn how to be small obedient robots. It's a long cry from what we have presently in our classrooms. Even the most traditional institutions strive to provide a well-rounded education by giving opportunities in several directions, such as art, music, and athletics.

KEYWORDS: Well-Rounded, "Alternative Education", Conventional

INTRODUCTION

Alternative education is a new movement that encompasses a variety of educational methods. More and more alternative schools are emphasizing independence, the capacity to pick an assignment, complete it, and then return it to its original location for others to utilize, as well as the ability to think outside the box. It's fine to be creative, inventive, problem-solving, and successful in a society where not everyone thinks and learns the same way.

- It is just not logical to assume pupils who learn visually to take notes and read from a text.
- It is inequitable to force children who need to utilize their bodies to learn via trial and error.
- It is unjust to have pupils who enjoy discussing issues sit and remain mute.

We have so many cases of children being abandoned, and characterizing them negatively is unjust when there are so many other options [1].

Main Part

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In this aspect, the alternative education system presents a novel learning approach. Students learn from one another rather than from teachers and instructors. They follow their own ideas, not what the teachers tell them. Alternative schools provide a fear-free environment for kids, which allows them to uncover their full potential in front of others. The value of self-assurance is instilled in students. They start to have faith in themselves. Even children in the later grades perceive themselves on the same level as first graders when they attend alternative schools. Every youngster aspires to do something new in their lives. A relevant education also helps with a variety of life goals, including personal growth, social advancement, improved health, economic progress, national achievement, life goal planning, and knowledge of a variety of societal concerns [3].

Reasons for choosing an alternative school vary, depending on the child, who may:

- be unusually gifted or motivated
- have a special talent or interest, such as music or science, that cannot be further developed in the present school
- be an underachiever or failing and require more individualized attention
- have special needs due to a learning disability or medical condition
- be exhibiting behaviors such as substance abuse, inappropriate sexual activity, acting out, and oppositional defiance
- have engaged in petty criminal behaviors and is becoming more self-destructive
- have been diagnosed with emotional and/or psychological problems that require a more structured therapeutic environment [3].

Alternative school networks may be found all around the world. We'll go through some of the most well-known alternative schools in the section below.

Montessori schools (Lillard, 1996; Kahn, Dubble, and Pendleton, 1999; Seldin and Epstein, 2003) follow an educational philosophy and methodology that includes multi-age classes, student choice work in longer time blocks, collaborative environments with student mentors, lack of testing and grading, and individual and small-group instruction in academic and social skills. Many conventional schools across the world have now incorporated portions of the Montessori system, despite the fact that the program's name is not protected by copyright. Most Montessoribased schools, on the other hand, are part of worldwide and national networks like the International Montessori Council and the American Montessori Society [4].

Waldorf schools, also referred as Steiner schools (Petrash, 2002; Clouder and Rawson, 2003; Masters, 2005), are founded on the educational principles of philosopher Rudolf Steiner. Waldorf education is now taught in kindergartens and schools in 60 countries, making it, together with Montessori education, the most widely used alternative education system on the planet. Through the integration of practical, creative, and intellectual methods into the teaching of all topics, Waldorf education strives to grow children and adolescents into free, moral, and integrated persons.

Round Square Schools (Tacy, 2006) are based on Kurt Hahn's concept of experiential education, which believes that schools prepare students for life by exposing them to authentic

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

learning situations such as work projects, community service, leadership training, international exchanges, and various forms of exploration and adventure in nature. There are now about 50 Round Square Schools (Tacy, 2006) on all five continents. In a supportive school community atmosphere, all Round Square schools emphasize learning via activities to grow each student intellectually, physically, culturally, and spiritually through a process of self-contradiction and self-formation [4].

The concepts of autonomy and democracy are the foundations of **Free or Democratic Schools** (Lamb, 1995; Gribble, 1998). Summerhill, a residential school in southern England, was founded by Scottish educator A.S. Neil in 1921 and is the oldest democratic school in the world. Sudbury Valley School, a strongly democratic school in Massachusetts, acted as a model for many Democratic schools that came after it. Approximately 100 schools call themselves "free" or "democratic" schools throughout the world nowadays. Since 1993, a loose network of public schools has emerged. Although official rules regarding democratic or free school organizational principles would conflict with the independent spirit of schools, they share many characteristics: school decisions are made by a self-governing school body in which each student and teacher has one vote under a majority voting system.

At a time when most alternative education models are based on the 20th-century progressivist education movement, the Swiss InstitutBeatenberg and the Canadian PROTIC serve as examples of 21st-century alternative education models based on constructivist theories of learning:

The Beatenberg Institute focuses on organizing students' self-efficacy and meta-cognition in order to establish the groundwork for lifelong learning. Under the supervision of teachers, students work individually or in small groups on self-designed learning projects. They use rubrics to evaluate their work and keep track of their progress and accomplishments in a portfolio. "Intensive Study Sessions" and "Special Study Days" are structured chances for small groups to build skills and knowledge.

In response to parental desire for modern, constructivist approaches of learning, **PROTIC**, an alternative public school in Quebec City, Canada, was formed. Through multidisciplinary learning projects facilitated by ICT, it coordinates the development of social, cognitive, and metacognitive abilities. Students address multidisciplinary issues in small groups through active inquiry, research and experimentation, complementing group effort, and outcomes presentation. Self- and peer-assessment with rubrics and portfolios encourages the development of metacognitive abilities, which are important for lifelong learning [4].

Alternative education techniques and schools are becoming increasingly important in our country. A large number of alternative educational organizations have been founded and are successfully operating. Below, we attempt to assess the educational approaches of some schools [5].

Temurbeks' schools, Arifs' Schools (Schools for Young Sages), "Why Much," and Presidential schools are all operating successfully and producing excellent outcomes.

- Temurbek schools aim to prepare future military members. These schools emphasize all of the information, skills, competences, physical, and mental fitness that leaders require [5].
- Arifs (Young Wise Schools) focus on language acquisition and creativity, as well as providing instruction in certain fields.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- "Why Much" refers to a group of preschool educational establishments. Their major job is to get kids ready for school.
- Presidential schools focus on STEAM education, with gifted students being identified and groomed to be great scientists, leaders, and leaders.

CONCLUSION

Where alternative education options combine personalised teaching with cooperative group learning in genuine, inquiry-based projects, students have access to a range of information sources and are assessed for deeper comprehension and further learning. Alternative schools are ahead of the curve in terms of education and can serve as valuable examples for the global regeneration of education [4].

REFERENCES:

- 1. https://empoweredavenue.com/the-importance-of-alternative-education-in-todays-society/
- 2. https://www.ipl.org/essay/The-Importance-Of-Alternative-Education-FC9JTULAYNR
- **3.** http://www.healthofchildren.com/A/Alternative-School.html
- **4.** Sliwka A. The Contribution of Alternative Education https://www.oecd.org/education/ceri/40805108.pdf
- **5.** Kadirova CT. Alternative Education and its Role in Education. Online Conferences; Platform, 2021. p. 46–48. Retrieved from http://papers.online-conferences.com/index.php/titfl/article/view/582.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE CONCEPT OF "VIOLENCE", TYPES OF FAMILY PRESSURE AND ITS SOCIAL SIGNIFICANCE

Kholida Omongul-qizi Ziyaeva*

*Senior Lecturer,
Department of Social Work, National University of Uzbekistan,
Tashkent City, UZBEKISTAN
Email id: ziyaeva@gmail.com

DOI: 10.5958/2249-7137.2021.02614.8

ABSTRACT

The family is a place that prepares a person for an independent life, shapes his interests, guides them, teaches them the first lesson. The family has come a long way from the moment of its formation as an independent social institution to our independence. The rich scientific and cultural heritage of Eastern thinkers contains ideas and teachings about the rules of family life of the Uzbek people, respect for adults, respect for children, culture in the process of social relations between family members, especially marital relations. The article analysis the point of Uzbek Government and Society about women violence problem.

KEYWORDS: *Violence, Family Violence, Women, Society, Government.*

INTRODUCTION

This problem is also widely covered in the works of our great scientists Muhammad ibn Ismail Bukhari, at-Termizi and the great representatives of the mystical philosophy Najmiddin Kubro, Ahmad Yassawi, Bahauddin Naqshband [1]. After all, respect and glorification of a person has always been a national value inherent in the nature of our people. The ancient historical source the sacred book of Zoroastrianism "Avesto" also reflects the idea of glorifying the honor, dignity, dignity of man, protecting his rights. This rare source made a unique contribution to the development of humanity and science, as well as to the development of human values.

Domestic violence has always been a pressing problem. After all, it is not always possible to legally control the relationship between family members. This is due to the fact that most crimes are committed in secret, in homes where people are out of sight.

Internationally, domestic violence was first widely discussed at the Fourth United Nations World Conference in Beijing, September 4-15, 1995 [2].

Main Part

The term in the Declaration on the Elimination of Violence against Women, adopted by the Assembly in 1993, contains the following definitions:

According to article 1 of this Declaration, the term "violence against women" means any violence committed against a woman on the basis of gender, which may cause her physical, sexual or psychological harm. These include: the threat of such an act, harassment or voluntary imprisonment in public or private life.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

We analyze that "violence against women" is a term in article 2 of this Declaration that covers but is not limited to the following: It states: "(a) domestic violence, inappropriate behavior of female children, sexual violence act, sexual violence against a spouse, female genital mutilation and other traditional practices that harm women, and exploitative sexual violence. non-physical rape or psychological abuse [3]; b) physical, sexual or psychological violence in the permanent units of society: rape, harassment, sexual harassment, trafficking in women and coercion in the workplace, in educational institutions or elsewhere; c) physical, sexual or psychological violence that is encouraged or condemned by the state, wherever it occurs [3].

The Fourth United Nations Conference on Women, held in Beijing in 1995, was the largest and most unique event in terms of scope, theme and results in the advancement of women and the achievement of equality between women and men. It was attended by 47,000 people from 189 countries, adopting the Platform for Action on the Advancement of Women Worldwide [4].

Violence is causing pain, harm (injury) to a person. The World Health Organization's Report on Health and Violence provides a detailed description of violence [5]. The report states that self-harm, mutual or collective, physical, sexual and psychological abuse is the result of a lack of attention.

The solution to the problem of domestic violence can be found through serious interaction with those who have experienced [6]. These descriptions reflect the nature of the violence. But the proponents of the definition called only women and children the targets of violence. In our opinion, not only women and children, but also every member of society can be objects of violence.

The Universal Declaration of Human Rights, adopted on December 10, 1948, is of great historical significance, in which a person, his dignity, rights and freedoms are highly valued [7]. Article 1 states that people are born equal in their dignity, rights and freedoms, treat each other in a spirit of brotherhood, Article 2 states that they have all rights and freedoms, do not allow discrimination, and Article 3 states that everyone has the right to life, liberty and security of person. the right to inviolability, article 4, that no one can be held in slavery or freedom, article 5, that no one should be subjected to torture or cruel, inhuman or degrading treatment or punishment, article 12, that a person must be arbitrarily interfered with privacy or family. interference, the inviolability of his honor and dignity, or protection from such interference or aggression by law, while Article 16 enshrines the rights of adult men and women to marry and be married. no limits.

Article 13 of the Declaration of Human Rights and Freedoms, ratified by the Republic of Uzbekistan, states that the state protects citizens from unlawful encroachments on their life, health, personal freedom and security [9].

Violence against women stems from inequality between men and women. The elimination of this inequality took centuries. In 1981, at the suggestion of women's rights activists, November 25, 1961, the day of the execution of Sister Mirabal, became the day to combat violence against women. The UN General Assembly has declared November 25, 1999 the International Day to Combat Violence against Women. The decision was made in response to the development of the international movement, the cessation of violence, in particular, 16 days of active action against gender-based violence [9, 10, 22].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

Violence against women exists in all countries of the world. On average, every third woman experiences abuse or violence at least once in her life. Domestic violence is caused by a man's lack of self-confidence and the strengthening of his position in the face of a vulnerable woman. In most cases, violence is committed by jealous, rude and mentally ill (men) [11].

Domestic violence is an attack on the life, health, freedom, honor, sexual integrity, honor, dignity of another member or another person in everyday life by one or more family members (regardless of whether the marriage is officially registered or divorced); intimidation through physical, psychological, economic pressure or its regular use against values and legitimate interests protected by law.

There are several terms in scientific research related to domestic violence. For example, the term "domestic violence" refers to violence committed by one family member against another (children, husband's wife, parents and other relatives).

The term spousal abuse is used only in relationships between a couple, while wife beating means wife beating. The variety of these terms indicates the urgency of the problem and the need to pay great attention to it.

Women suffer domestic violence for a number of reasons: the main reason is the need for a "father" for their children, living conditions, economic dependence, emotional attachment to the land, psychological reasons, and so on. In most cases, a woman suffers violence for fear of persecution by the victim and the loss of her children.

Every domestic violence has its own cause. But the factors that lead to them have a number of common features.

The following are the main characteristics of domestic violence in Uzbekistan:

- physical strength of the offender (often male violence against a woman, parental violence against a child);
- Multiple violence against one person (third party intervention);
- the victim is immersed in his own problems (legal illiteracy, social loneliness);
- Weakness of the mechanism of legal, psychological, medical assistance to the victim;
- work with situations, not with reasons (temporary reconciliation, local solution to the problem, lack of understanding of the root causes).

When observing the causes, one should not lose sight of the peculiarities of the psyche. In Uzbek families, privacy and family secrets are strictly personal and inviolable. In many cases, domestic violence does not extend beyond the family [12, 13].

Violence against women was not considered a violation of human rights and freedoms on a global scale. But as society developed, as a result of the diversity of views, violence became a problem of the era [14].

Today, there are the following methods and theories aimed at investigating cases of violence against women in foreign practice [15].

In the victimological method, the behavior of a woman causes violence itself. Schneider, a German researcher, points out that this is due to the movement of interaction between the victim

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

(woman) and the victim. In this context, Schneider identifies 3 stages of violence: stage 1 - strict control of the victim by the victim; Stage 2 - execution with the use of violence; Stage 3 is the victim's dependence on the victim, so that the victim escapes punishment and the situation repeats itself [16, 17].

Several researchers have put forward the theory of disagreement, arguing that violence is the main chain of conflict of views. Leonard Berkowitz, in his book Causes, Consequences and Measures to Combat Oppression, draws attention to the social and cultural foundations of the family and concludes [18]:

In our opinion, this theory expresses the reasons for the appearance of symptoms of violence in some people, but there are exceptions. For example, they may also be accused of indifference and violence without showing politeness and aggression.

The theory of structure (origin) dates back to the patriarchal period. J. Hearn argues that male attachment to power is associated with male violence. The fact that most criminals are men is due to their patronage of oppression and crime. Margaret Scheller points out that violence against women manifests itself in her (female) relationships with men, because her status is much lower than that of men. Violence between couples can be divided into 4 types: psychological (mental, spiritual), economic, physical and sexual [19].

In our opinion, all theories about violence are inextricably linked. When there is physical abuse in the family, it not only causes physical pain, but also leads to mental pain. On the other hand, economic violence is based on increased control. Sexual harassment leads to personal injury and its consequences [20].

In all laws adopted in Uzbekistan since the first years of independence, women's rights are recognized as an integral part of human rights. Over the years of independence in Uzbekistan, we see that in accordance with the ongoing reforms on the basis of the transition to a market economy, a new system has been formed. Today, the wife not only acts as a housewife, educator in the family, but also as a socially active person, with initiative and enthusiasm, participates in all spheres of society. A woman can be an example not only for her children, but also for colleagues and students with her spiritual image, inner world, culture of communication, dedication to her profession, virtues [21].

A lot of work is being done in this direction in our country. In particular, the signing of the Law of the Republic of Uzbekistan "On guarantees of equal rights and opportunities for women and men" on September 2, 2019 and "On the protection of women from oppression and violence" on September 2, 2019 showed how serious these problems are. One of the priority directions of improving the system of preventing domestic violence is to ensure the inevitability of punishment for any form of domestic violence in society [23].

In addition, a number of international documents have been signed with the international community with the aim of further strengthening the rights of women in our country and creating equal opportunities for them, increasing their social activity [24].

Involving women in public administration is one of the key elements of building a democratic state in Uzbekistan. Since joining the United Nations, Uzbekistan has joined many international treaties and conventions that confirm the rights of women at the international level and determine the actions of states aimed at protecting these rights. Uzbekistan has ratified a number of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

international documents, including the Universal Declaration of Human Rights, the Declaration of the Fourth World Conference on Women and the Platform for Action (Beijing, 1995), the Convention on the Protection of Maternity and the Convention on Human Rights. Equal rights for men and women. The Convention on Equal Remuneration for Women and the Convention on the Political Rights of Women ensure the rights of women [25].

Article 6 of the Law of the Republic of Uzbekistan "On guarantees of equal rights and opportunities for women and men" states that the state guarantees women and men equality in the exercise of personal, political, economic, social and cultural rights. Special attention is paid to ensuring equal rights and opportunities for men in managing public and state affairs, equal participation in the electoral process, healthcare, education, science, culture, labor and social protection, as well as in other spheres of state and public life.

Considering the above, we can say that non-governmental organizations are actively involved in the adoption of regulations aimed at protecting women.

The Law of the Republic of Uzbekistan "On the Protection of Women from Oppression and Violence", adopted on September 2, 2019, not only strengthened the status of women in society, but also allowed them to more reliably promote gender equality. In pursuance of this Law, on January 4, 2020, by the Resolution of the Cabinet of Ministers "On measures to improve the system of protecting women from oppression and violence", a number of documents were approved that are necessary to ensure the safety of women. In particular, a procedure has been developed for women and girls who have been victims of harassment and violence to obtain a state-protected protection order. A protective order can lead to action being taken against an individual or group of individuals who have harmed, harassed, or mistreated women [21].

Under the auspices of the Commission on Gender Equality of the Republic of Uzbekistan, with the support of the United Nations Population Fund (UNFPA) at the Republican Center for Rehabilitation and Adaptation "No to Violence!" the activity of the telegram channel has been adjusted. The channel is primarily intended for women, as well as government and non-government agencies and organizations directly involved in preventing and combating gender-based violence, journalists and bloggers, as well as the general public. On the Telegram channel, women themselves or their relatives can get the necessary information about legal assistance, practical information, who and where to contact in case of gender-based violence in the family or at the workplace.

CONCLUSION

In conclusion, we can say that in every era and in every state, this or that form of violence was manifested covertly and openly. But we saw that the attitude towards violence is different. This shows that violence is an urgent problem that is most sensitive today, studied and discussed.

REFERENCES:

- **1.** Fayzieva M, Zhabborov A. Oilaviy Munosabatlar Psychologiyasi. 2007. p.7. http://library.ziyonet.uz/ru/book/.20.10.2019.
- 2. Pisklakova M, Sinelnikov A. Collection of materials based on the results of Non-Governmental Regional Consultations with the UN Special Rapporteur on the problem of violence against women, its causes and consequences of violence against women: the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

experience of the countries of Eastern Europe, Central Asia and Russia. Moscow: 2008. p. 144.

- **3.** Report of the World Conference to Review and Appraise the Achievements of the United Nations Decade of Women: Equality, Development and Peace, Nairobi, 15-26 July 1985 (United Nations publication, Sales No. E.85.IV.10), chap. I, section A.
- **4.** Tutmen T. Family and reproductive Health, World Health Organization, Switzerland keynote speech Health, Gender and Human rights. Aspects of violence against women. Johannesburg, South Africa, 2001, pp. 8-10.
- **5.** http://www.euro.who.int/en/countries/uzbekistan
- **6.** Savkina I. Soigeneris: masculine and feminine in the autobiographical notes of N. Durova. About husband (N) duality: collection of articles / comp. S. Ushakin. Moscow: 2002.
- 7. Kulomova S. Hidoya va Inson hukuklari umumzhahon declaratsiyasidagi uygunlik masalalari. Demokratiyalashtirish va inson hukuklari. 2008;4:32.
- **8.** http://constitution.uz/uz/pages/humanrights.
- 9. World report on violence and health. Geneva, World Health Organization, 2002.
- **10.** Sethi D, Racioppi F, Baumgarten I, Vida P Injuries and violence in the European Region: why they matter and what can be done, World Health Organization, Regional Office for Europe, in press
- 11. https://sangzor.uz/breaking-news/8236-oiladagi-zravonlik-muammo-va-echimlar.html.
- **12.** Ukraine: Domestic Violence Blaming the Victim. Amnesty International, AI Index: EUR 50/005/2006 (November 21, 2006). (in English). Retrieved May 15, 2010. Archived September 10, 2008.
- **13.** http://womenation.org.01/15/2019.
- **14.** Bogdanova OI, Eremenko TS, Tiranen VA. Violence against women. Questions of modern jurisprudence: collection of articles. Art. by mater. VI int. scientific-practical conf. Part I. Novosibirsk: Sib AK, 2011.
- **15.** https://www.xabar.uz/huquq/ozbekistonda-oilaviy-zoravonlikka-qarshi. 15.01.2021.
- **16.** Craig W, Harel-fisch Y, Fogel-grinvald H, et al. A cross-national profile of bullying and victimization among adolescents in 40 countries. International Journal of Public Health. 2009.
- **17.** Follingstad, Diane R; DeHart, Dana D. Defining psychological abuse of husbands toward wives: contexts, behaviors, and typologies. Journal of Interpersonal Violence. 2000;15(9):891-920. -doi: 10.1177 / 088626000015009001.
- 18. Berkovits L. Aggression: causes, consequences and control, SPb M., 2001. p.31.
- **19.** Hearn J. The Gender of Oppression: Men, Masculinities and the Critique of Marxism. Wheatsheaf books. 1987. p. 12.
- **20.** Narbaeva T. Uzbekistonda hotin-kizlarni izhtimoy himoya kilishning innovatsion modeli. Sociodiskursiv tahlil. Monograph, Toshkent: Tasvir, 2020. p.10.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 21. Woman, law and society. A guide for women. Toshkent, 1999.
- **22.** Kizi ZHO. (2020). Mechanisms of improving social protection of women: Risk indicators and statistics. ACADEMICIA: An International Multidisciplinary Research Journal. 2020;10 (3):246-253.
- **23.** Kizi ZHO. (2020). The Mechanism of the Development of Social Protection of Women in the Context of Domestic Violence. International Journal of Engineering and Advanced Technology. 2020;9(2):63-69.
- **24.** Ziyaeva HO. Maishiy zaravonlikning izhtimoy hususiyatlari taulili. Journal of Social Research, 2019;(6).
- **25.** Mukhtorjanovna LN, Khabibovna GM, Asilbekovna AM, Kizi ZHO. Family violence in modern Uzbekistan. International Journal of Psychosocial Rehabilitation. 2020;24(6):371-388. DOI 10.37200 / IJPR / V24I6 / PR260039.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CONCEPT AND APPLICATIONS OF SMART EDUCATION IN THE DEVELOPED COUNTRIES OF THE WORLD

Dilfuza Muratjanovna Abidova*

*Leading Lecturer,
Academic Lyceum of the Tashkent Pediatric Medical Institute,
UZBEKISTAN
Email id: abidova d@mail.ru

DOI: 10.5958/2249-7137.2021.02612.4

ABSTRACT

This article is written about the smart education trend. The article analyzes the concept of smart education in the developed countries of the world, provides an overview of scientific works on the levels of development of smart education, the transition to a smart society. Also, the thoughts of scientists about smart people are given.

KEYWORDS: Smart, Smart Cities, Smart Education, Smart People, Smart Technology.

INTRODUCTION

Smart education has received a lot of attention in the 21st century. Educational projects focused on intellectual education have been carried out around the world in recent years:

- In 1997, Malaysia first implemented a smart education project, the Malaysian Smart School Implementation Plan. Government-backed smart schools strive to improve the education system in order to achieve the National Philosophy of Education and prepare a workforce that meets the challenges of the 21st century.
- Singapore has been implementing the Smart Nation Master Plan since 2006, in which technology-assisted education is an important part. According to the plan, eight schools of the future are being created, which are focused on creating a diverse learning environment [1].
- Australia partnered with IBM to develop a smart, student-centered, multidisciplinary education system. Their system links schools, universities and training.
- In South Korea, there is an educational project SMART, the main tasks of which are to reform the educational system and improve the educational infrastructure.
- New York's Smart School program emphasizes the role of technology integrated into the classroom. They focus on improving student achievement and preparing them to participate in the 21st century economy.
- Finland also implemented an Intelligent Education project in 2011, which is the current system solutions for learning (SysTech). The project aims to advance 21st century learning through user-centered and motivational learning solutions.
- In 2012, the UAE began investing in a smart learning program that aims to create a new learning environment and culture in their national schools through the launch of smart classrooms. [2]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Smart lifestyles are characterized by a variety of cultural sites available to all religions, whether they belong to major or minor communities. The conditions for education must be provided through the creation of world-class colleges and universities. There should also be tourist attractions here, as well as world-class hospitals with all the latest technology and equipment to ensure that every resident can lead a healthy life. Good quality housing as well as social cohesion must be ensured for the townspeople. Also, in order to live in a smart system, a new species, changed people of society are required. They are called smart people.

Smart people. The Human Development Index is considered the most important aspect. The next most important indicator is the attendance of graduates. The third most important attribute is skill level. Smart people must have a passion for lifelong learning and there must be social and ethnic diversity [3]. Openness is another quality of smart people, as well as flexibility to adapt to changes in the environment, as well as creativity, which fosters education. Smart people have a democratic character and participate in public life [3].

Scientists have developed a criterion that defines smart people [1]:

Smartness	Details
levels (i.e.	
Ability to)	
	Ability to modify physical or behavioral characteristics to fit the
Adapt	environment or better survive in it.
	Ability to identify, recognize, understand and/or become aware of
Sense	phenomenon, event, object, impact, etc.
	Ability to make logical conclusion(s) on the basis of raw data, processed
	information, observations, evidence, assumptions, rules and logic
Infer	reasoning.
	Ability to acquire new or modify existing knowledge, experience, behavior
Learn	to improve performance, effectiveness, skills, etc.
	Ability of thinking or reasoning to predict what is going to happen or what
Anticipate	to do next.
	Ability of a system to change its internal structure (components), self-
	regenerate and self-sustain in purposeful (non-random) manner under
Self-organize	appropriate conditions but without an external agent/entity.

MATERIALS AND METHODS

Today there is no definite definition of smart learning yet. Multidisciplinary researchers and educational professionals are constantly discussing the concept of intelligent learning. However, several important components have been discussed in the literature. Hwang (2014) and Scott and Benlamri (2010) argue that intellectual learning is context-aware learning everywhere. Gwak (2010) proposed the concept of intelligent learning as follows: first, it is learner-centered and content-centered rather than device-centered; secondly, it is effective, intelligent, personalized training based on advanced IT infrastructure. Technology plays an important role in supporting intelligent learning, but the focus should be on more than just using smart devices. Kim et al. (2013) argue that smart learning, which combines the benefits of social learning and ubiquitous learning, is a learner-centered and service-centered educational paradigm, not just device-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

centered. Middleton (2015) also describes student-centered aspects of smart learning and the benefits of using smart technology. Personal and intelligent technologies force learners to participate in learning and increase their independence in more open, connected and expanded ways at the expense of richer personal contexts. [4-7]

Also others are trying to point out the features of smart tilt. MEST (2011) presented the features of intelligent learning, which is defined as self-directed, motivated, adaptive, resource-rich and embedded in technology. Lee et al. (2014) have proposed that smart learning functions include formal and non-formal learning, social and collaborative learning, personalized and situational learning, and application and content orientation. [8]

RESULTS AND DISCUSSION

Around the world, many countries have participated in projects aimed at intellectual education. Malaysian Smart Schools are committed to helping their country build a 21st century workforce by leveraging and implementing cutting edge technology in schools. And smart schools are not only focused on stimulating thinking, creativity and caring for students, but also taking into account the individual differences and learning styles of their students. Intellectual education in Singapore also highlights the role of technology. Their goal is to foster the use of learning experiences to meet the diverse needs of learners through the innovative use of information and communication technologies (Subcommittee on Education and Training, 2007). To realize this, Singapore has created an enriching and personalized student-centered environment as well as a nationwide education and learning system for educational institutions and lifelong learning. Korea has implemented a mind education project to provide students with personalized and adaptive learning to develop the ability to learn independently and enjoy the use of various resources and technologies. Personalized learning and creativity-centered education are considered to be the main keywords in intellectual education. Australia is committed to building a smart, learner-centered multidisciplinary education system using the following strategies: adaptive curriculum and learning portfolios for learners, collaborative digital learning technologies and resources for teachers and learners, computerized administration, monitoring and reporting, and online learning. Resources. New York has proposed the following keys to achieving a smart school: reaching and expanding online learning, harnessing transformative technology, connecting every school with a high-speed network, expanding communication between the classroom and beyond, providing high-quality continuous professional development, and focusing on Developing 21st Century Skills (New York City Smart Schools Commission Report 2014). Finnish intelligence education aims to use user-centered and motivational learning solutions to advance learning in the 21st century (Kankaanranta and Mäkelä, 2014). They proposed a pedagogical network of educational institutions called the "value network", which is the centerpiece of the program. It consists of the following five categories: for understanding user experience and usability, for obtaining expert feedback, for determining learning outcomes, learning effects and quality, for developing skills and experience. The United Arab Emirates (UAE) is committed to making its education system student-centered through the use of cuttingedge science and technology. They encourage students to develop creativity, analytical thinking, and innovation. Their approach includes teaching both in and outside the classroom. Students can monitor and actively participate in their own learning experience in an interactive, engaging and rewarding learning environmentsphere. [9-14]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The aim of intellectual education is to foster the development of a workforce that acquires the knowledge and skills of the 21st century to meet the needs and challenges of society. Intelligent technologies play an important role in creating an intelligent educational environment. In an intelligent educational environment, learning can take place anytime, anywhere. It covers a variety of learning styles such as formal and non-formal learning, personal and social learning, and aims to ensure the continuity of learning for the learner. In doing so, learners are provided with personalized learning services as well as adaptive content in accordance with their (learning) context and their personal abilities and needs. So, in general, "smart" in smart education means smart, personalized and adaptive. But for different education and / or educational situations, the meaning of "smart" has different definitions.

CONCLUSION

The smart educational concept combines:

- virtual space;
- mind, intelligence and multitasking of both systems and humans;
- application of IT technologies intelligently and efficiently;
- AI;
- Methods for smart learning;
- Smart teaching
- Smart upbringing;
- Smart competencies.

REFERENCES:

- 1. Shoikova E, Nikolov R, Kovatcheva E. Conceptualising of Smart Education. Conceptual Modeling and Simulation of Internet of Things Ecosystems (KoMEIN). 2017. https://www.researchgate.net/publication/320623528_Conceptualising_of_Smart_Education.
- **2.** Zhu et al. Smart Learning Environments. Springer Nature. 2016;3:4 DOI 10.1186/s40561-016-0026-2. https://slejournal.springeropen.com/.
- 3. Gupta S, Mustafa SZ, and Kumar H. Smart People for Smart Cities: A Behavioral Framework for Personality and Roles. 2017. https://www.researchgate.net/publication/319466257_3_Smart_People_for_Smart_Cities_A_Beha vioral_Framework_for_Personality_and_Roles_Smarter_People_Governance_and_Solutions
- **4.** Middleton, A., Smart learning: Teaching and learning with smartphones and tablets in post compulsory education. 2015. MELSIG & Sheffield Hallam University, Sheffield.
- **5.** Mayer VKS. Big data: A revolution that will transform how we live, work, and think. Boston: Houghton Mifflin Harcourt. 2013.
- **6.** Boulanger DJS. Smart learning analytics in Emerging issues in smart learning. Berlin Heidelberg: Springer. 2015.
- 7. Rustamova NR. Issues of Development of Students' Media Competence Based on Vitagenic (Life) Experience. Journal of Physical Education and Sport ® (JPES), 2021;21(6): 2599-2616.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **8.** Lee A. (2015). Authentication scheme for smart learning system in the cloud computing environment. J. Comput. Virol. Hacking Tech. 2015;11(3):149–155.
- **9.** Rustamova NR. Vitagenic education and the holographic approach in the educational process. European Conference on Natural Research, 2021;1:23-29.
- **10.** Gros B. The Design of Smart Educational Environments. 2016.
- **11.** Rustamova NR. Technology for the development of media culture of secondary school pupils (on the example of grades 7-9). Dissertation of the doctor of philosophy (PhD) in pedagogical sciences. 2019.
- **12.** Ruzieva DI, Rustamova NR, (2021). Analysis of theoretical studies of the concepts of vitagen and vitagenic education. European Conference on Natural Research. 2021;1: 42-46.
- **13.** Akramova LY, Mirzaeva SRK, Botirovna D. The role of interactive teaching methods in the development of mental activity and the assimilation of students' knowledge at a university, International Journal of Psychosocial Rehabilitation, 2020;24(9):427-433.
- **14.** Rustamova N, Ismatova S. Research Methods of Psychology in Medicine. Online Conferences Platform, 2021;90–93. Retrieved from http://papers.online-conferences.com/index.php/titfl/article/view/599

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A STUDY OF THE IMPACT ATTENUATOR

Mahir Hussain*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: mahir.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02637.9

ABSTRACT

The impact attenuator provides a charge channel for transverse and vertical loads in the event of off-center and off-axis collisions. The impact attenuator is distinguished by the concentration of energy dissipation in a limited zone and the recognition of the system by a static body movement. The impact attenuator minimizes vehicle frame damage and protects the driver from personal injury during the collision, according to the study. The impact dimmer's crush can absorb kinetic energy and evenly transfer low load to the remainder of the system. To understand the behavior of vehicle impact crushing, this paper examines academics' work in the areas of design and impact mitigation analysis. The researchers' geometric structure and material choice for the impact attenuator are briefly described first, followed by the FEA analysis and experimental testing techniques. The experimental and simulation experiments will be split into three groups: test, simulated test, and comparison.

KEYWORDS: FEA, Lightweight material, Impact Attenuator, Vehicle.

1. INTRODUCTION

The impact attenuator is a crucial component of the vehicle and the most important equipment in a racing car since it acts as a barrier between the driver and the impacted region. The impact attenuator is intended to flex evenly to absorb the vehicle's kinetic energy while retaining a low degree of force. If the deformation caused by G's spikes is unequal, the driver may be harmed. Significant longitudinal tension and cracking are often used to absorb energy[1]. By constructing impact attenuators using lightweight materials, it is possible to improve vehicle acceleration and fuel economy.

An impact attenuator, also known as a crash cushion, crash attenuator, or cowboy cushion, is a device intended to reduce the damage to structures, vehicles, and motorists resulting from a motor vehicle collision. Impact attenuators are designed to absorb the colliding vehicle's kinetic energy. They may also be designed to redirect the vehicle away from the hazard or away from roadway machinery and workers. Impact attenuators are usually placed in front of fixed structures near highways, such as gore points, crash barrier introductions, or overpass supports. Temporary versions may be used for road construction projects. Impact attenuators are designed to absorb the colliding vehicle's kinetic energy to bring it to a stop safely. If no impact attenuator is present, a vehicle which strikes a rigid roadside object will suddenly stop.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A person inside will promptly collide with the interior of the vehicle, and that person's internal organs will collide with their chest wall, causing severe internal injuries and possibly death. By safely dissipating the vehicle's kinetic energy, impact attenuators help prevent such injuries.

Impact attenuators can be categorized by the method used to dissipate kinetic energy:

- Momentum transfer. Many early models used successive rows of sand- or water-filled barrels
 or modules. Momentum is transferred to the sand or water, reducing the speed of the
 impacting vehicle.[2]
- Material deformation. Many newer attenuators use crushable materials (like various kinds of foam) that create a crumple zone, absorbing energy.[2] Others flatten a corrugated steel guard rail section, or split a steel box beam.
- Friction. Some attenuators work by forcing a steel cable or strap through an angled slot or tube, converting kinetic energy into heat.

Titanium, wave burn, nomex, carbon fiber, Kevlar, or aluminum foil are popular impact attenuators because they provide the driver with the best possible protection [2].

Because it serves as a safety barrier between the driver and the hit surface, the impact attenuator is a critical component of the vehicle and the racing car's most essential structural The impact attenuator is intended to absorb kinetic energy from the vehicle in the form of even deformation while keeping the force level low. If the deformation is uneven, the driver may be injured as a result of G-force spikes. The energy is usually absorbed by the structure being crushed and crumbled extensively In the case of off-center and off-axis collisions, the impact attenuator offers a load route for transverse and vertical loads[3]. The impact attenuator's crashworthiness is evaluated in terms of total and specific absorbed energy. The rate of energy dissipation in an impact attenuator is focused over a small zone, while the structure's components undergo stiff body motion Figure 1 shows a schematic representation of an impact attenuator[4]. The impact attenuator is attached to the chassis' bulkhead. Lightweight materials should be used in the design of impact attenuators, which may help to improve the vehicle's acceleration performance and fuel efficiency. Aluminum, honeycomb, nomex, carbon composite, kevlar, aluminum foil, or a mix of these materials are often used as impact attenuators since they offer the best protection for the driver. Impact attenuators come in a variety of shapes and sizes, including tube and plate structures, honeycomb structures, truncated trapezoidal shapes, and sandwich structures.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

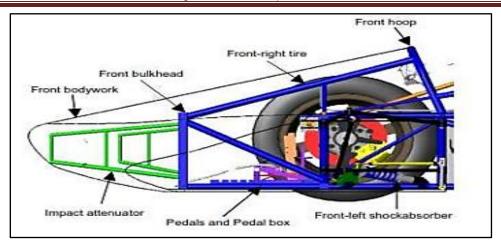


Figure 1: Schematic of Front Part of FSAE Vehicle.

A wreck, crash, cowboy, or cowboy cushion is an impact attenuator that reduces the damage caused by motor vehicle accidents to structures, vehicles, and drivers. Impact attenuators are often intended to keep the vehicle out of harm's way or to keep it away from road infrastructure and personnel. Fixed structures near highway roadways, such as gore points, accident barrier introduction, and overpass supports, are usually surrounded by impact attenuators. Attenuators for impact are designed to resist kinetic energy. Provisional models may be utilized in road construction projects. The purpose of an impact attenuator is to absorb the kinetic energy of colliding vehicles in order to safely halt them. If a vehicle collides with a solid object on the roadside and has no impact attenuator, it may come to a sudden halt. An internal human will collide with the vehicle's interior in a moment, and the person's inside organs will collide with their chest wall, causing severe internal damage and death. The impact attenuator helps to prevent such collisions by effectively dispersing the vehicle's kinetic energy [5].

Impact attenuators are defined by the mechanism employed to disperse kinetic energy:

- Change the motion. Many versions utilized a series of barrels or modules filled with sand or water in a row. The vehicle's impact speed is reduced when sand or water is displaced.
- Stuff that causes deformation Crushable materials (such as various types of foam) are used in many modern attenuators to create a crumpled area that absorbs energy. Others cut a beam in a steel box or flatten a railway corrugated steel guard.
- Rubbish. Any attenuator converts film energy into heat by pushing a steel cable or strapping into a tube or angle slot.

The impact attenuator is placed on the chassis' bulkhead.[6]. The use of lightweight materials in the car's design may assist to improve acceleration and fuel efficiency. Titanium, waveburn, nomex, carbon fiber, kevlar, or aluminum foil are popular impact attenuators since they provide the driver with the most protection. Impact attenuators come in a variety of shapes and sizes. Sandwich with an organized tube and plate form, as well as a truncated trapezoid shape and structure. It's all about speed in motorsports, but it comes at the expense of driver safety. This study focuses on the design, development, and testing of an impact attenuator for the vehicle's front end. There have been a few fatalities in Formula One. The FIA has also established certain

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

guidelines for all driver safety teams. Measures to protect the driver in the event of a rollover, side collision, or frontal effect have been implemented.

Technical advancements in the automotive sector have developed throughout this time period. One of them is the concept of fast vehicles. The greater the vehicle's speed, the safer the driver will be. In this instance, the student formula specifies that each team must utilize the impact attenuator for the driver's safety. Impact mitigation may be defined as artifacts that can withstand a collision and maintain the effect. Cabin that is stable. The technique of attenuating the impact, in addition to its capacity to use energy, also functions as an attenuator for the effects, as well as being quick to produce and acquire necessary materials. The effect attenuator is also affected by the form of a rectangular prism, a steel truncated pyramid, and cubes. A labyrinth consuming day and even a simple process based on the material selected by a truncated pyramid are examples of impact decreasing forms. If you click to distribute the load out from the front for the selected impact attenuator, a truncated pyramid will appear. For the crash scenario, a truncated pyramid was selected. An axial loading objective is one of them [7].

2. LITERATURE REVIEW

The impact attenuator is a crucial component of the vehicle and the most important equipment in a racing car since it acts as a barrier between the driver and the impacted region. The impact attenuator is intended to flex evenly to absorb the vehicle's kinetic energy while retaining a low degree of force. If the deformation caused by G's spikes is unequal, the driver may be harmed [8]. It's all about speed in motorsports, but it comes at the expense of driver safety. This study focuses on the design, development, and testing of an impact attenuator for the vehicle's front end. There have been several tragic incidents in Formula One [9].

The greater the vehicle's speed, the safer the driver will be. In this instance, the student formula specifies that each team must utilize the impact attenuator for the driver's safety. Impact mitigation may be defined as artifacts that can withstand a crash hit while maintaining the effect of a stable cab. In addition to the capacity to use power, the technique of attenuating the impact also serves as an attenuator for the effects, as well as being quick to produce and acquire necessary materials [10].

3. DISCUSSION

Vehicles weighing 2 250 pounds or more have been the subject of previous impact attenuation tests and assessments (1023 kg). Because of the recent increase in minicar sales, this class now accounts for a significant part of the vehicle population (1800 lb, 818 kg, and range). This raises concerns about additional automobile accidents. Minibuses' tiny size and weight decrease wheelbase lengths, track widths, and crush space, as well as mass inertia times, when compared to bigger vehicles. Variations have an effect on how the vehicle reacts in a collision. A total of 20 accident tests were conducted under the federal highway administration's (FHWA) contract titled "Experience Attenuators-A Current Engineering Assessment" to explain the behaviors of small automobiles in impact attenuation crashes.

- The project's main objectives were to investigate the complexity of small and full-size automobiles that are presently colliding with impact attenuators on our nation's highways.
- To investigate the effectiveness of inertial effect attenuators with different fill materials and technologies in order to identify issues related with frozen sand.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In the case of off-center and off-axis collisions, the impact attenuator offers a charge route for transverse and vertical stresses. The energy dissipation in a restricted zone distinguishes the impact attenuator, as does the identification of the system by a static body movement. It is feasible to enhance vehicle acceleration and fuel efficiency by utilizing lightweight materials to build impact attenuators. Impact attenuators made of titanium, wave burn, nomex, carbon fiber, Kevlar, or aluminum foil are popular because they provide the greatest protection to the driver. The impact attenuator is a key component of the vehicle and the racing car's most important structural component since it acts as a safety barrier between the driver and the crash surface. The purpose of the impact attenuator is to absorb kinetic energy from the vehicle in the form of even deformation while maintaining a low force level. G-force spikes may cause injury to the driver if the deformation is unequal. The energy is typically absorbed by the structure, which is heavily crushed and disintegrated. The impact attenuator provides a load path for transverse and vertical loads in off-center and off-axis impacts.

The bulkhead of the chassis houses the impact attenuator. Impact attenuators should be made of lightweight materials, which may assist enhance the vehicle's acceleration performance and fuel economy. Impact attenuators are often made of aluminum, honeycomb, nomex, carbon composite, kevlar, aluminum foil, or a combination of these materials since they provide the greatest protection for the driver. Tube and plate constructions, honeycomb structures, truncated trapezoidal forms, and sandwich structures are some of the many types of impact attenuators available.

4. CONCLUSION

The prior researches on impact decrease in recent years have been thoroughly reviewed in this thesis. The literature on effect attenuator science has been shown, and all important contributions have been made. The most recent literature evaluation came to the following conclusion: -

- The impact attenuator minimizes vehicle frame damage and protects the driver from personal injury during the collision, according to the study. The impact dimmer's crush can absorb kinetic energy and evenly transfer low load to the remainder of the system.
- The study shows that the majority of architectural research focuses on decreasing the impact attenuator's weight. The impact attenuator's weight has a significant effect on the overall vehicle weight allocation. Furthermore, the material used for the impact attenuator should have a high ability to absorb energy while remaining within a deformation tolerance range.
- Previous research on comparative analysis of impact attenuator experimental and simulation tests has shown that the same pattern crushes the impact attenuator. In research, simulation-based analysis is therefore simpler and more practical.

An impact attenuator's job is to absorb the kinetic energy of colliding cars and bring them to a safe stop. If a car collides with a solid item on the roadside and does not have an impact attenuator, the vehicle may come to a complete stop. In a split second, an inside human collides with the vehicle's interior, and the person's inner organs collide with their chest wall, resulting in serious internal injury and death. By efficiently distributing the vehicle's kinetic energy, the impact attenuator aids in the prevention of such collisions.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES:

- 1. M. M. Squires and L. F. W. Lesack, "Spatial and temporal patterns of light attenuation among lakes of the Mackenzie Delta," Freshw. Biol., 2003.
- **2.** J. Fahland, C. Hoff, and J. Brelin-Fornari, "Evaluating Impact Attenuator Performance for a Formula SAE Vehicle," SAE Int. J. Passeng. Cars Mech. Syst., 2011.
- 3. T. Sugimoto and T. Kawaguchi, "Development of a surface defect inspection system using radiant light from steel products in a hot rolling line," IEEE Trans. Instrum. Meas., 1998.
- **4.** N. Takahashi et al., "Two year operation of the Precipitation Radar (PR) onboard TRMM satellite," in International Geoscience and Remote Sensing Symposium (IGARSS), 2000.
- 5. S. Boria, J. Obradovic, and G. Belingardi, "Experimental and numerical investigations of the impact behaviour of composite frontal crash structures," Compos. Part B Eng., 2015.
- **6.** G. Belingardi and J. Obradović, "Design of the impact attenuator for a formula student racing car: Numerical simulation of the impact crash test," J. Serbian Soc. Comput. Mech., 2010.
- 7. J. Hinch, D. Sawyer, D. Stout, M. Hargrave, and R. Owings, "Impact attenuators: a current engineering evaluation," Transp. Res. Rec., vol. 1198, pp. 76–89, 1988.
- **8.** N. Agrawal, J. Raj, and G. Saxena, "Design and Analysis of Impact Attenuator: A Review," Int. J. Mech. Eng., 2015.
- 9. N. S. Potabatti, "Design and Physical Testing of Impact Attenuator for Formula Sae Racecar," Int. J. Sci. Eng. Technol. Res., 2016.
- **10.** F. Imanullah, Ubaidillah, A. S. Prasojo, and A. A. Wirawan, "Experiment evaluation of impact attenuator for a racing car under static load," in AIP Conference Proceedings, 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

STATE-OF-THE-ART, LIMITATIONS, AND DIFFICULTIES IN ANAEROBIC SEWAGE TREATMENT

Dr. S.R. Ali*

*Professor,

Department of Civil Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: drsrali.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02638.0

ABSTRACT

Since its debut in the mid-1980s, interest in high-rate anaerobic (pre-) treatment of sewage utilizing UASB reactors has gradually grown. Hundreds of full-scale plants are already in operation across the tropical globe, particularly in Latin America and India. The primary benefit of UASB technology is that it uses very little or no energy, resulting in a tenfold reduction in operating expenses when compared to activated sludge. This article provides a literature review with an emphasis on current design criteria and post-treatment alternatives, as well as a comparison of centralized versus decentralized approaches. Temperature, nutrients, pathogen elimination, smell annoyance, operational constrictions, and methane emissions are among the existing limits and restrictions given and addressed. Recent difficulties in energy recovery from biogas, sludge, and scum are also addressed, as well as advancements in dissolved methane recovery and sludge management. Finally, the study offers some predictions regarding future events.

KEYWORDS: Anaerobic Digestion, Anaerobic Sewage Treatment, Biogas, Domestic Sewage, Wastewater

1. INTRODUCTION

With the introduction of the upflow anaerobic sludge blanket (UASB) technology in the 1980s, a number of nations, particularly those in Latin America and India, started to include anaerobic sewage treatment technology into sewage treatment plant flowsheets (STP). Traditional wastewater treatment methods, such as automated activated sludge and land-based pond systems, were considered as an alternative to anaerobic sewage treatment, which was sometimes followed by units of aerobic post treatment systems[1]. Latin America, particularly Brazil, Colombia, and Mexico, have become the current frontrunners in the appropriate use of UASB reactor systems for the treatment of urban wastewater due to favorable climatic conditions and significant expenditures in research and development[2].

The use of UASB reactors for wastewater treatment was first introduced in Brazil in the early 1980s, when various groups of academics and engineers began research in the field of wastewater treatment. The improper usage of UASB reactors during its debut tainted the technology's reputation among state water corporations and environmental protection authorities. However, in recent decades, this has been restored as a consequence of increased studies and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

research in the field, as well as expertise acquired in the operation of full-scale facilities. The National Research Program on Basic Sanitation—PROSAB, which ran from 1997 to 2007, undoubtedly made a significant contribution to the consolidation and diffusion of anaerobic technology for the treatment of residential sewage in Brazil. Similarly, in 1990, the Indian government started the Yamuna Action Plan—YAP, a major initiative to enhance the water quality of the Yamuna River basin based on the Ganga Action Plan's prior success.

The government agreed to build 16 full-scale UASB reactors with a total capacity of 598,000 m3 day-1 under this YAP, acknowledging the technology as a mainstream sewage treatment technique in India. Stabilization ponds, activated sludge (extended aeration and conventional procedures), and UASB reactors were recognized as three main technologies for municipal wastewater treatment in a recent study in the Latin American area[3]. In six nations in the area (Brazil, Colombia, Chile, Dominican Republic, Guatemala, and Mexico), a study of 2734 treatment facilities was conducted. The distribution of these three technologies by number was 38, 26 and 17 percent, equivalent to 81 percent of the facilities examined. It's worth noting that the UASB system, despite being a relative newcomer in the area of municipal sewage treatment with just 25 years of experience in this market, came in third place, behind procedures that are over a century old.

When the technologies in Latin America are ranked by treatment capability, however, the picture changes design flow [4]. In this instance, both types of activated sludge come out on top, followed by stabilization ponds, improved primary treatment, and UASB in fourth place, accounting for 58, 15, 9, and 7% of the total design flow in the sample, respectively (Fig. 1b). Stabilization ponds, and even UASB, are clearly used in the area, although only in modest facilities. In reality, the study showed that 67 percent of STPs in Latin America are tiny, with design flows of less than 25 L s-1, and 34% are extremely small, with design flows of less than 10 L s-1. In Latin America, where several large full-scale plants, treating a population equivalent up to one million inhabitants (Once a STP, Belo Horizonte, Brazil), have been in operation for more than ten years, UASB reactors used for domestic wastewater treatment are now considered a consolidated technology. In contrast to a typical activated sludge plant, the costs of a treatment plant with a UASB reactor followed by aerobic biological treatment generally enable capital expenditures (CAPEX) reductions of 20–50 percent and operating expenditures (OPEX) savings of more than 50 percent[5].

One of the reasons for the rise in wastewater treatment coverage in Latin America is because of this. UASB technology was shown to be cost-effective not just when compared to activated sludge processes, but also when compared to pond systems. In fact, near metropolitan regions where land values are high, land-based treatment methods are regarded extremely costly. As a result, large-scale pond systems are seldom used in India near metropolitan areas[6]. Similarly, the Dutch consultancy DHV conducted a cost-benefit analysis for the best feasible treatment option for urbanized areas in the irrigated agricultural lands of Fayoum, Egypt, 80 kilometers south of Cairo. Pond systems were quickly abandoned in this research due to an overabundance of important agricultural land.

When compared to traditional activated sludge, a UASB system followed by a stone-filled trickling filter resulted in a 40% reduction in CAPEX and a 90% reduction in OPEX, owing to the avoidance of fossil energy usage for sewage treatment. This review article focuses on the practical aspects of the UASB reactor, which is the most widely used anaerobic system for

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

treating domestic wastewater[7]. It brings together compiled information on design criteria as well as current limitations and constraints, particularly in full-scale applications. The article also considers issues such as smell and methane emissions that have been documented in the literature, as well as operational limitations, difficulties, and views on nutrient treatment and recovery.

The aforementioned guideline requires at least one discharge point per 100 m2 bottom area for surplus sludge removal. Discharge pipes with a minimum diameter of 100 mm should also be installed at two distinct heights, near to the bottom and between 0.8 and 1.3 m above the bottom. In terms of biogas management, it is suggested that STPs with an average flow capacity of more than 250 l s-1 that do not use gas have at least two flares, one as a backup. The biogas pipeline must have a minimum diameter of 50 mm and a maximum velocity of 5 m s-1 from the average gas flow. Given the inherent limits of anaerobic systems and the strict discharge requirements, it is essential to add a post-treatment step for the effluents from anaerobic reactors[7]. Furthermore, the need to create technologies that are better suited to the realities of developing nations remains an issue.

In light of the public health concerns and restrictions placed on the use of treated effluents in agriculture, the polishing step aims to enhance the microbiological quality of the effluents. In an environmental approach, the effluent quality in terms of organic matter and nutrients must be guaranteed, given the environmental harm caused by the discharge of these residual contaminants into the receiving surface water. The literature on post-treatment alternatives for an aerobically pre-treated sewage is extensive, with many articles addressing the different technologies and analyzing key experimental findings, exposing the benefits and drawbacks of each option[8]. Long-term dependability and operability studies of AnMBRs in municipal wastewater treatment, as well as basic cost and energy statistics, are lacking.

Furthermore, the majority of the research presented is limited to bench scale trials. The major disadvantages of AnMBRs, such as limited flux, membrane fouling, and expensive capital and operating expenses, continue to restrict their economic viability. Filter cloths, rather than actual membranes, are being developed in new ways that may significantly decrease capital expenditures[9]. Sewerage systems were originally built to transport sanitary flows and urban overflows away from inhabited areas. This did actually enhance sanitary conditions in many growing towns in the 19th and 20th centuries, resulting in a significant decrease in waterborne illnesses. The collected sewage was then released into surface waterways, posing a danger to the receiving water bodies' environmental health[10].

2. DISCUSSION

The latter, on the other hand, was not yet covered by official restrictions. Environmental laws were only established in the final 3–4 decades of the previous century in the industrialized nations of Western Europe and Northern America. Large cities, which already had substantial sewage systems, were also chosen as the first to be serviced by STPs. The massive sewage discharges of these cities had a significant effect on the environmental health of the aquatic bodies that received them. Prior to release to the surface waters, the earliest STPs were situated near the sewerage's major outfall in most cities. The environmental effect may be minimized by establishing a single STP to handle this big point source.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As a result, centralized sewage treatment arose as a logical result of historical events. This centralized model, however, places a financial strain on governments to build, maintain, and expand these services to all people. The centralized treatment method, with its benefits of economies of scale, has evolved into a sort of blueprint for sanitary systems, sewerage, and treatment in recent decades. In order to collect all of the sewage from the growing cities, centralized sewerage systems need pumping stations and siphons, as well as massive trunk sewers, especially in mountainous regions. With complete coverage of multi-tap drinking water supply at the home level and increased drinking water use, sewage outfalls increased dramatically, as did the number of needed STPs.

The latter evolved into sophisticated technology industrial complexes needing highly trained people. The gap between the serviced big regions in industrialized nations and the unserved large areas in less affluent countries widened. Currently, the centralized method is often seen as the blueprint for sufficient sanitation and environmental protection, particularly in developing nations. As a consequence, governments are pursuing centralized sanitation and high-level treatment but are unable to execute them due to severe budgetary limitations. In the Middle East, for example, strict environmental regulations are fulfilled at just a few centralized treatment facilities in big metropolitan centers like as Cairo, while the rest of the nation is not even serviced by basic treatment. Local circumstances dictate the best appropriate sanitation method, taking into consideration socioeconomic and environmental limitations. Sanitation is a function of mass flow per area per time unit, with socio-economic variables influencing the sanitation options available. In general, economic factors dictate the rate at which sewage infrastructure improvements are made, which means that the poorest areas are often denied adequate sanitation. A decentralized strategy may aid in the advancement of localized good sanitation without the need to build a large sewage system initially. In terms of water reuse, decentralization offers a number of benefits that have so far been overlooked in sewage master plans. Decentralization avoids the mixing of waste streams from homes and businesses, allowing for more agricultural reuse possibilities.

Dilution of the most dangerous contaminants is avoided by isolating the black toilet fluids from the home grey wastewater. Meanwhile, potentially valuable materials are concentrated, especially when black water collecting systems are operated at very low water volumes. This is possible with vacuum sewer systems that consume just 0.7–1.0 l each flush. The best degree of decentralization and how it is implemented is determined by a variety of site-specific factors. Interestingly, current research in different places, regardless of these circumstances, connects de centralization with resource recovery, rather than just solving a sanitary issue. The installation of appropriate sanitation systems may be accelerated by adding a value chain to the sanitary flows, allowing a greater proportion of the population to be served more quickly.

Anaerobic digestion plays a key role in stabilizing (concentrated) sewage and/or faecal matter in the decentralized instances above, while also turning organic waste into biogas. The avoidance of fossil fuels for sewage and/or slurry treatment is beneficial for any decentralized application, reducing the technological adoption barrier, especially for poor nations. The emphasis of research has been on improving the design and operation of UASB reactors. As previously mentioned, research into scum buildup, biogas and waste gas management, post-treatment, and energy recovery has attracted the greatest attention. The major limitations that remain are possible odor issues and the challenges that come with them, as well as the growing need for

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

nutrient removal in the treatment system, as well as concerns with operation and maintenance, as described below.

In contrast to activated sludge, the overall benefits and drawbacks of anaerobic sewage treatment. When nutrient removal is needed to satisfy the receiving water body's quality requirements, the use of anaerobic procedures before a supplementary aerobic treatment for biological nutrient removal should be carefully considered. Although anaerobic systems are excellent at removing biodegradable organic waste, the amounts of N and P in the effluent may be greater than in the influent. When it comes to traditional nutrient removal methods, the single removal of BOD in the anaerobic reactor almost always has a detrimental impact on biological treatment systems that are designed to remove nutrients. Notably, the N/COD and P/COD ratios in the effluent from the anaerobic reactor will be considerably higher than the levels required for optimal performance of the previously stated traditional biological nutrient removal methods.

When nitrogen removal is required, traditional nitrification—denitrification methods have been used as a supplement to the UASB reactor thus far. In this scenario, the anaerobic reactor should only process a portion of the raw sewage influent (maybe no more than 50–70%). The remaining portion (30–50%) should go to a supplementary biological treatment aimed at nitrification and denitrification, so that enough organic matter is available for the denitrification phase. The utilization of an anaerobic reactor in this instance has the major benefit of receiving and stabilizing the sludge produced during the supplementary treatment, obviating the requirement for an anaerobic sludge digester. As shown, for concentrated sewage. The major nitrogen removal experiences have been with the use of activated sludge plants and, more recently, biological trickling filters packed with sponge-based media (pilot and demo scale), which have achieved up to 90% Ammonium-N removal while producing little extra sludge. Current and future research on the use of the anammox process in the main stream of STPs remains a problem.

Nonetheless, de-ammonification procedures (nitrogen removal through anammox bacteria) may be used instead of the traditional nitrification and denitrification methods to remove nitrogen at a low energy cost. The stimulation of ammonium oxidizing bacteria (AOB) and the inhibition of nitrite—oxidizing bacteria are essential for the effectiveness of such deammonification processes (NOB). It's possible that the necessary conditions might be met by using an intermittent aeration regime in the primary aeration tanks. In this case, a two-step procedure using UASB Trickling Filters and polyurethane support medium may be a viable option for removing nitrogen at a reasonable cost. Biomass hydrolysis caused by greater SRT may provide an extra supply of substrate in the sponge's anoxic zones, favoring heterotrophic denitrification. For two major reasons, using biological phosphorus removal in conjunction with UASB technology is practically impossible:

- 1. The anaerobic reactor's effluent no longer contains easily biodegradable matter, and
- 2. if phosphorus-rich sludge can be grown in a subsequent Bio-P step by bypassing a portion of the influent, then stabilizing the excess bio-P sludge in the preceding anaerobic reactor is pointless because all bound phosphorus will be released.

Currently, phosphorus removal in treatment facilities employing anaerobic reactors seems to be successful only when chemical products for P precipitation are employed iron or aluminum salts may be recovered from the concentrated waste stream using precipitation or crystallization

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

methods if source separation was used in a decentralized manner. Compact anaerobic procedures, like other secondary treatment techniques, are ineffective in removing pathogenic organisms from effluents, necessitating a post-treatment step if pathogen removal is desired. Polishing ponds may be a highly successful technique for enhancing the microbiological quality of anaerobic effluents in small systems and under the right circumstances. In cases where land is scarce, a compact disinfection procedure, such as chlorination, UV radiation, and zonation, may be considered as a post-treatment alternative to improve the overall effectiveness of pathogen elimination, particularly of bacteria and viruses. However, because of the relatively large quantities of residual organic matter in the UASB effluents, the danger of disinfection by-product production is extremely significant when chlorination is used. Micro pollutants include substances used in cleaning and personal care products, compounds used in the production of resins and plastics, pesticides, and natural hormones and their by-products.

3. CONCLUSION

The input from numerous full-scale pilot plants was critical in revealing the limits of existing design and management methods, as well as in improving the system and resulting in standardized designs. Researchers and field experts are still working to improve issues including smell annoyance, scum development, and correct hydraulic design. The advantages of anaerobic treatment, such as minimal or low fossil fuel use, simple and resilient technology, and resource recovery, are all regarded essential characteristics for creating more sustainable environmental solutions in general. The release of the powerful greenhouse gas CH4 from anaerobic reactors is an increasing source of concern. Indeed, significant quantities of CH4 are dissolved in the effluent and released to the atmosphere when effluents are discharged in contemporary full scale UASB systems. As a result, current research efforts are focused on recovering dissolved CH4, which will help meet energy recovery requirements while simultaneously reducing greenhouse gas emissions. Nonetheless, it is clear that achieving public health and environmental objectives in poor nations remains a problem that requires particular attention. Furthermore, Life Cycle Assessments (LCA) emerge as a critical instrument for determining the best environmentally friendly treatment plan in a variety of geographical, technological, and economic contexts. The result of an LCA research, on the other hand, is determined by the data provided, the weighting factors employed, and the assumptions made about data gaps.

REFERENCES:

- 1. P. G. S. De Almeida, C. A. L. Chernicharo, and C. L. Souza, "Development of compact UASB/trickling filter systems for treating domestic wastewater in small communities in Brazil," Water Sci. Technol., 2009, doi: 10.2166/wst.2009.094.
- 2. P. G. S. Almeida, A. K. Marcus, B. E. Rittmann, and C. A. L. Chernicharo, "Performance of plastic- and sponge-based trickling filters treating effluents from an UASB reactor," Water Sci. Technol., 2013, doi: 10.2166/wst.2013.658.
- **3.** M. Al-Shammiri, "Hydrogen sulfide emission from the Ardiyah sewage treatmentplant in Kuwait," Desalination, 2004, doi: 10.1016/j.desal.2004.01.003.
- **4.** F. L. Dornelas, M. B. Machado, and M. Von Sperling, "Performance evaluation of planted and unplanted subsurface-flow constructed wetlands for the post-treatment of UASB

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- reactor effluents," Water Sci. Technol., 2009, doi: 10.2166/wst.2009.743.
- **5.** B. Demirel, O. Yenigun, and T. T. Onay, "Anaerobic treatment of dairy wastewaters: A review," Process Biochemistry. 2005, doi: 10.1016/j.procbio.2004.12.015.
- **6.** Q. Yin, J. Miao, B. Li, and G. Wu, "Enhancing electron transfer by ferroferric oxide during the anaerobic treatment of synthetic wastewater with mixed organic carbon," Int. Biodeterior. Biodegrad., 2017, doi: 10.1016/j.ibiod.2016.09.023.
- 7. Y. J. Chan, M. F. Chong, C. L. Law, and D. G. Hassell, "A review on anaerobic-aerobic treatment of industrial and municipal wastewater," Chemical Engineering Journal. 2009, doi: 10.1016/j.cej.2009.06.041.
- **8.** C. A. L. Chernicharo, "Post-treatment options for the anaerobic treatment of domestic wastewater," Reviews in Environmental Science and Biotechnology. 2006, doi: 10.1007/s11157-005-5683-5.
- **9.** E. J. Bowen, J. Dolfing, R. J. Davenport, F. L. Read, and T. P. Curtis, "Low-temperature limitation of bioreactor sludge in anaerobic treatment of domestic wastewater," Water Sci. Technol., 2014, doi: 10.2166/wst.2013.821.
- **10.** H. Macarie, "Overview of the application of anaerobic treatment to chemical and petrochemical wastewaters," Water Sci. Technol., 2000, doi: 10.2166/wst.2000.0515.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AMARANT - SOME FLAVONOIDS AND THEIR BIOLOGICAL ACTIVITY

I.R. Asgarov*; N.X. Tuktaboyev**; N.T. Yulchieva***

* Professor,

Doctor of Chemical Science, Department of Chemistry, Andijan State University, Andijan, UZBEKISTAN

Email id: i.r.asqarov@mail.ru

**Associate Professor, Candidate of Chemical Sciences, Andijan State University, Andijan, UZBEKISTAN Email id: n.tukhtaboev@gmail.com

***Teacher.

Andijan State University, Andijan, UZBEKISTAN Email id: n.yulchieva@gmail.com

DOI: 10.5958/2249-7137.2021.02689.6

ABSTRACT

The article presents information about secondary metabolic compounds, namely flavonoids and phytosterols, as well as their properties in the components of the amaranth plant. The article also mentions the importance of amaranth in folk medicine and modern medicine.

KEYWORDS: Amaranth, Folk Medicine, Biologically Active Compounds, Flavonoids, Phytosterols.

INTRODUCTION

It is known that human health and its protection is one of the main and important issues in the development of society. Today, one of the criteria determining the state of development of countries is the level of health of the population.

These days in our country also public health and it Special attention is paid by our government to protection issues.

Especially, the resolution of the President of October 12, 2018 "On measures to regulate the field of folk medicine in the Republic of Uzbekistan" indicates the attention paid to the representatives of this field. The resolution recognized the integration of folk medicine with modern medicine in public health. Also, the main directions of development of folk medicine were identified.

MATERIALS AND METHODS

In particular, well-known scientists of our country, Doctor of Chemical Sciences, Professor I.R Asqarov and Doctor of Medical Sciences, Academic N. Mamasoliev discovered another new science "Folk Medicine" in the system of medical sciences with the code 14.00.41 and this science under the Cabinet of Ministers According to the letter of the Presidium of the Higher

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Attestation Commission, registration as a new subject shows how important it is to pay attention to this area [1].

Today, in many countries of the world are using modern medical methods in the treatment of diseases, many methods of folk medicine have long been known, and the further development of these methods and their integration with modern medicine is one of the most important issues today [2].

One of the methods used in folk medicine in the treatment of diseases is treatment with these plants (phytotherapy). In this method, tinctures, ointments and bandages are prepared from the roots, stems, leaves, flowers and seeds of medicinal plants and are used in the treatment of various diseases.

One of the plants rich in biologically active compounds that exhibits such healing properties is the amaranth (Amaranthus L) plant. is one of the plants with high nutritional value and medicinal properties, which is currently being introduced in our country. This plant species are widely grown in Southeast Asian countries such as South America, Indonesia, China, India as a grain, vegetable, medicinal, ornamental, technical and fodder crop. Amaranthus (Amaranthus L) species has a high yield and is rich in proteins, vitamins, carbohydrates, fats, betalain pigments, pectins, micro- and macronutrients in seeds, stems, leaves and stems. In addition, the presence of secondary metabolites in the plant components, such as flavonoid glycosides, carotenoids, hydroxy acids, enhances its healing properties [3].

The total amount of phenolic acids in amaranth is 16.8 mg to 59.7 mg per 100 g of product, depending on the navigation of their seeds. Of these, soluble phenolic acids range from 7% to 61%.

The natural bioflavonoid-rutin content of amaranth seeds and leaves is 0.08 -24.5 mg / kg depending on its species and region of cultivation [4].

Rutin

Quercetin and its derivatives are more abundant in the ripe leaves of amaranth than in other parts [5].

In addition, bioflavonoids such as vanilla, p-hydroxybenzoic acid, campherol and ferulic acid, depending on the type of amaranth, contain around 80 mg / kg, while caffeic acid is 5 mg / kg [6].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

kaempferol

0

 OH

These compounds exhibit antioxidant properties in the body, as well as antidiabetic, hepatoprotective, immune system strengthening and many other biological activities.

Amaranth oil also contains phytosterols, ie tetracyclic alcohols, which are more abundant than other plants. Although these biologically active compounds are one of the main components of the cell membrane, they play an important role in cell metabolism. Phytosterols slow down the transfer of cholesterol into the bloodstream and reduce the risk of cardiovascular disease [7].

CONCLUSION

Presently, in modern medicine and folk medicine amaranth is widely used in the treatment and prevention of cardiovascular diseases, liver disease, diabetes, osteoporosis, lowering blood cholesterol, cancer, some eye diseases, respiratory, oral and skin diseases.

Amaranth has a wide range of healing properties, but it can also be used as a multivitamin to maintain the balance of vitamins in the body.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Today in our region there are new varieties of amaranth belonging to the genus Amaranthus, adapted to local climatic conditions, Kharkiv, Lera, Andijan and Gelios.

The creation of new types of food additives based on these varieties, which are important for human health and harmless to the body, is one of the most important issues facing folk medicine, modern medicine, pharmaceuticals and chemists.

REFERENCES

- 1. I.R.Asqarov. "Tabobat qomusi". Tashkent. "MUMTOZ SO`Z». 2019.1142 p.
- **2.** I.R.Asqarov. "Sirli tabobat". Tashkent. "Fan va texnologiyalar nashriyot-matbaa uyi», 2021. 1084 p.
- **3.** Gins V.K., Gins M.S., Torres Mino K.X., Pivovarov V.F., Kononkov P.F. Functional products of nutrition from seeds and amaranth lists. M.: VNIISSOK, 2015.
- **4.** Repo-Carrasco-Valencia R, Hellstrom JK, Pihlava JM, Mattila PH. 2010. "Flavonoids and other phenolic compounds in Andean indigenous grains: Quinoa (Chenopodium quinoa), kaniwa (Chenopodium pallidicaule) and kiwicha (Amaranthus caudatus). Food Chem 120: 128–33
- **5.** Kalinova J, Dadakova E. 2009. Rutin and total quercetin content in amaranth (Amaranthus spp.). Plant Food Hum Nutr 64: 68–74
- **6.** Ogrodowska D, Czaplicki S, Zadernowski R, Mattila P, Hellstrom J, Naczk "M. 2012. Phenolic acids in seeds and products obtained from Amaranthus cruentus. J Food Nutr Res 51: 96–101.
- **7.** Marcone, M.F., Kakuda, Y., and Yada, R.Y. (2003). Amaranth as a rich dietary source of beta-sitosterol and other phytosterols. Plant Foods Hum. Nutr. 58: 207–211.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

EMBRYOGENESIS OF GALLS COTTON NEMATODE MELOIDOGYNE INCOGNITA ACRITA (TYLENCHIDA, HETERODERIDAE)

Badalkhodjaev Ikramiddin*; Kambarov Sardor**; Kholmirzaeva Gulshoda***

*Associate Professor,

Candidate of Biological Sciences, Department of Zoology and Biochemistry, Andijan State University, Andijan, UZBEKISTAN Email id: i.badalkhodjaev@adu.uz

**Assistant,

Department of Zoology and Biochemistry, Andijan State University, Andijan, UZBEKISTAN Email id: s.kambarov@adu.uz

***Master's student,

Department of Zoology and Biochemistry, Andijan State University, Andijan, UZBEKISTAN Email id: g.holmirzayev@adu.uz

DOI: 10.5958/2249-7137.2021.02691.4

ABSTRACT

The structure of M.incognita acrita egg does not reveal its polarity. During the fusion of pronuclei, the egg cytoplasm forms a pseudomembrane and small protrusions at the egg surface. The cleavage is almost equal and asynchronous. The first four blastomeres are distributed along the longer egg axis what appears to be characteristic of all Tylenchida. Gastrulation proceeds by means of epiboly. Endo- and mesoderm originate from the common rudiment, blastomere EM at the stage of 4 blastomeres, and are represented by independent blastomeres E and M at the stage of 7 blastomeres. Oesophagus and neural rudiment arise from the ectoderm of the anterior embryonic end. The genital rudiment P4 is separated at the stage of 11 blastomeres.

KEYWORDS: Polarity, Pronuclei, Pseudomembrane, Cleavage, Blastomeres, Mesoderm

I. INTRODUCTION

The embryonic development of root gall nematodes has been little studied. The available descriptions of the crushing of eggs of representatives of the order Tylenchida are fragmentary and superficial. The initial stages of cleavage of Heterodera radicicol [1], Heterodera marioni [2], Ditylenchus dipsaci [2, 3], and several species of Aphelenchoides [4, 5, 6] were studied in vivo. The embryogenesis of Meloidogyne javanica has been studied in more detail [3].

II. MATERIALS AND METHODS

The material for this study was the eggs of the nematode of the dangerous cotton pest Meloidogyne incognita acrita (Chitwood, 1949). Infected roots of fine-staple cotton varieties C 60-30 were taken from the farm of the Andijan region. To preserve a pure culture of this species, cotton (varieties C 60-30) was grown in pots with sterile soil at 20-24 °C. When the plants

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

reached a height of 10-15 cm, nematode egg sacs were introduced into the near-root soil. Thus, we were able to use live nematodes all year round.

Embryonic development was studied in vivo, in sections and on total preparations. Intravital observations were carried out under an MBR-3 microscope with a magnification of 10×20 and 10×40 in a humid chamber.

We used mixtures of "Susa" and Carnoy as fixing agents. The dyes used were Mayer, Karacchi, Ehrlich, Heidenhain hematoxylins and Schiff's reagent.

To obtain sections from sexually mature females and egg sacs, they were fixed in Susa liquid, passed through terpineol, and embedded in paraffin. Sections were made with a thickness of 5-7 μ m. Drawings were made using a drawing apparatus, RA-4 with a 10x90 microscope magnification.

III. RESULTS

3.1. Biological features

Meloidogyne incognita acrita is a dioecious, oviparous phytonematode. It infects cotton plants, tomatoes, cucumbers and other crops. The invasive larva penetrates into the plant root; in the places of accumulation, the female of these nematodes forms a thickening of the root-gall. The female here has a vulva facing outward. The female secretes a substance similar in chemical composition to the cuticle, which hardens and forms an egg sac (ootheca). The female lays eggs in this bag. Sexual dimorphism is pronounced. Males are small and worm-shaped, while females are pear-shaped. The female reproductive system consists of two parallel genital tubes, each of which is an ovary, oviduct, seminal receptacle and uterus [6]. Both tubes near the vagina are connected to each other and open the vulva outward. On histological sections of the ovary, a cytoplasmic strand is clearly visible - rachis. Oogonia at the end of the germinal zone are located around the rachis in several rows, and in the growth zone in one row. Oocytes in the growth zone increase in size, nucleoli are clearly visible in their nuclei. When oocytes pass singly through the narrow lumen of the seminal receptacle, egg membranes are formed.

3.2. Features of the structure of the egg

The egg contains a lot of yolk, which is evenly distributed, in the middle of the egg is the core. The cytoplasm forms numerous bridges that make the egg structure cellular. The polarity of the egg is not pronounced. After penetration of the sperm, two polar bodies can be found in the egg, each of which contains a small amount of cytoplasm. The average egg size is 94 x 37 microns. The eggs are covered with two shells. The inner membrane is formed immediately after the sperm has entered the egg and is very thin, and the outer, thicker membrane is formed later in the genital tract.

3.3. Fertilization

Fertilization in M. incognita acrita occurs in the seminal receptacle. On total preparations, it was possible to study the stages of this process. At the point of contact with the sperm, the cytoplasm forms a protrusion into which the sperm is quickly immersed. At this point, a fertilization shell is formed on the surface of the egg. At this time, the nucleus of the egg is in the centre, at the same level are two polar bodies (Fig. 1, A). The cytoplasm is activated, on the surface of which protuberances (prominences) are formed. The nucleus of the ovum moves back, at the same time

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

a pseudomembrane forms in the middle of the cytoplasm (Fig. 1, B). In both pronuclei, the nucleoli are very clearly visible. Then the nuclei move towards each other. The pseudomembrane disappears. Pronuclei occur in the middle of the egg (Fig. 1, C) and merge to form the nucleus of the zygote (Fig. 1, D).

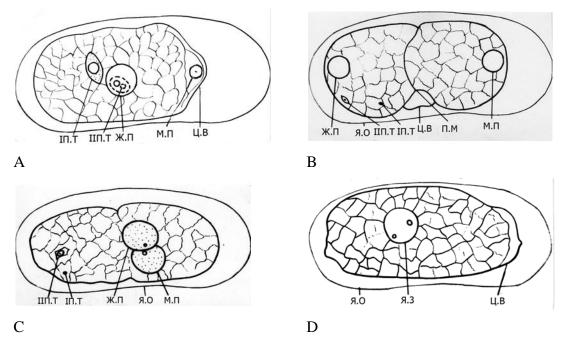


Fig 1. Sequential stages of egg fertilization

A-penetration of the sperm; B-formation of a pseudomembrane; C - meeting of pronuclei; D-zygote. I $\Pi.T$, II $\Pi.T$, respectively, the first and second polar bodies; $\pi.\pi$. - the nucleus of the egg; $\pi.\pi$. - male and female pronuclei, respectively; $\pi.\pi$ - cytoplasmic protrusions; $\pi.\pi$ - pseudomembranes; $\pi.\pi$ - the nucleus of the zygote; $\pi.\sigma$ - eggshell.

3.4. Splitting up.

Egg crushing is complete, not quite uniform and asynchronous. The spindle of the first division is located along the long axis of the egg. 12-15 hours after fertilization, the egg divides into two blastomeres of almost the same size.

We will designate one of them as AC, the other as P1 (Fig. 2, A).

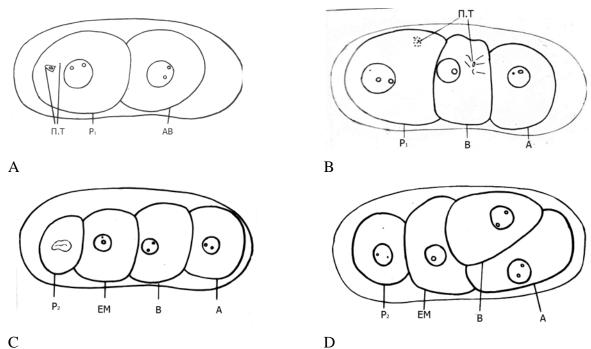
The blastomere AC 12-13 hours after the first crushing is divided transversely. Anterior blastomere A, posterior blastomere C appear. Each of them is almost two times smaller than P1. Blastomere P1 (Fig. 2, B) is also divided transversely. The division of this blastomere occurs 10-11 h after the division of the AC. Formed anterior cell EM and posterior P2, the latter differs from other blastomeres in smaller sizes. Thus, the first two divisions occur transversely, the emerging four blastomeres are arranged in one row linearly (Fig. 2, C). Then, after 5-6 hours, the blastomeres are rearranged. Blastomere B moves to the dorsal side, while blastomere A moves slightly back and comes into contact with the EM blastomere. Thus, blastomeres A, EM, and P2 are located in one row, and blastomere B takes place above A and EM; the resulting grouping of blastomeres is somewhat rhombic. E.M. Drozdovsky (1978) calls this method of forming a rhombic figure linear (Fig. 2, D).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The next division occurs 3-4 hours after the formation of the rhombus. Blastomere A divides at an angle of approximately 25-30 $^{\circ}$ with respect to the long axis of the egg into the right cell and the left α . Blastomere α is smaller than a (Fig. 2, E), then EM and B blastomeres divide almost simultaneously. From the first cell, the anterior M and posterior E blastomeres are formed. Blastomere B gives left anterior β and right b (Fig. 2, E). The P2 blastomere is divided into the dorsal –C and the ventral –P3 cells (Fig. 2, G). At the same time, granules appear in the cytoplasm of the P3 blastomere, around the nucleus, which is strongly stained with hematoxylin. Then the β blastomere is divided into anterior β I and posterior β II cells (Fig. 2, H). Blastomere P3 is divided into dorsal D and ventral P4, β II is divided into right β II.1 and left β II.2 cells (Fig. 2, I). Thus, the β blastomere is far ahead of other ectodermal blastomeres in divisions. After that, blastomere E is divided into anterior EI and posterior EII, b is divided into anterior bI and posterior bII (Fig. 2, K).

Then there is a division of blastomeres α and M. Blastomere α gives right α II and left posterior α I cells, blastomere a gives right aII and left aI, moreover, aI shifts slightly forward. In cell M, the division spindle is located approximately at an angle of 450 to the longitudinal axis, and a right-anterior m and a left-posterior blastomere μ are formed (Fig. 2, L).

Further, the blastomere bI is divided into right bI.I, left bI.2, bII gives the posterior bII.1 anterior cell bII.2, from D a posterior right blastomere d is formed, left-posterior σ , C gives a right-posterior γ and left-anterior cell c. The embryo at this stage consists of 20 cells and is a sterroblastula (Fig. 2, M). It takes 6-7 days from the beginning of crushing to this stage.



ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

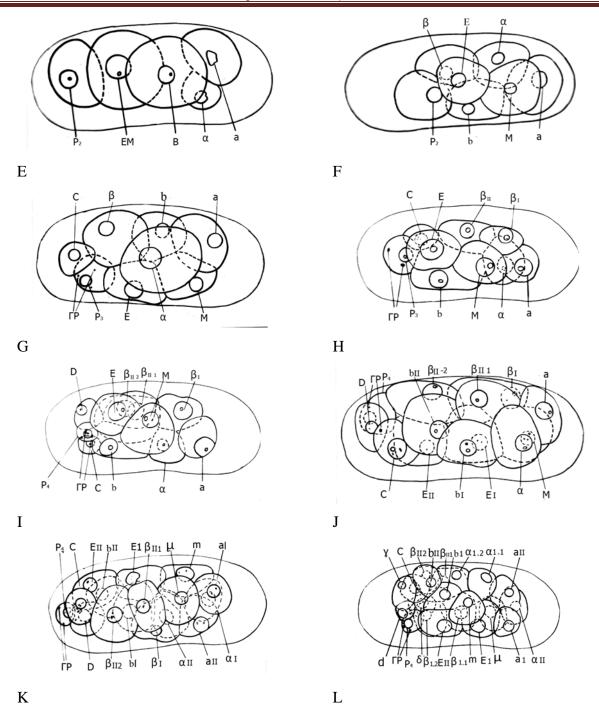
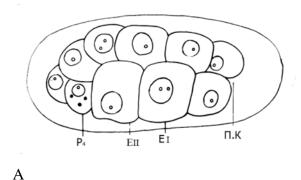


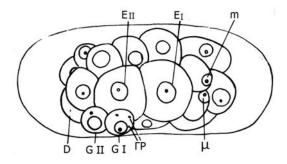
Fig. 2. Stages of egg crushing (for total preparations): A-two; B-three; C, G - four; D-five (left); E-seven (from the ventral side); F-eight (right); 3-nine (left); I-eleven (right); K-thirteen (right); L-sixteen; M-twenty (left) blastomeres (sterroblastula); Γ .p - granules, Π . Γ - polar bodies. The rest of the notation is in the text.

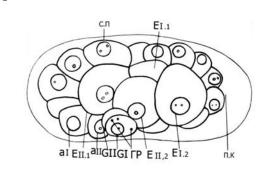
ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3.5. Gastrulation and organogenesis

Gastrulation begins from the moment when the number of cells that make up the embryo reaches 20-22. At this stage, the anterior end and lateral sides of the embryo consist of the descendants of blastomeres A and B. At the posterior end are the descendants of blastomeres C and D. P4 takes place on the ventral side at the posterior end of the embryo, and the rudiments of the endoderm E I and E II are located almost in the centre of the ventral side (Fig. 3, A). In front of the endodermal cells, there are 2 cells (m and μ) of the future mesoderm. On large endodermal cells, ectodermal cells move from the posterior end and from the sides of the embryo, following the endodermal blastomeres, mesodermal cells also go inward (Fig. 3, B). At the stage when the embryo consists of 42-45 cells, 4 endodermal cells are already visible under the ectodermal layer, and in front of them, there are 2 mesodermal cells. By this time, the genital anlage - GI and GII are located at the posterior edge of the blastopore (Figure 3, C). Soon, due to the growth of ectodermal cells in front, behind and on the sides, the blastopores are concentrically closed. Thus, gastrulation in M. incognita acrita occurs with epibolism [8,9].







В

 \mathbf{C}

Fig 3. Gastrulation (sagittal optical sections):

A - the beginning of gastrulation;

B — further stages of cell immersion into the blastocoel:

B-immersion of the reproductive primordium (40-45 cells):

 π .к - front end; с. π - dorsal side;

эн -endoderm.

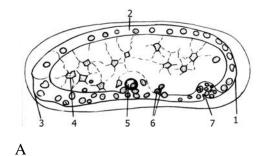
ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

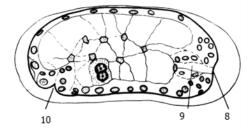
3.6. Other designations in the text

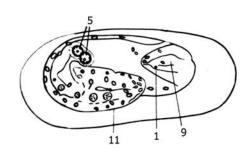
Organogenesis begins. When the embryo consists of about 200-220 cells, ectoderm cells divide intensively on the ventral side of the anterior end. Gradually, the newly formed cells are immersed inward. They are at first arranged randomly (Fig. 4, A), but then they are arranged in the form of a cylinder, and depression is noticeable at the place of immersion of the cells. This is how the anterior intestine is formed. At the end of organogenesis, it differentiates into the corresponding departments. At this time, endodermal cells occupy the central part of the embryo. They differ from other cells in their large size. Several free mesoderm cells are observed in front and behind them.

The ectoderm consists of a single layer of cells. At the posterior end, ectodermal cells are somewhat larger. At the next stages of development, the cells of the ectoderm of the abdominal side divide intensively and, as it were, pushes the oral cavity forward. On the ventral side, from the ectoderm (from the descendants of C and D), the hindgut is formed (Fig. 4, B).

The growth of the embryo continues. The back and front ends are folded. Inside the embryo, at the bend site, there are 2 large cells of the reproductive rudiment. Meanwhile, the number of mesodermal cells increases, they form two stripes, which are very closely adjacent to the ectoderm. This stage in other nematodes is called the tadpole stage, but in this species the anterior end of the larva is thinner than the caudal end (Figure 4, C). In the following stages, the embryo lengthens and turns into a larva. On total preparations from larvae of the first instar, in the anterior part, under the ectoderm, a layer of dark-colored neuroblast cells is distinguished. In the area of the esophagus, their clusters form a nerve ring. Dorsal and ventral nerve trunks are well distinguished. Before hatching, the larva twists inside the shell in two turns. The first molt of the larva takes place in the egg. The second instar larva hatches from the egg, which is invasive. The duration of embryonic development at a temperature of 25-260 is 30-31 days.







ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Fig. 4 Organogenesis (sagittal optical sections):

A - the beginning of the laying of the stomodeum;

B — further stages of stomodeum formation;

B-stage "tadpoles";

1 — anterior end of the embryo; 2 – ectoderm;

3 – posterior end of the embryo; 4 – endoderm; 5 - sexual

primordium; 6 – mesoderm; 7 –stomodeum; 8-mouth cavity;

9 – foregut; 10 - the beginning of the posterior colon laying; 11-tail of the larva.

IV. DISCUSSION

Differences in early cleavage of nematode eggs

The arrangement of blastomeres at the initial stages of cleavage, in species such as Ascaridia galli [19], Sphaerularia bombi [20], Neoaplectana carpocapsae [10], is subject to significant individual variations, which suggests that cleavage is not yet deterministic in them. In some cases, the first four blastomeres are in the form of a tetrahedron; sometimes their arrangement then changes to rhombic, which is characteristic of the overwhelming majority of nematodes. This arrangement is achieved mainly in four ways: T-shaped, intermediate, parallel and linear [2,4]. We consider it possible to somewhat expand this scheme by including 2 more options: the formation of a rhombus through the tetrahedron stage and crushing without the rhombus stage. Thus, the following types of early crushing can be distinguished:

- I. In marine nematodes from the order Enoplida, after the second division, a tetrahedral arrangement of blastomeres was found. The egg divides along the equator, and then both blastomeres divide meridionally in two mutually perpendicular planes. Immediately after the second division, the blastomeres are grouped in the form of a tetrahedron (Pontonema vulgare) [10-15]. The tetrahedral arrangement of blastomeres was later found in some other nematodes Anoplastoma vivipara, Enoplus bravis, Enoplus demani, Hupodontolaimus inaequalis [13,14,15,17]. V.V. Malakhov [9] classifies nematode crushing as spiral single-beam crushing and calls it malt crushing.
- II. In Neoaplectana carpocapsae (up to 10% of cases), after the 2nd division, the blastomeres are also arranged in the form of a tetrahedron. Then, as a result of the rearrangement of the blastomeres, a rhombic figure appears. A similar transformation of a tetrahedral figure into a rhombic figure is described by Malakhov et al. In a part of the embryos of Eustrongyloides excisus. This type of cleavage can be called a rhombic tetrahedron.
- III. The ascaris type is characterized by the formation of a T-shape at the stage of four blastomeres, followed by rearrangement of the blastomeres into a rhombus.
- IV. In Neoaplectana carpocapsae 60-65% of cases, an intermediate type of cleavage is observed, in which a T-shaped figure arises at the stage of three blastomeres. But unlike roundworm, before division of the posterior blastomere (P1), cell B moves back. Under the pressure of blastomere B, the division spindle in the P1 cell lies obliquely. After the division of this blastomere, a rhombic figure is immediately formed [10] This type of cleavage was also observed in Panagrellus silusioides [1].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

V. Parallel type of cleavage, in which, during the transition from the two blastomeric stage to the four-blastomeric stage, the spindle of division in both blastomeres is parallel to one another and obliquely relative to the long axis of the egg; the resulting four blastomeres are immediately arranged in a diamond shape. Such cleavage was noted in Rhabitis elegans [1].

According to our observations, early cleavage of the saprophytic nematode Pelodera Strongyloides belongs to the parallel type [4]. Vi. The linear type of cleavage is characterized by the fact that the first two divisions occur in the transverse direction and the resulting four blastomeres are located in one row. The linear arrangement of blastomeres was observed in several species of Aphelenchoides [5, 6] and in Meloidogyne javanica [3]. We observed a linear arrangement of blastomeres (A, B, EM, P2) at the four-cell stage in Meloidogyne incognita acrita. Then the second blastomere (B) is displaced and located above the blastomeres A and EM. Consequently, this species does not form a typical rhombic figure.

Thus, the following types of four cell stages are observed in nematodes: tetrahedral, tetrahedral-rhombic, ascaris, intermediate, parallel and linear. However, the listed types do not exhaust the whole variety of nematode egg cleavage.

V. CONCLUSION

- **1.** The eggs of Meloidogyne incognita acrita are formed in the paired ovary. The ovary has a cytoplasmic core rachis, which performs the function of feeding the oocytes.
- **2.** Fertilization takes place in the seminal receptacle.
- **3.** Egg crushing proceeds in a linear manner. Blastomere division occurs asynchronously. The first four blastomeres are linear from the very beginning.
- **4.** (4) At the stage of 20 cells, the embryo is a sterroblastula with a not expressed blastocoel.
- **5.** Gastrulation occurs by immersion inside a dense complex of cells and is combined with epiboly. The ectoderm arises from the blastomere AB, C, and D.
- **6.** The endoderm is formed from the E blastomere and gives rise only to the midgut. The mesoderm comes from the primordium common with the endoderm the EM blastomere. It goes inward at the end of gastrulation and forms two mesodermal stripes.
- 7. The stomodeum is formed by invagination from the ectoderm at the anterior end of the embryo, and not at the site of the blastopore. 7. The genital anlage (P4) is isolated at the stage of 11 blastomeres.

REFERENCES

- 1. Yusupov, R.R. (2016). Embryonic development of the Pacific navaga Eleginus gracilis in the Tauiskaya Bay (northern part of the Sea of Okhotsk). The aquatic systems of Siberia and the prospects for their use, 129.
- **2.** Embryonic development of Rhabditis elegans (Nematode). Vestn. Leningrad. un-ta, ser. biol., 15.3: 7-17. 3.171.
- **3.** Embryogenesis of root knot nematode Meloidogyne javanica (Tylenchida, Heteroderidae). Zool. g., 60.11: 1621-1631.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Badalhodjaev I., Madikhanov M., 1977. Embryogenesis of the phytonematode Pelodera strongyloides (Rhabditida). Zool. g., 56.3: 350-360.
- **5.** Drozdovskiy EM, 1967. On the use of features of embryonic development in the systematics of nematodes, Tr. Helmintol. lab. USSR Academy of Sciences, 18: 22-29. 6.1968.
- **6.** To a comparative study of the initial stages of egg cleavage in nematodes. Dokl. AN SSSR, 180.3: 750-753.
- 7. Kostyuk NA, 1986. Embryogenesis of Paraphelenchus pseudoparietinus and aphelenchus avenae (Nematoda, Aphelenchida). Zool. g., 65.2., 183 -193.
- **8.** Madikhanov M. 1982. Embryonic development of the entopathogenic nematode Neoaplectana agriotos (Rhabditida, Steinernematidae). Zool. g., 61.4: 500-506.
- **9.** Malakhov V. V. 1976. Distribution of malting in invertebrates. Zh. Common Biol., 37, 3, 387-402.
- **10.** Malakhov V.V. 1986. Nematodes: structure, development, system and phylogeny. M., Nauka, 1-215.
- **11.** Cherdantsev VG, Malakhov VV, Gorgolyuk NA, 1972. On the early fragmentation of some nematodes. Ontogenesis, 3, 6, 633-635.
- **12.** Strassen O. 1959. New contributions to the development mechanics of nematodes. Zoologica, Original Abhandl. from the entire field of zoology, 38, p. 1-142.
- **13.** Rakhmatov, K.R. (2021). Radiofrequency ablation of facet nerves in the treatment of pain syndromes in degenerative diseases of the spine. Uzbek Medical Journal, 2 (5).
- **14.** Nigon V., Guerrier P., et Monin H. I960. L'architecture polaire de l'oeuf les mouvements des constituans cellulaires au coures des premieres etapes du development ohez quelques nematodes. Bull. Biol. France et Belgique, t 94, p. 132—202.
- **15.** Norov, A.U., Rakhmatov, K.R., & Saidov, K.K. (2021). Mini-invasive method using pulsed radiofrequency ablation in the treatment of operated spine syndrome. In IX All-Russian Congress of Neurosurgeons (pp. 252-252).
- **16.** Abd El-Aal, E. M., Shahen, M., Sayed, S., Kesba, H., Ansari, M. J., El-Ashry, R. M., ... & Eldeeb, A. M. (2021). In vivo and in vitro management of Meloidogyne incognita (Tylenchida: Heteroderidae) using rhizosphere bacteria, Pseudomonas spp. and Serratia spp. compared with oxamyl. *Saudi Journal of Biological Sciences*, 28(9), 4876-4883.
- **17.** Subbotin, S. A., Franco, J., Knoetze, R., Roubtsova, T. V., Bostock, R. M., & Del Prado Vera, I. C. (2020). DNA barcoding, phylogeny and phylogeography of the cyst nematode species from the genus Globodera (Tylenchida: Heteroderidae). *Nematology*, 22(3), 269-297.
- **18.** Yang, S. H., Wang, D., Chen, C., Xu, C. L., & Xie, H. (2020). Evaluation of Stratiolaelaps scimitus (Acari: Laelapidae) for controlling the root-knot nematode, Meloidogyne incognita (Tylenchida: Heteroderidae). *Scientific reports*, *10*(1), 1-8.
- **19.** Djebroune, A., Chakali, G., de Andrade, E., Camacho, M. J., Rusinque, L., & Inácio, M. L. (2021). Integrative morphometric and molecular approach to update the impact and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- distribution of potato cyst nematodes Globodera rostochiensis and Globodera pallida (Tylenchida: Heteroderidae) in Algeria. *Pathogens*, 10(2), 216.
- **20.** Subbotin, S. A., Toumi, F., Elekçioğlu, I. H., Waeyenberge, L., & Maafi, Z. T. (2018). DNA barcoding, phylogeny and phylogeography of the cyst nematode species of the Avenae group from the genus Heterodera (Tylenchida: Heteroderidae). *Nematology*, *20*(7), 671-702.
- **21.** Rakhmatov, K.R. (2020). Results of vertebroplasty in the treatment of patients with pathological fractures and vertebral hemangiomas. A New Day in Medicine, (1), 345-346.
- **22.** Yang, S. H., Zhou, W. Q., Wang, D. W., Xu, C. L., & Xie, H. (2020). Evaluation of Neoseiulus barkeri (Acari: Phytoseiidae) for the control of plant parasitic nematodes, Radopholus similis (Tylenchida: Pratylenchidae) and Meloidogyne incognita (Tylenchida: Heteroderidae). *Biocontrol Science and Technology*, 30(3), 201-211.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TOLERANCE IS AN IMPORTANT FACTOR OF THE INTERNATIONAL CONSENT

Shayakubov Shomansur Shakabilovich*

*Assistant Professor,
Department of General Sciences and culture,
Tashkent State University of Law, UZBEKISTAN
Email id: shayakubov77@mail.ru

DOI: 10.5958/2249-7137.2021.02615.X

ABSTRACT

In this article analyzed the problems of the state and development of international relations, issues of national security, international relations and creat programs in order to overcome intolerance. Despite the appearance of a general agreement of the need for tolerance, the world is the underlying processes that undermine stability within the country, international cooperation, generating severe, often bloody, inter-ethnic, inter-religious and inter—civilization conflicts. On the one hand, the increasing homogeneity and the fragmentation often leads to feelings of national superiority. Policy development in this area should be aimed at consolidation of interethnic society through more effective integration of the realities and opportunities offered by cultural pluralism.

KEYWORDS: Interethnic Tolerance, Society, Inter-Ethnic, Inter-Religious And Inter-Civilization, Conflict, Civil Society, Globalization, Culture, Lifestyle, Language, Beliefs.

INTRODUCTION

The state and development of international relations, is a complex phenomenon associated with the outlook of people, their way of thinking, is largely dependent on the level of public tolerance in the country. One of its leading aspects is the interethnic.

The principle of tolerance implies respect between individuals, between societies of different civilizations, between men and women, between adult and child, between teacher and student, etc. Tolerance - a deliberate, sober attitude that curbs emotions. "Tolerance as a value, concludes A.Kapto, not based on confrontation, but on coexistence with the "other", not denial, and on the recognition of "the other", not on the uncomplaining patience to violence, and to overcome it. Active tolerance - a rejection of the extreme, manifest forms of intolerance, permissiveness and forgiveness"[1, p.153].

Tolerance is a cultural quality (moral, legal, political) of every society, every social class, and every citizen, regardless of gender, age, ethnic, religious or racial affiliation. Tolerance has many forms: personal, social (reflected on morals, manners, social psychology, and consciousness), the state (as reflected on the legislation, political practice).

As it is known, the whole history of humanity is replete with examples of collisions, warrior, bloody conflicts generated by the perception of "the other" as hostile. The modem world is, unfortunately, also is not very tolerant. Despite the appearance of a general agreement of the need for tolerance, the world is the underlying processes that undermine stability within the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

country, international cooperation, generating severe, often bloody, inter-ethnic, inter-religious and intercivilization conflicts. This explains the urgency of a new understanding of the problem of tolerance in the contemporary historical situation, which is regarded by modern science as a specific mechanism of cultural coexistence and interpersonal interaction and its historical roots.

Tolerance is a value and norm of civil society. As such, it is manifested in the right to be different to all its members, to ensure harmony between religions, political, ethnic and other social groups, to respect the diversity of different world cultures, civilizations and people willingness to understand and cooperate with people differing in appearance, language, beliefs and customs.

The international community is not fully trying to develop a global scale of values, which would be a new universal ethics that contribute to the strengthening of ties between people in a confrontation processes. On the one hand, the increasing homogeneity and the fragmentation often leads to feelings of national superiority. Policy development in this area should be aimed at consolidation of interethnic society through more effective integration of the realities and opportunities offered by cultural pluralism. New strategies of human development is the starting point of which will be the basis for the recognition of multicultural group's democratic social integration, the development of humanistic values and cultural pluralism. It is about achieving, and more than ever earlier accomplishing, a high level of tolerance for ethnic and cultural differences, and on the formation of the corresponding set of values [2, p.59-60].

Globalized world - a multicolored ethno-cultural community in which each ethnic group culture is unique and has a historical character. If conceived and passed on through generation to generation. At the same time, it acts as a living embodiment of the traditions of art that evolves under the influence of the new historical contexts. Globalization - phenomenon is unambiguous, contributing to the unification of life of the peoples of the world, which in turn, causes resistance, the desire of every nation to protect and preserve the uniqueness of their own culture, which often leads to conflicts and wars. This is determined primarily by the fact that the national culture and traditions are of vital importance for most people. It is also a major component of their sense of identity, and belonging to a particular community [3, p.24].

In a number of countries on different continents, recently growing number of manifestations sustained hostility and intolerance towards the "other" culture, lifestyle, language, beliefs - until ethnocentrism¹, racism, overt hostility, wars and even terrorism, often hiding behind religious slogans.

Starts in any conflict situation is usually reduce interethnic tolerance, i.e., rise of confrontation between ethnic groups. The ubiquity of ethnic conflicts and tensions in the world today demonstrates, above all, the lack of tolerance among their participants.

Under these conditions, a serious government attention is drawn to issues of national security that is the system of measures providing for the existence of a sovereign country and its stability. Among these measures, considerable attention is paid to the prevention of racial, ethnic, religious intolerance, development of ethnic tolerance. That is why one of the activities within the

_

¹ Ethnocentrism - belief system in which other people's life is viewed through the prism of culture, traditional attitudes and value orientations of their ethnic group, received as a reference.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

framework of national security advocates the formation of tolerance in the public consciousness, formation of public opinion. Under these conditions, the value of tolerance becomes imperative.

In a variety of countries created programs, in order to overcome intolerance in society to allocate the necessary creation of a number of conditions, among them:

-the presence of an appropriate legislative framework, when the government is responsible for the application of the legislative framework for the protection of human rights, for the prohibition and punishment of crimes of hate and discrimination against national minorities, regardless of who committed these crimes - public servants, private companies or individuals. The State must also ensure equal opportunity for everyone to court, the Human Rights Commission or to the Ombudsman. This is necessary to avoid lynching and violence in the resolution of the dispute;

-defined educational level. Legislation plays an important, the lack of a role to counter intolerance at the level of individual consciousness. Often it is rooted in ignorance and fear: fear of the unknown, in other cultures, nations and religions. Intolerance often even has to do with an exaggerated sense of self-worth and pride: personal, national or religious. These ideas are formed at an early age, so more emphasis should be placed on a broader and more quality education. Education - a process that lasts a lifetime does not begin and does not end with school. Attempts to inculcate tolerance through school education only to be unsuccessful, as long as they are not aimed at all age groups and will not ubiquitous;

-the presence of free access to information. Intolerance is most dangerous when it is used to satisfy the political or territorial ambitions of individuals or groups of people. Lighteners hatred usually develop proper arguments, false statistics that are manipulated public opinion through misinformation and playing on prejudices;

-personal awareness of the problem. Intolerance is a term society of intolerance of its citizens. Bigotry, stereotyping, insults or jokes on racial or national theme - specific examples of intolerance expressions that take place every day in the lives of the people. Intolerance leads only to counter intolerance. It makes its victims look for forms of vengeance. In order to fight intolerance, a person must be aware of the connection between their behavior and the vicious circle of mistrust and violence in society.

-solutions for individual situations. Many people know that tomorrow's problems will be increasingly global, but few realize that the solution to global problems are local, sometimes even on a personal level. Meeting the escalation of intolerance around us, we should not only rely on the response of governments and organizations. Everyone - part of the solution. The tool of nonviolent action can be a meeting to discuss the organization of work with ordinary people, a demonstration of solidarity with the victims of intolerance, to discredit the propaganda aimed at inciting hatred. All these facilities are available to those who want to put an end to intolerance, violence and hatred.

Tolerance - a state of mind and achieving it for every person, of course, difficult. Not less, but rather more difficult to create a tolerant consciousness in a particular community. The effectiveness of tolerance depends on how much its shape is consistent with the nature of the dominance in a given society consciousness. This is determined primarily by the fact that the community foundation is a generic consciousness. We come together with those who share our beliefs, or with those who speak the same language or have the same culture as us, or to those

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

who belong to the same ethnic group. Scientists believe that the common language and a sense of ethnic affinity throughout human history serve as community bases. At the same time, we tend to fear hostile or treat "others" - those who are different from us. The difference can occur at any level of biological, cultural and political reality. In view of the above, all modern nation in cultural, religious and political relations more pluralistic than the traditional communities that preserve their unity at the expense of the fundamental traditions in culture or religion.

In fact, any belief - religious, political and cultural - can lead to intolerance, if not leave any doubts about the infallibility of the ideas in which we believe, and the falsehood of those attitudes that we have disputed.

To speak of tolerance is quite difficult in ethnic interactions, for it is the ethnic sphere carries a huge potential for all kinds of differences, contradictions and conflicts. Historical experience shows that the relationship between the peoples were often tense and tragic. In the course of numerous wars destroyed, persecuted that nation and nationality. Went growth of national resentment in psychological terms. This is reflected in the modern national consciousness. Very long memories stored in the consciousness of the peoples, of the kind of injustice, conflict, giving rise to hostility, complicating relations between people.

The most important way of preventing and overcoming ethnic conflicts - forming ethic tolerance. A major role in this process belongs to the creation of a single multicultural space. To do this, first of all, to foster a culture of interethnic communication, the simplest elements of which are:

- "Ethnic indifference", that is abstracting from the national factor in interpersonal communication, except in certain cases where it is necessary;
- tact in dealing with people of other nationalities;
- everyone has the right to his point of view on any subject worldview;
- interceding in the discussion of the national ethnic problems, should clearly guide by the amount of knowledge, which is located on the matter;
- requires knowledge of the rites, rituals, and customs of the ethnic group to which a person living environment;
- Remember that one of the important aspects of the culture of international dialogue language [4, p.12].

In the formation of the linguistic component of tolerant consciousness set the tone in the first place, the media and in particular television. The appearance on the TV, radio, press little tolerance language dies, touches national or religious feelings of the person, carries stereotypes "hate speech" on "the street", in everyday life, public circulation, which, of course, is unacceptable in a democratic, civil society.

To achieve these goals, the society need to act on many fronts. Thus, analytical area includes the development of scientific and methodical bases of formation of tolerant consciousness, education culture of peace, combating extremism in civil society, methods of diagnosis, assessment and monitoring of extremism, including in the media, social and psychological methods, including communication technology, to eliminate extremist attitudes in the mass consciousness [5, p.225-231].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The direction of propaganda and counter-propaganda poses the problem using the media to disclose the anti-social nature of extremism in all its forms, conducting socio-psychological examination of publications, television and radio programs that provoke incitement of ethnic and religious hatred, publication of journalistic material, contribute to the spread of tolerance, reduce social tension in society.

Educational and methodical direction involves the creation and use in educational institutions of all levels of educational programs and technologies aimed at the promotion of tolerance, religious tolerance and intercultural dialogue, education, held in special institutions ideological psychological trainings for training and retraining of specialists in the sphere of mass communications, public officials and law enforcement officers.

As part of the regulatory, methodological and organizational direction is required to develop a package of methodological documents and creating the conditions for socio-psychological examination publications and broadcasts in the mass media, the development of new communication technologies and educational programs, including the use of interactive learning tools and games creation mechanisms for assisting victims of extremism, aggression, refugees and IDPs, development of techniques for increasing the efficiency of inter-religious dialogue.

BIBLIOGRAPHY:

- 1. Capto A. From the culture of war to the culture of peace. Moscow, 2002.
- **2.** Bogatyreva TG. From cultural diversity to cultural pluralism / Cultural diversity, development and globalization. Based on the results of the round table discussions on May 21, 2003 Moscow, 2003. pp.59-60.
- **3.** Ata-Mirzaev O, Gentshke V, Murtazaeva R. Interethnic tolerance in Uzbekistan: history and modernity. –Tashkent, University, 2004. p.24.
- **4.** Nemkova M. Development of the culture of interethnic relations among schoolchildren. Ulyanovsk. 2003. p.12.
- **5.** Shayakubov SS, Ibragimov KD. Historical and linguistic analysis of onomastics of sogdian sources. Scientific Bulletin of Namangan State University. 2020;2(6):225-231.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW ON TEEN PREGNANCY IN CURRENT TIMES

Dr. Astha Lalwani*

*Associate Professor,
Department of Obstetrics & Gynaecology, Faculty of Medicine,
Department of Medical, Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA
Email id: priyasuman@rediffmail.com

DOI: 10.5958/2249-7137.2021.02639.2

ABSTRACT

Pregnancies among teenagers and adolescent parenthood are a source of worry throughout the globe. Teenage pregnancies are nothing new in the historical context. In recent years, obstetrical hazards in adolescent pregnancies have been mostly attributed to negative social and economic variables rather than chronological age. This isn't to say that teen pregnancies aren't still a major public health issue around the world. For most of human history, it was unavoidable for females to marry in their late teens and have their first child in their second decade. This kind of reproductive activity was socially acceptable and even encouraged. Nowadays, however, preventing adolescent pregnancies and young motherhood is a public health priority in almost every industrialized country, as well as a growing number of developing nations. Young pregnancies have long been linked with serious medical issues; nevertheless, the majority of evidence supporting this perspective was gathered decades ago and mostly reflects the condition of per se socially disadvantaged teenage mothers.

KEYWORDS: Adolescent mothers, Social and medical problems, Teenage pregnancy in Austria.

1. INTRODUCTION

Pregnancies among teenagers and adolescent parenthood are a source of worry throughout the globe. Every year, about. And one million girls less than. Give birth, according to the World Health Organization. Because the vast majority of teenage pregnancies now take place in low-and middle-income countries with inadequate health-care services, complications during pregnancy, birth, and the postpartum period. Are the second leading cause of death among girls aged? Around the world. Furthermore, it is estimated that three million adolescent girls have unsafe abortions, which may lead to further reproductive issues or even death. The United Nations International Children's Emergency Fund. Estimated fifteen years ago that every fifth child born globally is to an adolescent woman, with. Percent of these so-called teenage births occurring in third-world nations. Although the majority of these pregnancies are socially desirable in traditional societies, several studies have highlighted the significant risks associated with teenage pregnancies. Including anemia, preterm labor, urinary tract infections, preeclampsia, and a high rate of cesarean sections, preterm birth, and low birth weight infants, as well as maternal and newborn mortality. Teenage pregnancies can occur in high-income nations, and despite considerably improved medical treatment, teenage pregnancies are still seen as

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

hazardous, with legislation attempting to prevent too early parenthood. This is due to a variety of factors, including medical issues and, most importantly, the social repercussions of young motherhood. As a result, there has been a lot of study and discussion about the causes and effects of adolescent pregnancies. The current article focuses on the biological, medical, and social aspects of adolescent pregnancies, with a particular emphasis on Austria, a nation with extremely excellent medical and social care standards[1].

1.1. Biological basis of teenage pregnancy:

A woman may conceive via sexual activity as soon as she begins to ovulate. The first ovulation usually occurs after the menarche, or the first period of menstrual bleeding. Girls reach menarche at a variety of ages, making it difficult to determine the global mean age at menarche since substantial variations exist not only across nations, but also within subpopulations within a country. The mean age of menarche is commonly thought to be. As a result, menarche now occurs mostly in the early part of a woman's second decade of life. This period of life is known as adolescence in terms of human life history theory: Adolescence is split into early and late adolescence and begins with pubertal hormonal changes such as the activation of the hypothalamus-pituitary-gonad axis. Early adolescence is described as being.

Old or younger, while late adolescence is defined as being. Adolescence seems to be a very recent occurrence in evolutionary biology. It is not seen before Homo sapiens and may provide a fitness advantage since it is a period of social and sexual development as well as the learning of social and economic skills that may aid reproductive success later in life. Successful reproduction was and continues to be uncommon throughout early adolescence. Anovulation is common in the years after menarche, and as a result, the chances of successful pregnancy are low. Furthermore. Mean age of menarche is a relatively new occurrence. Although the historical accuracy of statistics on menarche age cannot be questioned, it can be inferred that the age of menarche has decreased significantly in all industrialized nations during the last.

This decrease in monarchial age is the result of the so-called secular acceleration trend, which was triggered by better living circumstances, infection control, and nutritional improvements. In several European nations and the United States, the secular trend in monarchial age had slowed or stopped in the. Better living circumstances and food supplies, on the other hand, resulted in not just early sexual maturation but also a faster rate of ovulatory cycles shortly after menarche. To put it another way, the chances of getting pregnant soon after menarche rose as well. The secular tendency, on the other hand, has impacted not just sexual maturation, but also peak height velocity and the development of secondary sexual traits such as breast growth, with most teenage girls looking like young women long before they achieve mental maturity. As a result, young girls may believe they are of legal age to begin sexual behavior[2].

1.2. Teenage motherhood from a historical viewpoint:

Teenage pregnancies are nothing new in the historical context. In earlier centuries, and even throughout the twentieth century in Europe, adolescent pregnancies and teenage motherhood were considered common and even socially acceptable. For most of human development and history, it was perfectly normal for first births to occur during adolescence. Girls married throughout their teens and had children in their second decade. This kind of reproductive activity was seen as natural and socially desirable. Hildegard of Vinzgouw, Charlemagne's second wife,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

was approximately when she gave birth to her first son in, according to records. Margaret Beau ford, who was just. When she gave birth to Henry VII of England in is another notable case. Margaret Tudor, Margaret Beaufort's granddaughter, gave birth to her first three children before turning. These are only a few historical instances; delivery in one's forties and fifties is still fairly frequent nowadays. There was a lot of talk about Bristol Palin's young motherhood, since she was the daughter of Sarah Palin, Alaska's governor and vice presidential contender[3].

1.3. Teenage pregnancies as a worldwide phenomenon:

Pregnancies among teenagers are becoming a global occurrence. Girls between the ages of account for around of all births globally. According to the World Health Statistics. The worldwide average birth rate for. Girls, whereas nation rates vary from. Sub-Saharan Africa had the highest rates. Niger, Liberia, Mali, Chad, Afghanistan, Uganda, Malawi, Guinea, Mozambique, and the Central African Republic remain the ten nations with the greatest risk of teenage pregnancy. The teenage birth rate in these nations varies greatly, ranging free in Niger to in the Central African Republic. In Niger, more than half of adolescent females. Aremarried. Between the ages of and around of young females give birth. This is mostly owing to the fact that in certain traditional cultures and emerging nations, childbirth among adolescents is socially desirable. As a result, a large percentage of adolescent pregnancies and deliveries are planned in underdeveloped nations.

However, we must keep in mind that the adolescent birth rate included in all of these data sources only applied to females aged. The bulk of figures cited do not account for the highly vulnerable category of teenage moms under the age of. According to Singh. Percent of girls in Cameroon, Liberia, Malawi, Niger, and Nigeria, as well as. percent of females in Bangladesh, gave birth before the age of. Pregnancy and delivery in girls under the age of. Are highly dangerous; yet, in certain cultures, it is still usual for females to marry in their teens and reproduce as soon as possible, owing to the fact that early reproduction may improve the girls poor status in their new family. This societal pressure to reproduce as soon as possible raises the death rate among early teenage females, as shown in Bangladesh, where the risk of maternal mortality among moms aged. is five times higher than among adult women[4].

1.4. Adverse effects of teenage pregnancies:

Female reproduction has always been hazardous, and pregnancies and deliveries are unquestionably important stages in the lives of both mother and fetus, regardless of maternal age. For a long time, the negative health effects of adolescent births were exclusively ascribed to the young mother age, making them a unique issue. Teenage pregnancy rates were named one of. Key indicators for monitoring and characterizing reproductive health in the European Union by the European Union's REPROSTAT initiative. Teenage pregnancy is classified as a significant public health issue with obesity, diabetes, cardiovascular disease, and cancer rates. Although the categorization of teenage pregnancies as a high-risk group and a major public health concern is still disputed today.

Adverse medical consequences of adolescent pregnancies have mostly been documented in research dating back to the. Preterm labor, urinary tract infections, hypertension, preeclampsia, a high incidence of cesarean sections, but also preterm delivery, low birth weight, and intrauterine growth restriction were all considered obstetric concerns at the time. However, these findings are based on research conducted in socially disadvantaged subpopulations and in third-world

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

countries with poor medical conditions. During the. Attitudes about adolescent pregnancy shifted dramatically. Compared to older mothers, studies from more economically advantaged clinics in developed countries found no increased obstetrical problems among teenage mothers. And a recent study from Austria demonstrated that the obstetric outcome of adolescent pregnancies has remained favorable over the. During the past, the rate of cesarean section in teenagers has remained constant, but the frequency of improperly adherent or partial placentas has dropped. Teenage motherhood, the authors concluded, is a societal issue rather than an obstetrical or clinical one[5].

1.5. Teenage motherhood in Austria:

According to the Forbes list of, Austria is the. Wealthiest nation in the world and the third richest country in the European Union in terms of GDP per capita. In Austria, the quality of life is extremely high; this is particularly true of the social welfare system, which provides universal health insurance coverage and public health services for all residents on almost equal terms. Furthermore, in Austria, of schooling are required. After four years of obligatory basic education, students have the choice of attending higher-learning institutions that prepare them for university for eight or nine years, or vocational-preparatory schools for five years. Sex education has been required in all schools since, and it is given at the ages of. Special outpatient clinics for teenagers, such as the so-called first love outpatient department in Vienna, were established in addition to school-based sex education programs. Adolescents have unrestricted access to these facilities. They not only get sex education, but they also have access to contraception. Contraception is accessible, as well as emergency contraception. The so-called mother-child passport was first issued in. The mother-child passport is a complex health-care system that involves seven prenatal examinations beginning at the eighth week of pregnancy and eight postnatal checkups for the kid between birth and the fourth year of life. All checks are free of charge and take place in the consultation rooms of a gynecologist or a pediatrician. In abortion became completely legal. For women whose pregnancies have not surpassed, abortions may be done on demand in hospitals, outpatient departments, and private practice; nevertheless, abortions are not covered by the government health system[6].

1.6. Study: maternal age and birth outcome:

The first research included data from. Singleton term deliveries. That occurred between at Austria's biggest birth clinic, the University Clinic for Gynecology and Obstetrics in Vienna. The data of women aged. at the time of their first birth and their infants were examined in this research. The research included only healthy women from Austria or Central Europe who gave birth to a single child and had no known maternal illnesses prior to or during pregnancy. Chronological age, age at menarche, gynecological age. Stature, prepregnancy weight, prepregnancy body mass index. Weight at the end of pregnancy, gestational weight gain, and pelvic dimensions distant spinarum. and distant Christ arum were all recorded[10]. The newborn's weight, length, head circumference, front-occipitalis diameter, and acromial circumference were all measured immediately after delivery. According to WHO guidelines. A low birth weight was defined as less than, while a large birth weight. Was defined as more than. For infant assessment were calculated in addition to anthropometric characteristics. The method of birth, spontaneous vs cesarean section, and the infant's intrauterine position at the moment of delivery were all recorded as obstetric features. Previously. A more comprehensive description of data gathering and statistical analysis was provided[7].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.7. Study: Social Support And Pregnancy Outcome Among Teenage Mothers:

The effect of social support on the course of pregnancy and pregnancy outcome was investigated in this research of. Pregnant Austrian girls aged. All of the girls were questioned using a standardized questionnaire, and data from the mother-child passport was also analyzed. Pregnancy and birth complications were uncommon, and no poor birth outcomes were recorded. The majority of participants got excellent medical care and enough social support, mostly from their parents and grandparents, and to a lesser extent, from their schools. The overwhelming majority of girls had access to institutional assistance. The majority of girls received information and assistance from a gynecologist, a health facility for adolescents, such as the first love outpatient department, public and private social organizations, Internet services, and a public information center. More than. Of the girls said they had no trouble getting enough information and assistance from the institutions. The majority of girls were pleased with the social assistance and information given by public and private organizations. These findings back up the notion that adolescent pregnancies are primarily a social issue rather than a medical one, since sufficient social support helps to minimize medical problems[8].

2. DISCUSSION

In South Africa, teen pregnancy is a multifaceted problem with many contributing factors such as poverty, gender inequalities, gender-based violence, substance abuse, poor access to contraceptives, and issues with pregnancy termination; low, inconsistent, and incorrect contraceptive use; and a limited number of healthcare providers. What is the impact of a teen pregnancy on a teen mother? Preeclampsia and its consequences are more common in teenagers than in average-aged moms. Premature delivery and low birth weight are two risks for the infant. Preeclampsia may damage the kidneys and possibly kill the mother or the baby.

Teenage births have health consequences: infants are more likely to be born preterm, have a lower birth weight, and have a higher neonatal death rate, while moms have higher rates of postpartum depression and are less likely to start breastfeeding. Teens, on the other hand, are more likely to use condoms and birth control tablets, which are less efficient in preventing pregnancy when not taken properly and regularly. The most effective forms of birth control for teenagers are intrauterine devices and implants, often known as Long-Acting Reversible Contraception. According to Nippon, if a girl is pregnant and she is a minor, she does not have the right to abort the pregnancy under the Medical Termination of Pregnancy section. Sub clause. To go under the knife, a pregnant minor will require the permission of her legal guardian[9].

3. CONCLUSION

The majority of adolescent pregnancies in industrialized nations, particularly those occurring during early adolescence. Are unexpected and unwanted. Teenage pregnancies were formerly thought to be significant medical issues and obstetrical risk factors. There's no denying that modern medicine may help with obstetrical issues, lowering the likelihood of adolescent pregnancies. Since the early. Better sexual education and the legalization of abortions in Austria have significantly decreased adolescent pregnancy. Special support programs for pregnant adolescent girls and young moms, on the other hand, were established, providing medical, financial, and social assistance. To begin with, special free consultation hours for young girls at hospitals and gynecologists' private practices increased access to contraception and advanced sexual education. Financial assistance from the government to young moms significantly

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

decreased poverty among teenage mothers. Despite these improvements in the status of teenage mothers in Austria, it is important to remember that developing effective measures to decrease the incidence of teenage pregnancy and teenage motherhood, particularly among early adolescents, should be a global public health priority.

REFERENCES:

- 1. T. Mueller et al., "Teen Pregnancy Prevention: Implementation of a Multicomponent, Community-Wide Approach," Journal of Adolescent Health. 2017, doi: 10.1016/j.jadohealth.2016.11.002.
- **2.** H. D. Tevendale et al., "Practical Approaches to Evaluating Progress and Outcomes in Community-Wide Teen Pregnancy Prevention Initiatives," Journal of Adolescent Health. 2017, doi: 10.1016/j.jadohealth.2016.09.018.
- **3.** A. McKay, "Trends in teen pregnancy in Canada with comparisons to U.S.A. and England/Wales," Can. J. Hum. Sex., 2006.
- **4.** C. Cassell, J. Santelli, B. C. Gilbert, M. Dalmat, J. Mezoff, and M. Schauer, "Mobilizing communities: An overview of the Community Coalition Partnership Programs for the Prevention of Teen Pregnancy," J. Adolesc. Heal., 2005, doi: 10.1016/j.jadohealth.2005.05.015.
- **5.** M. J. Canada, "Adolescent pregnancy: Networking and the interdisciplinary approach," J. Community Health, 1986, doi: 10.1007/BF01341638.
- **6.** C. Approach et al., "Teen Pregnancy Prevention: Implementation of a," J. Adolesc. Heal., 2017.
- **7.** S. Hodgkinson, L. Beers, C. Southammakosane, and A. Lewin, "Addressing the mental health needs of pregnant and parenting adolescents," Pediatrics. 2014, doi: 10.1542/peds.2013-0927.
- **8.** Stanley J.Swierzewski, "Teen Pregnancy, Consequences of Teenage Pregnancy Teen Pregnancy HealthCommunities.com," Remedy's Health Communities.com, 2015.
- **9.** A. Scott Baker, "35.3 Medications in Pregnancy," J. Am. Acad. Child Adolesc. Psychiatry, 2017, doi: 10.1016/j.jaac.2017.07.203.
- **10.** M. K. Holt, J. G. Green, M. Tsay-Vogel, J. Davidson, and C. Brown, "Multidisciplinary Approaches to Research on Bullying in Adolescence," Adolescent Research Review. 2017, doi: 10.1007/s40894-016-0041-0.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CAUSES OF ANAEROBIC DIGESTION FOAMING – A REVIEW

Navneet Kumar Vishnoi*

*Professor.

Department of Paramedical Science, Medical Lab Techonology, Faculty of Medical Allied Sciences, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA

Email id: navneet.computers@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02640.9

ABSTRACT

In the United Kingdom, anaerobic digestion foaming has been seen in a number of sewage treatment facilities. Water businesses are concerned about foaming because it has a substantial effect on process efficiency and operating expenses. Researchers have discovered a number of foaming reasons in recent years. However, the amount of supporting experimental data is minimal, and in some instances, non-existent. Foaming causes poor gas recovery from digesters, resulting in higher power generation costs. Foaming may also result in an inverted solids profile, with greater solids concentrations at the top of a digester, the formation of dead zones, and the decrease of the digester's active volume, resulting in sludge that has not been stabilized to the same degree. The purpose of this paper is to give a comprehensive overview of the current anaerobic digestion foaming issue and to identify knowledge gaps in the theory of anaerobic digester foam production.

KEYWORDS: Anaerobic, Digestion, Foaming, Process Efficiency, Sludge.

1. INTRODUCTION

For more than a decade, anaerobic digestion (AD) foaming has been seen in several sewage treatment works (STWs), with serious consequences for the entire digestion process. Foam in a culture medium is defined as a gas—liquid dispersion with a gas concentration of more than 95%, generated by vigorous agitation, aeration, and the addition of surfactants. Foams produced in anaerobic digesters may be described as a buildup of gas bubbles surrounded by a liquid layer on the surface of sludge based on the preceding assertions[1].

Foaming may also cause gas mixing device jams, sludge recirculation pump foam binding, fouling of gas collecting pipelines owing to entrapped foam particles, foam penetration between floating covers and digester walls, and floating cover tilting during foam expansion and collapse[2]. The wastewater industries are concerned about the economic problems that come from energy loss, labor overtime, and cleaning expenses. STW is based in Sweden. In 1996, a 10-week foaming issue at STW in Sweden resulted in a 40% biogas loss. The overall cost of suppressing foam was \$150,000 US dollars, which included increased oil consumption for energy generation and the use of polymer for better dewatering[3].

However, this is the sole reference in the literature on the expenses associated with anaerobic digestion foaming episodes. A lot of studies have looked at the foaming issue in Alzheimer's

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

disease in try to figure out what causes it. Foaming reasons were first identified as insufficient mixing, temperature variations, shock loads, extracellular polymeric substances (EPS), and hydrophobic compounds[4]. However, since the information given is either site specific or lacking experimental proof, the following studies do not constitute a comprehensive study of the foaming issue. The purpose of this study is to examine what is currently known about the causes of foaming in mesophilic AD and to look into the processes of foaming throughout the disease. In order to promote a better understanding of the mechanisms of foam formation and stabilization in biological processes where continuous degradation, solid contents, and the microbial population have an impact on foam initiation and stabilization, the following paragraphs address a well-studied foaming problem in biological processes, activated sludge (AS) foaming[5].

The comparison with the AS process was performed to: (a) see whether there was a link between AS foaming and AD foaming; and (b) look at a larger body of literature on foam initiation and processes than was available for AD. Other biological processes, such as aerobic digestion, produce foam. The activated sludge (AS) method, which includes the breakdown of organic materials by microorganisms under diffused or mechanical aeration, is widely employed in wastewater treatment[6]. Foaming is a common issue in AS plants, and there is a wealth of information available in the literature on the causes and management of foaming. This section intends to provide a short overview of the well-studied foaming issue of AS plants in order to acquire information from the literature on wastewater foams and perhaps identify a link between AS and AD foaming.

Many studies attribute foaming in activated sludge plants to a combination of surfactants (detergents), bio surfactants (substances generated during the metabolic activity of microorganisms), and the presence of two types of filamentous bacteria. Filamentous microorganisms are bacteria, fungi, and algae whose cells do not separate during cell division and therefore develop in the shape of filaments. Filamentous bacteria known as Actinomycetes that have highly hydrophobic cell walls owing to the presence of mycolic acids. It can store extra-long chain fatty acids in big globules and, owing to its hydrophobicity, has an edge over other bacteria when it comes to water-insoluble fats and lipids.

At three full-scale AS plants, large rod and coccoid mycolata populations (mycolic-acid-containing bacteria) ranging from about AS and accounting for more than 79 percent of the mycolata population were strongly linked to foaming occurrences. The presence of branching filamentous mycolata in foaming phases, on the other hand, was negligible, accounting for less than 21% of the mycolata population in the mixed liquid and foam samples tested. Furthermore, filamentous mycolata had no role in the substantial changes in mycolata concentrations found between foaming and non-foaming phases. These results suggested that filamentous bacteria were not to blame for the foaming this time. Foaming episodes were strongly related with huge rod and coccoid mycolata populations (mycolic-acid-containing bacteria) ranging from about of AS and accounting for more than 79 percent of the mycolata population at three full-scale AS facilities[7].

The presence of branching filamentous mycolata in foaming phases, on the other hand, was negligible, accounting for less than 21% of the mycolata population in the mixed liquid and foam samples tested. Furthermore, filamentous mycolata had no role in the substantial changes in mycolata concentrations found between foaming and non-foaming phases. These results

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

suggested that filamentous bacteria were not to blame for the foaming this time[8]. According to the study, the start of foaming may be caused by high surfactant and biosurfactant loads in wastewater, which are subsequently stabilized by microorganisms that contain mycolic acid. The impact of three strains of the filamentous bacteria on foam formation and stability was studied in another research. Pure cultures of the three strains following separation of the microorganisms from foam or mixed liquor samples from full scale revealed that the biosurfactant generated during the exponential development phase of the bacteria, was the agent responsible for foam initiation.

Because the filtrates of each culture exhibited distinct foaming behavior, it was also discovered that each strain generated a different biosurfactant or in different amounts. The concentrations of biosurfactants were indirectly evaluated via surface tension and the foaming potential in this research, and surface tension levels below 60 mN m1 were required for foam start. The presence was credited with foam stability since P55 percent of the stresses were partitioned into the foam, resulting in lower foam drainage rates. The bacteria's partitioning in the foam was unrelated to the strains' origin (foam or mixed liquor sample) and did not vary significantly over time[9]. To summarize, foaming in AS plants is a well-studied issue that has major implications for process efficiency. Several investigations by different experts have shown a strong connection between AS foaming and the presence of surfactants, biosurfactants, and microorganisms that produce mycolic acid. Surfactants and biosurfactants are responsible for the start of AS foaming, but essential amounts for foam initiation have yet to be determined owing to the large number of chemicals involved and their diversity across sludge. Foam stabilization is mostly attributed to the filamentous, although there is evidence that non-filamentous mycolic-acid-containing bacteria, of which particular species have yet to be discovered, also play a role.

Due to the complexity of the process degradation pathways and the many surface active chemicals present in wastewater, further information on the precise processes of foam production and stabilization in AS plants has not been given. The current understanding of the AS foaming issue has given a basic understanding of wastewater foaming processes. The next paragraphs analyze the impact on foaming in connection to chemical (surface active agents) and microbiological components in order to find parallels in the processes of foam generation and stability in AD and perhaps the link between AS foaming and AD foaming. Surfactants and bio surfactants are classified as surface active agents. Oil, grease, volatile fatty acids, detergents, proteins, and particles are all surfactants. However, the word "particulate matter" as used in the literature is not defined explicitly, which may lead to misunderstandings[10].

2. DISCUSSION

The particulate debris may include inorganic sludge components like as metals, sand, and other indigestible material that collects at the bottom of digesters, often known as grit. Bio surfactants are hydroxylase and cross-linked fatty acids, glycolipids, proteins, lipoproteins, phospholipids, and polysaccharide—lipid complexes generated by the metabolic activity of microorganisms found in sludge. Hydrophilic and hydrophobic characteristics are seen in surface active compounds. Because of their hydrophobicity, the hydrophobic ends of surface active agents tend to migrate towards the air phase, forcing them out of the solution.

On the other hand, the hydrophilic ends tend to migrate towards the liquid phase. Surface active agents influence a solution's surface tension, which is defined as "a property of liquids arising from unbalanced molecular cohesive forces at or near the surface, as a result of which the surface

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

tends to contract and exhibit properties similar to those of a stretched elastic membrane." The critical micelle concentration is determined by comparing surface tension to the concentration of a surface active chemical (cmc). That is the concentration at which the aggregation of molecules into clusters (micelles) begins with the hydrophobic ends of the molecules towards the center and the hydrophilic ends facing the solvent. The molecules of the chemical exist as monomers at concentrations less than the cmc, and as micelles at concentrations greater than the cmc.

When a substantial number of micelles are present, the compound's impact is highest at concentrations greater than the cmc. Simply put, if air bubbles were injected into solution, the cmc of a surface active chemical defines the concentration beyond which surface activity rises and foaming occurs. Pure water has a surface tension of about. At their isoelectric point, which is strongly dependent on the pH of the medium, proteins have the lowest solubility and the greatest foaming potential. There is currently no information in the literature on how various proteins influence the foaming potential in anaerobic digesters or what concentrations are required to cause foaming. BSA would cause foaming in digester feed sludge when aeration was applied.

Exonyms break down proteins to amino acids in anaerobic digesters, which has an effect on the foaming potential. Protein was less biodegradable in AD than fiber and lipids, and each non-foaming sludge had a final equilibrium concentration value of 8.41 mg g1 that was independent of the starting protein concentration. In this research, the highest initial protein content was 44.8 percent of the dry matter of the sludge. Protein accumulation at the air/liquid interface may be aided by their surface active characteristics during AD, which could contribute to increased foaming potential.

Protein interactions with other proteins, solids, and other substances in solution, such as the electrostatic interactions described, may, on the other hand, influence protein behavior. The combination of BSA and protamine created a molecular double layer that trapped liquid, reducing drainage and improving foam stability. Protein affinity for fat, as previously mentioned, is an example of another kind of interaction. By weight, the protein-fat mixture contained 9.75 percent molten butter (82 percent fat content), 11.3 percent spray dried skim milk powder (low heat), 12 percent sugar, 4 percent glucose syrup solids, 0.1 percent locust bean gum, and 0.1 percent guar gum, resulting in bridging between adjacent foam bubbles and between bubbles and the bulk solution, resulting in reduced foam drainage. However, the inclusion of non-ionic emulsions of monolaurate (0.9 lM), monolete (0.7 lM), and trioleate of sorbitan (0.3 lM) in the protein-fat matrix decreased the foaming potential and stability, according to the same study. The impact of proteins, proteins by-products, chemical interactions, and perhaps exoenzyme synthesis on the foaming potential of anaerobic digesters is complicated and varies across sludges. It is unclear if sludge containing highly surface active proteins, such as lysosome, decreased the surface tension of aqueous solution to below 58 at a concentration of 0.001 mM. Lipids are chemical compounds that are highly hydrophobic and do not dissolve in water. Lipids are linked to the solid particles in sludge due to their hydrophobicity. Fats and oils are the most prevalent lipids in municipal and industrial wastewater, and therefore in sludge.

Although surface active agents, fats and oils that enter a digester are hydrolyzed to simpler molecules (glycerol and fatty acids) and eventually organic acids. Given lipids' hydrophobicity but also their degradability during AD, it's unclear whether lipids could potentially accumulate on the surface of the bulk phase in an anaerobic digester, losing contact with the bulk phase's majority of bacteria and thus leading to partial fat and oil degradation and increased surface

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

activity. Due to the surface active characteristics of the lipids, the biogas bubbles may get entrapped and cause foaming. However, there was no further experimental evidence in the literature showing a definite contribution of lipids to the sludge's foaming potential during AD. Due to the poor degradability of proteins and buildup of lipids at the air/liquid interface resulting in increased surface activity, there is evidence that lipids contribute less to foaming in AD than proteins.

This may be avoided by keeping a properly mixed homogeneous digester. Another class of chemicals known as surface active agents is detergents. Detergents in wastewater come from a variety of sources, including industrial effluents from breweries, dairies, paper and textile mills, as well as municipal wastewater. Detergent concentrations in STWs may be substantially increased by industrial effluents, to the point that biological treatment processes are inhibited. A thorough examination of AD operating factors such as gas mixing, temperature variations, organic loading, and digester geometry, as well as their connection to foaming, revealed that these variables may possibly generate ideal circumstances for foam start in anaerobic digesters.

As a result, it is essential to guarantee that the operation of anaerobic digesters does not promote the formation of foam. Minimizing temperature variations that may contribute to poor digestion and possible buildup of surface active chemicals, either as by-products of digestion or as found in feed sludge, are examples of parameters that can be managed by operators on a daily basis. Another preventive strategy against stratification and therefore poor digestion and foaming is to provide adequate but not excessive mixing by periodically maintaining digesters and avoiding grit buildup and dead spots.

Overloading and volatility of digester loading should also be prevented by monitoring solids loading rates and digestion performance on a daily and weekly basis. Although the usual organic loading rates for AD described in the literature are very wide, it is thought that there is a critical threshold of organic loading that varies across digesters and is mainly dependent on both feed and digested sludge properties, above which foaming may occur. All of the above, however, are just suggestions at this point for how foaming in anaerobic digesters can be avoided/minimized, as this paper has shown that there is a lack of experimental evidence and significant gaps in knowledge in order to fully understand how foaming can occur from digester operation, such as what temperature fluctuation is required to induce foaming in AD, how solids loading works, and so on.LAS is adsorbed onto the particles and organic matter of sludge and removed from the wastewater through primary sludge. Primary sludge is the only stream that will have significant detergent concentrations because to the strong degradability of LAS in aerobic conditions.

The quantity of LAS in the final sludge combination of primary and secondary sludge is, however, heavily influenced by the site operations. The literature on biosurfactants in sewage sludge, such as glycolipids, lipoproteins, phospholipids, and polysaccharide—lipid complexes, and their relationship to foaming is limited, possibly due to the large number of and complex compounds present, as well as the variability of these compounds between different sludges. Researchers have used wastewater, soil, and other bacterial culture medium samples to assess indirect biosurfactants. Surface tension measurements in a bacterial species' growth medium based on wastewater to track biosurfactant synthesis. At a concentration of 3 g 11, the bio surfactant, which was identified as a lipopeptide, decreased the surface tension of the culture medium to 26 mN m1, while its cmc was 33 mg 11.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The presence of a large and varied microbial community in anaerobic digesters suggests that biosurfactant generation is substantial. Biosurfactants, on the other hand, are present in AD in non-foaming circumstances. It's unclear if an alteration in the metabolic activity of microbes in AD is required to increase biosurfactant synthesis and promote foaming. As a result, biosurfactants may not be a direct cause of AD foaming, but rather a consequence of an underlying reason that causes biosurfactant formation. Furthermore, the probability of these chemicals causing foaming in a digester would most likely be determined by the kind and quantity of biosurfactants present. Due to a paucity of experimental data, no conclusion can be drawn on the role of biosurfactants in AD foaming at this time.

3. CONCLUSION

Foaming is a common symptom of Alzheimer's disease. Due to poor gas recovery, it creates major operational issues and lowers income. Foaming events have been linked to specific design and operational variables in the literature, and many probable causative theories have been suggested. However, there is a paucity of experimental data to back up these claims. This article used a unique approach in that it used current knowledge of activated sludge foaming to create a conceptual foundation for understanding foaming in Alzheimer's disease. Foams produced from wastewater are three-phase systems with gas bubbles, liquid, and solid particles. Foam initiating and stabilizing chemicals are required in this three-phase matrix. While the existence of potential foam initiating and stabilizing chemicals in AD systems has been confirmed in the literature, their critical concentrations have yet to be determined.

REFERENCES:

- **1.** I. Aparicio, J. L. Santos, and E. Alonso, "Limitation of the concentration of organic pollutants in sewage sludge for agricultural purposes: A case study in South Spain," Waste Manag., 2009, doi: 10.1016/j.wasman.2008.11.003.
- **2.** G. Moen, "Anaerobic digester foaming: Causes and solutions," Water Environment and Technology. 2003, doi: 10.2175/193864702784164028.
- 3. W. Barber, "Anaerobic digester foaming: Causes and solutions," Water 21. 2005.
- **4.** K. Boe, P. G. Kougias, F. Pacheco, S. O-Thong, and I. Angelidaki, "Effect of substrates and intermediate compounds on foaming in manure digestion systems," Water Sci. Technol., 2012, doi: 10.2166/wst.2012.438.
- 5. T. Chapman and S. Krugel, "Rapid Volume Expansion an Investigation Into Digester Overflows and Safety," Proc. Water Environ. Fed., 2012, doi: 10.2175/193864711802863229.
- **6.** J. Muller, "Disintegration as a key-step in sewage sludge treatment," Water Sci. Technol., 2000, doi: 10.2166/wst.2000.0151.
- **7.** X. Kang, Y. Liu, X. Li, Y. Yuan, and M. Du, "Two-stage mesophilic anaerobic digestion from waste activated sludge enhanced by low-temperature thermal hydrolysis," Desalin. Water Treat., 2016, doi: 10.1080/19443994.2015.1025440.
- **8.** T. Amani, M. Nosrati, and T. R. Sreekrishnan, "A precise experimental study on key dissimilarities between mesophilic and thermophilic anaerobic digestion of waste activated sludge," Int. J. Environ. Res., 2011, doi: 10.22059/ijer.2011.318.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **9.** L. J. Wu, A. Higashimori, Y. Qin, T. Hojo, K. Kubota, and Y. Y. Li, "Comparison of hyperthermophilic-mesophilic two-stage with single-stage mesophilic anaerobic digestion of waste activated sludge: Process performance and microbial community analysis," Chem. Eng. J., 2016, doi: 10.1016/j.cej.2016.01.067.
- **10.** Q. Li, W. Qiao, X. Wang, K. Takayanagi, M. Shofie, and Y. Y. Li, "Kinetic characterization of thermophilic and mesophilic anaerobic digestion for coffee grounds and waste activated sludge," Waste Manag., 2015, doi: 10.1016/j.wasman.2014.11.016.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE SYNTHESIS OF (N-METYLOL-(1-CARBOXIFERROTSENIL) **CARBOXAMIDE**)

I.R. Asgarov*; Z.X. Abduraimov**; N.Q. Tulakov***

* Professor,

Doctor of Chemical Science, Department of Chemistry, Andijan State University, Andijan, **UZBEKISTAN**

Email id: i.r.asqarov@mail.ru

** Teacher,

Department of Chemistry, Andijan State University, Andijan, UZBEKISTAN

Email id: z.x.abduraimov@gmail.com

***Associate Professor,

Doctor of Philosophy in Science of Chemistry, Department of Chemistry, Andijan State University, Andijan, UZBEKISTAN E-mail: n.q.tulakov@gmail.com

DOI: 10.5958/2249-7137.2021.02690.2

ABSTRACT

The present article deals with the importance and use of ferrocene and some of its derivatives, the possibility of urea derivatives as a fertilizer and biostimulator in agriculture, and informs that the synthesis (N-methylol- (1'-carboxyferrocenyl) carboxamide), its physicochemical analyses, the structure of these derivatives have been studied using IQ-spectrometry, mass spectrometry methods.

KEYWORDS: Ferrocene, Ferrocencarboxylic Acid, Monomethylo-Mochevina, Ferrocerone, *IQ-Spectrometry, Mass Spectrometry.*

INTRODUCTION

THE ANALYSIS OF THE REFERENCES

Ferrocene can be called a catalyst for organic compounds and biomolecules. Since the discovery of ferrocene in 1951, many compounds with biological activity based on ferrocene have been synthesized.

A large number of ferrocene derivatives containing ferrocenylbenzoic acids and ferrocenylphenols were synthesized. Some of these compounds have been shown to be used in medicine. The main reason why ferrocene derivatives exhibit such positive properties can be explained by the fact that its structural structure is close to that of the gem, which is the most active compound in the cell of living organisms. Today, new opportunities are opening up for the application of ferrocene products in various fields. New substances with specific molecular and crystal structure are being synthesized on the basis of ferrocene derivatives.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Scientists of the Department of Chemistry of Andijan State University have synthesized many biostimulants based on ferrocene and its derivatives in the Scientific Laboratory of Commodity Chemistry and are working on their practical application. improvement of methods for obtaining acetylferrocene and ferrocencarboxylic acids, derivatives of ferrocene, synthesis of ferrocencarbonic acid based on the synthesis of some biologically active derivatives and their chemical composition, as well as ferrocene methylolocic urea, dimethyl urea ,including the synthesis of methylened urea, thiourea, methylolthiourea and the study of their stimulatory properties and their implementation in practice.

For example, the sodium salt of p-ferrocenylphenol has been shown to be useful in the treatment of anemia, while the sodium salt of o-carboxybenzoilferrocene has been introduced into the treatment of anemia under the name Ferrocerone. Water-soluble derivatives of p-ferrocenylphenol, o-carboxyferrocene, and 1- (p-oxyphenylferrocencarboxylic acids have now been synthesized and their biological activity studied.

Interest in ferrocencarboxylic acids has grown significantly since the discovery of important properties. In the treatment of various diseases, diseases that can be caused by metabolic disorders, its water-soluble derivatives have been shown to be effective in increasing the yield of agricultural crops.

Under the guidance of Professor I.R.

Interaction of ferrocene with monomethylol urea results in the synthesis of N-methyloxy-ferrocenylamide.

1 '- (3-carboxyphenyl) 1-N-methyloxyferrocenolamide was synthesized as a result of the reaction of m-ferrocenyl benzoic acid with monomethylol urea.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The biostimulatory properties of these substances were determined based on the results of laboratory and field tests, and positive results were obtained.

Based on the above considerations, we continued our research on the production of new biologically active compounds of ferrocene and carried out the reaction of ferrocencarboxylic acid with monomethyl urea. The reaction was performed by diazotization.

The individuality of the reaction product was checked by thin-layer chromatography. The structure of the synthesized (N-methylol- (1`-carboxyferrocenyl) carboxamide) was studied using IR spectra. Absorption lines in the 1158 and 1029 cm-1 regions of the IR spectrum belong to the heteroannular dialmashed ferrocenyl group, while absorption lines in the 914 cm-1 region belong to the ferrocene the presence of an exchange pentadiene ring in the residue, the absorption line at 935 cm-1 indicates the presence of deformation oscillating OH-, and 1281 cm-1 in the area of valence oscillating -NH- groups [8]. The biostimulatory properties of these substances were determined based on the results of laboratory and field tests, and positive results were obtained.

Based on the above considerations, we continued our research on the production of new biologically active compounds of ferrocene and carried out the reaction of ferrocencarboxylic acid with monomethyl urea. The reaction was performed by diazotization.

The individuality of the reaction product was checked by thin-layer chromatography. The structure of the synthesized (N-methylol- (1`-carboxyferrocenyl) carboxamide) was studied using IR spectra. Absorption lines in the 1158 and 1029 cm-1 regions of the IR spectrum belong to the heteroannular dialmashed ferrocenyl group, while absorption lines in the 914 cm-1 region belong to the ferrocene the presence of an exchange pentadiene ring in the residue, the absorption line at 935 cm-1 indicates the presence of deformation oscillating OH-, and 1281 cm-1 in the area of valence oscillating -NH- groups.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

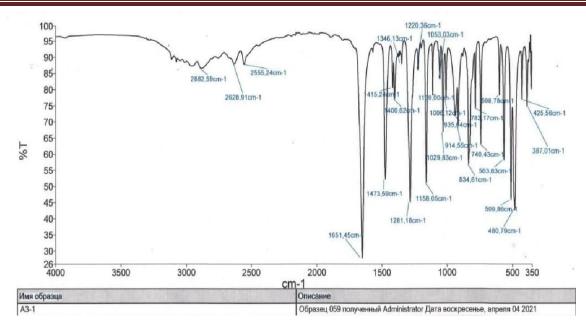


Figure 1. IR spectrum of (N-methylol - (1`-carboxyferrocenyl) carboxamide).

According to the results, the reaction follows the following scheme:

The obtained IR-spectral data are confirmed by the results of mass spectrometry analysis. The structure of the ions formed in the mass spectrum (Figure 2) and their m / z values are given in Table 1 below.

TABLE 1 MASS SPECTROMETRIC VALUES OF (N-METHYLOL - (1'-CARBOXYFERROCENYL) CARBOXAMIDE)

№	Formula	m/z	Relative intensity%
1	$(C_5H_4)_2FcCO + H^+$	213	100%
2	$2(C_5H_4)_2FcCONH+H^+$	453	47%
3	$(C_5H_5)_2Fc^+OH+H^+$	204	42%
4	2(C ₅ H ₄) ₂ FcCONHCH ₂ OHCOOH+H ⁺	601	30%
5	$(C_5H_5)_2Fc + H^+$	185	25%

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

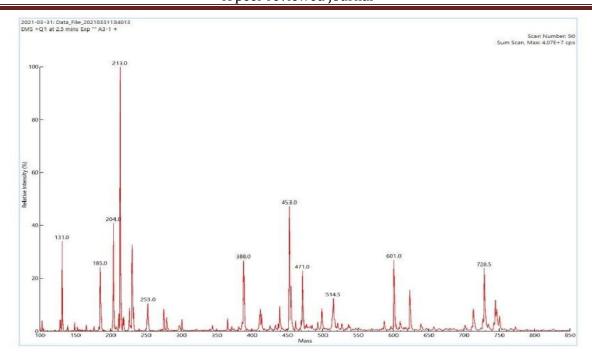


Figure 2. Mass spectrum of (N-methylol - (1`-carboxyferrocenyl) carboxamide).

EXPERIMENTAL SECTION

In a three-mouthed round-bottomed flask with a volume of 500 ml cooled to -50C, equipped with an autocomplete, dropper funnel and thermometer, 0.09~g of monomethylol urea 15 ml of distilled water, 15 g of ice, 1 ml of concentrated hydrochloric acid. A 10 ml aqueous solution of 0.05~g of sodium nitrite was added dropwise for 20 min, stirring to form a solution. At the end of diazotization, 0.02~g of urea dissolved in 2 ml of water and 0.04~g of sodium acetate dissolved in 4 ml of water were added to the reaction mixture to decompose the excess HNO2. Temperature and pH constant were observed during diazotization. The diazotization process was performed at -50S at pH = 1. The ice bath was then replaced with a water bath and a drip funnel with a return cooler. 0.23~g of ferrosencarbonic acid dissolved in 50 ml of diethyl ether was added to the reaction mixture.

The reaction mixture was heated in a water bath while stirring at 34-350C for 3-4 hours. When the reaction was complete, the mixture was poured into a separation funnel and the aqueous part was separated from the ether part. The aqueous portion was washed 3 times with diethyl ether. The ethereal part was separated and washed 3 times with water. Ether layers were added and treated with 3% sodium hydroxide solution. The alkaline part was neutralized with a 5% hydrochloric acid solution. The precipitated yellow substance was filtered and dried at room temperature.

The yield of the reaction is 60% of the theory. The resulting yellow substance is well soluble in organic solvents, sparingly in water. T.s. = 197oC. Empirical formula C13H14O4NFe.

Thus, a new (N-methylol - (1`-carboxyferrocenyl) carboxamide) containing ferrocencarboxylic acid was synthesized.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

We believe that the water-soluble products of this substance can be used as a biostimulator that can have a positive impact on the growth and development of agricultural crops and serve to increase productivity.

REFERENCES:

- **1.** Lemenovsky D.A., Levitsky M.M. // Russian Chemical Journal (Journal of the Russian Chemical Society named after D.I. Mendeleev). 2000. T. XLIV, issue 6. S. 63-86.
- 2. Askarov I.R. Ferrocene derivatives. Fergana, 1999 .-- 205 p.
- **3.** Tulakov NK, Kirgizov Sh.M. Obtaining water-soluble ferrocene // Current problems of chemistry and innovative technologies in its teaching. Materials of the Republican scientific-practical conference. TDPU. 2016. 5. 158.
- **4.** Khozhimatov MM Synthesis and classification of ferrocene and methyl urea derivatives: Doctor of Philosophy (PhD) dissertation in Chemistry. Fergana, 2018. 129 p.
- **5.** Askarov IR, Tulakov NK Sh.M.Kirgizov. Ferrocencarboxylic acid synthesis // Scientific Bulletin. Andijon.-2014.-№4.-B. 22-25.
- **6.** Tulakov NK Synthesis and classification of some derivatives of ferrocencarboxylic acid: Thesis of the Doctor of Philosophy (PhD) in Chemistry: Fergana, 2018. 133 p.
- 7. Madumarov TA, Askarov IR, Kirgizov SM, Isaev YT, Tulakov NK Ecological dust biostimulants // Scientific Bulletin Scientific Bulletin, 2010. No. 2. P.27 29.
- **8.** L.A.Kazitsyna, N.B.Kupletskaya. Applications of UV, IR, NMR and mass spectroscopy in organic chemistry. 2nd edition. Ed. Moscow State University. 1979. p. 127, 210, 211, 215.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PATRIOTIC EDUCATION OF STUDENTS IN PRIMARY SCHOOLS

Bayniyazova Gulbaxar Muratbayevna*

* Lecturer,
Nukus State Pedagogical Institute named after Ajiniyaz,
UZBEKISTAN
Email id: bayniyazovagulbaxar@gmail.com

DOI: 10.5958/2249-7137.2021.02680.X

ABSTRACT

The topics chosen for the reading lessons are intended to provide students with knowledge and education on daily life, strengthening independence, and human relationships. The themes of independence, homeland, spirituality and nature stand out. Their goal is to instill a sense of identity, independence, homeland and nature.

KEYWORDS: Reading, Methodology, Pedagogical Technology, Interactive Methods, Psychology.

INTRODUCTION

The National Program of Personnel Training states that the creation of advanced pedagogical technologies and modern teaching materials is one of the main tasks of general secondary education.

The use of advanced pedagogical technologies clearly defines the scope of teacher and student activities.

Learning activities that are important to human life are taught in all subject areas. But it does develop a reading guide. The teaching methods will be improved based on the general development of young students, achievements in the field of psychology and special methods. [1]

The effectiveness of reading lessons depends in many ways on the right choice of teaching methods. As a result, teaching methods, like science itself, are constantly evolving. For example, in the old days, reading was taught by dry memorization, but now it is taught by interpretation. The method of memorization does not pay much attention to interpreting the words in the text, explaining their meaning, retelling what is read, and, in general, reading comprehension. They include more accurate pronunciation, reading comprehension, and expressive reading. [2]

Mother tongue, mathematics, reading, etiquette, and science classes in the primary grades have a special place in the education system due to their nature, goals, and objectives. Because they are based on literacy and moral education. Therefore, special attention should be paid to increasing the interest of students in primary education. Because children should not be tired of the sacred word "lesson" from primary school. Today, experienced teachers use a variety of didactic games to increase students' interest in the lesson. The interactive method is aimed at ensuring the development of personal qualities, ensuring the acquisition of knowledge under the influence of their interaction by increasing the activity between teachers and students in the educational process. [3]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The use of these methods helps to increase the quality and effectiveness of the lesson. Its main criteria are informal debate - free discussion, free presentation of educational material, independent reading, study, seminars, opportunities for students to take the initiative, small group, large group, Assignments, assignments, written assignments, etc. to work as a class team. [4]

Interactivity is the interaction of two people, that is, the learning process takes place in the form of dialogue (computer communication) or on the basis of teacher-student interaction.

Interaction - interaction, movement, effectiveness, occurs in student-teacher, student-student conversations. The main purpose of interactive methods is to create the most favorable environment and conditions for the learning process, to create an environment for active, free, creative thinking of the student, to use his needs, interests, inner potential. Such lessons are held in such a way that in the process, no student is left out, and has the opportunity to openly express their views on what they have heard, read and seen. There is a process of mutual exchange of views. Children develop an interest in learning, develop friendly relations. [5]

Interactive learning is characterized by the use of heuristic (thinking, searching, finding) conversations through didactic games - methods of implementation of information and communication technologies on the basis of creativity through the creation and solution of problem situations through the design of the lesson process. [6]

Methods based on the design of heuristic conversations through didactic games are widely used in primary education according to the age characteristics of students, their level of literacy, personal nature. If in the process of teaching each student took assignments at the level of his / her ability, he / she would ensure high quality and efficiency. This can only be done through differentiated education. Now let's think about the implementation of educational processes through didactic games: Interactive game methods are based on the activation and acceleration of student activity. They play an important role in identifying and implementing practical solutions for the realization and development of creative potential of the student.

Learning activities that are important to human life are taught in all subject areas. But it does develop a reading guide. The teaching methods will be improved based on the general development of young students, achievements in the field of psychology and special methods. [7]

The effectiveness of reading lessons depends in many ways on the right choice of teaching methods. As a result, teaching methods, like science itself, are constantly evolving. For example, in the old days, reading was taught by dry memorization, but now it is taught by interpretation. The method of memorization does not pay much attention to interpreting the words in the text, explaining their meaning, retelling what is read, and, in general, reading comprehension. They include more accurate pronunciation, reading comprehension, and expressive reading.

Interactive games are divided into theoretical, practical, physical, role, business and other types. They develop students' analysis, calculation, measurement, construction, testing, observation, comparison, inference, independent decision-making, group or independent team work, speech development, language teaching and learning.

The following criteria will give good results in the selection of interactive games.

- Games for participants, ie boys, girls or mixed groups;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

-by the number of participants - singles, pairs, small groups, large groups, class teams, inter-class and group games;

- game-based thinking, thinking, resourcefulness, action-based, competition-oriented;
- by time norm a lesson, a part of the training time allocated according to the plan, games that last until the goal of the game is achieved, the winners are determined.

The student will be able to read the text correctly, quickly, comprehensibly, and master the content in the first reading lessons. Reading lessons allow students to acquire the learning skills and knowledge required to meet the requirements of the State Education Standard (SES). It is in reading education that a person's motivation to understand himself, as well as the world, is stimulated.

To this end, the textbooks include various topics such as Mother Nature, the world around us, the history and present of our country, the lives of adults and children, hard work, independence and national-spiritual values, friendship and peace. Artistic, ethical-educational, scientific-popular works are included to provide a comprehensive understanding of Unlike other stages of continuing education, the didactic purpose of education is to develop students' reading skills in the reading lessons of primary school, to work on the text of the work. It is closely connected with the spiritual, moral, literary and aesthetic education by working on texts on various topics.

Particular attention is paid to the diversity of genres, poetic perfection of the selected texts for each topic in the textbooks, the level of knowledge of students and their age.

It should be borne in mind that there are clear and scientific methodological approaches to the implementation of each educational task, which are enriched with modern teaching methods. These tasks are solved in an interactive way and in extracurricular activities.

Reading is an important part of human life. Through reading, a person acquires knowledge about existence and society, and a person who does not know how to read is no different from a blind person. Elementary school activities are taught in all subject areas. But it is also a way to teach reading. The general development of teaching methods in young students, psychology, achievements in the field of special methods are formed on the basis of the achievements of existing sciences.

REFERENCES:

- 1. Azizkhojayeva NN. Pedagogical technologies and pedagogical skills. Tashkent. 2006.
- **2.** Maksmudovna AM. Method of formirovaniya u shkolnikov ponimaniya prochitannogo na urokax rodnogo yazyka v nachalnoy shkole. Asian Journal of Multidisciplinary Studies (AJMR). 2020;9(8):24-27.
- **3.** Temirbekova A. Theoretical aspects of innovative processes. Internauka, 2021;(5-2):94-95.
- **4.** Isqaqovna K Z. Preparing Future Primary School Teachers to Work in a Developing, Person-centered Education System. International Journal on Integrated Education, 2020;3(12):196-199.
- **5.** Yusupova GA, Khudayorova MT, Buranova SM, Atiyazov SJ, Allanazarova A. Formation of linguistic competencies in the uzbek language in future teachers. ACADEMICIA: An International Multidisciplinary Research Journal, 2021;11(5):335-341.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **6.** Oteniyazovna PS. (2021). Student competencies in the education system formation. ACADEMICIA: An International Multidisciplinary Research Journal, 2021;11(6):293-295.
- 7. Norov I. (2021). Methods of teaching phonetics in other language groups. Online Scientific Journal of Sustainability and Management Studies, 2021;1(5):306-309.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

HISTORY OF KARAKALPAKS AND KAZAKHS ON THE VOLGA-YOYAK COAST

G. Madiyarova*; N. Satimova**

*Department of History Teaching Methods, Nukus State Pedagogical Institute, **UZBEKISTAN**

Email id: g.madiyarova@gmail.com

Department of History Teaching Methods, Nukus State Pedagogical Institute, **UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02681.1

ABSTRACT

One of the researchers of the history of the Golden Horde, the Kazakh scholar Shokhan Valikhanov, in his 1858 book The Fall of the Horde, always referred to the term "Mangits" as "Karakalpaks". The last dancer of the Horde to save the people from such poverty was Ormonbet, the son of Tinaxmat. His reign during the Horde (1584-1596) coincides with the years. The reason is that after the death of Ormonbet (1596), the last dancer of the Mangits, the population regained its former name, the Karakalpaks. However, in the historical manuscripts of that time, no historian gave a specific idea that the Mangits were Karakalpaks. They occupy lands from the banks of the Edirne River to Turkestan. Some parts of it have reached the Crimea. " Sources about this population are often found in the historical works of the peoples of the East and Europe.

KEYWORDS: "Karakalpaks", Tinaxmat, population

INTRODUCTION

The Karakalpaks have been completely mixed with the Uzbek and Kazakh tribes since the time of Uzbek khan, Janibek khan and Shaibani khan.

This is the essence of the connection of the Soppasli supra jirov, Asan kaygu, Jironcha Chechens, who lived in the XIV-XV centuries, with the provinces of Edil, Jayik and Turkestan.

Karakalpak culture is realized through three known centers.

- 1) Around the palace.
- 2) Chimboy, Satemir,
- 3) Yangikent, Uzgen.

These cities can tell the secret of the Karakalpaks for ten centuries.

The six major sections, the Kipchak, the Keneges, and the Mangit, began calling themselves Karakalpaks after the complete collapse of the Nogai Association in the 16th century, acknowledging that their former ethical names were Karakalpaks. This is the reason why most of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the Karakalpak folklore begins with "Nogaili elida". The Karakalpaks formed the Nogai Association in the 14th century and tried to strengthen it in the 16th century. That is why our history is full of the loss of Karakalpaks from Nogai. [1]

The period of Karakalpakstan's separation from Nogai is full of historical events. Although Musa Biy had many children, each of them fought for a career and disbanded the Horde. It is said that even the youngest children, Yusuf and Ishmael, could not come to an agreement and divided the nation.

The Nogai state collapsed by the end of the 16th century. The main reason for this was the escalation of Jungar aggression during this period. After the death of Ismail, the youngest son of Musa, a struggle for the throne begins between his children Tinaxmat and Rusbek. After Tinaxmat's death, the Horde, which had fallen into Rusbek's hands, had reached the point of complete collapse.

Hunger and poverty were rampant. The last dancer of the Horde to save the people from such poverty was Ormonbet, the son of Tinaxmat. His reign during the Horde (1584-1596) coincides with the years. In the dream of Ormonbet, there was a time when the population was completely prosperous and a sparrow was crowing over the sheep. Because he was a brave and intelligent man, the people created various myths, legends and epics about him. But that did not last long. [2]

In the spring of 1596, Ho Urlik, the evil king of the Dzungars, invaded with a large army, destroying the peaceful population. Ormonbet Biy dies heroically in this battle. The people who have lost their leader are forced to live under the grass, like sheep lost in a herd. According to the program of that time, it was necessary to have a descendant who would replace the head of state. Ormonbet did not have a son. He had two daughters, Biybaysha, Gulaysha and Sariqcha, and the locals tried to choose his youngest daughter, Sariqcha, wisely.

From the 14th century onwards, the Uzbeks, and from the 15th century onwards, the Kazakhs, as well as the Zangars and Bashkirs, began to separate from the Golden Horde as a separate population. In the 15th century, the territory was called the Mangits as a mixture of Uzbeks and Kazakhs in the Golden Horde, and we see the emergence of a single nation.

So the issue is self-evident. In the Golden Horde, two tribes with great prestige, the Mangits and the Kungrad, tried to settle down. The rule of the Mangits, led by the Edi, may have been the reason for the unification of the two peoples into one people. The reason is that after the death of Ormonbet (1596), the last dancer of the Mangits, the population regained its former name, the Karakalpaks. However, in the historical manuscripts of that time, no historian gave a specific idea that the Mangits were Karakalpaks. Thus, in the sources of the XIV-XVI centuries, the Mangits were considered to be an organized population of Uzbeks and Kazakhs. [3]

For this reason, the Mangits, as a certain population, were actively used in the works of historians and poets of that time.

This means that the fate of the people of Mangit, which has been a mystery to many historians, is not far from the Uzbek and Kazakh peoples. However, no specific scientific studies have been conducted on the fate of the Manchus after the 16th century. It was this tribe that gained the title of population for three centuries, but also became a tribal unit of the Turkic peoples. This is because the Mangits are one of the six main ethnic groups of the Karakalpaks.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Therefore, it cannot be denied that the Mangits and the Kungids played a key role in the Karakalpaks during the division of the Turkic peoples in the 14th and 16th centuries. The identification of this problem is not so prominent in the works of historians of the XVII-XVIII centuries, but in the works of historians of the XIX-XX centuries. For example: Mangit is sometimes referred to as a tribe, sometimes as a population, and is said to be a Turkic-speaking Kipchak dialect from the Edirl Jaiyk. Especially since their eastern Edi was associated with the Amr, Soviet-era historians have added a lot of confusing information to the history of this people. Nineteenth-century historians have made a number of fair statements about this. [4]

One of the researchers of the history of the Golden Horde, the Kazakh scholar Shokhan Valikhanov, in his 1858 book The Fall of the Horde, always referred to the term "Mangits" as "Karakalpaks". He even mentioned that from the 14th century the Karakalpak horse was changed to "Mangitlar" and "Nogaili". According to him, Mangit and Kungrad were one of the largest tribes of Dashti Kipchak even before the conquest of Genghis Khan. That is why he writes in his book: "In connection with the disintegration of the Golden Horde there were nomads called Uzbeks, Nogai, Kazakhs. The Kyrgyz and the Mangits lived here long before Genghis Khan." It is a well-known fact that the origin of the name "Mangitlar" was not accidental.

Academician W. W. Barthold says of this tribe: "The Mangits were one of the Turkic peoples, and in the 14th century they formed the Nogai Association in the Golden Horde. They occupy lands from the banks of the Edirne River to Turkestan. Some parts of it have reached the Crimea. "Sources about this population are often found in the historical works of the peoples of the East and Europe. The same name is used in those sources as Mongol-Nogai. In earlier Russian chronicles, it was said, "The Mangits, formerly known as the Nogays, began to migrate."

With the naming of Nogai in history in the 14th century, the role of the Magi in the formation of this alliance seems to have been different. It is possible that the activity of Nuraddin and Aqqas, who came from this tribe after the death of Nogai, raised the prestige of this tribe and at the same time

It was after the death of Nogai that the Mangits became known to the people. Many historians who have written in recent times have called these Mangits "the cult of the Edis and Nuratdin who tried to unite under the banner of only one people." Basically, these ideas come close to the truth. Although we contradict the transformation of Nogai into "Mangits", we cannot give up the two-century-old source of Karakalpak history with this term. The reason is that the Kazakh scholar Shokhan Valikhanov, who studied the history of the Golden Horde, and the Russian scholar V. Sheglov had the same attitude. Therefore, the ratio of mangits to Karakalpaks requires special research. We do not recommend giving preference to any tribe here. Because history itself is a science.

The facts there cannot be shown without proof. This is because the fact that Edirge, our historical east, has been embodied for so many years has completely buried three centuries of our history. That is why we need to prove why the Karakalpaks were called Mangits during this period.

In all historical legends, the lands inhabited by the Karakalpaks are the territories of the Nogai Khanate on the lower bank of the Syrdarya - Ediral (Volga), Binosik (Ural), Kirrasim. In Karakalpak folklore, the so-called nogai category is associated with the names of well-known Nogai khans and mirzas (Edilarga, Orus, Ormambet, etc.). Similar 17th-century Russian

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

documents describe the combined military operations of the Karakalpaks and the Nogays of the Six Boys on the banks of the Binosik.

The basis of all the above information confirms that in the XV-XVI centuries it was a part of the Nogai association of Karakalpaks. Within this political alliance, the complex process of their ethnogenesis was completed. With the ancient centers of Central Asian civilization (Khorezm), as well as the lower reaches of the Syrdarya (Kazakhstan), and at the same time with the Dashti-Kipchak deserts and Eastern Europe - the Urals, the Volga and the North Caucasus. the main features of the Karakalpak language and culture, with which relations with the peoples were strained, were formed.

BOOKS

- 1. Ivanov PP. Essays on the history of Karakalpaks. Moscow, 1935.
- **2.** Kamolov SK. The formation of the Karakalpaks as a people and the history of the country. Nukus, 2001
- 3. Mambetov K. Historical torques. Nukus, 1999
- 4. Mambetov K. History of Karakalpakstan. Nukus, 1993

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

BRIDGING SKILL GAP BETWEEN INDUSTRY AND ACADEMIA – A STUDY ON EMPLOYABILITY SKILLS OF POST GRADUATE STUDENTS (AN ICSSR SPONSORED PROJECT SPONSORED UNDER IMPRESS SCHEME)

Dr Catherine Nirmala*; Ms Sabina Joan Dsouza**

*Associate Professor, St Agnes College (Autonomous), Mangalore, INDIA Email id: cathnirdavid@gmail.com

**Assistant Professor,
Department of PG Studies in Commerce,
St Agnes College (Autonomous), Mangalore, INDIA
Email id: sabeena.lobo@gmail.com

DOI: 10.5958/2249-7137.2021.02692.6

ABSTRACT

The economy is facing an unprecedented challenge of a colossal type. Even before the pandemic started its destructive trial in India in the month of February 2020, unemployability and under employability was predominant in industry bastions. A perfect storm is brewing across India's industrial complex, one that will truly test the country's demographic dividend. Restructuring in many existing industries is leading to layoffs in thousands while a future in which new projects could be driven largely by automation and robots could put paid to the aspirations of millions of young men and women readying to join the workforce every year. The problem, of course, is that sectors that were traditionally large employers particularly at the blue- collar level, have also altered irrevocably. However the education scenario shows that there are a lot more job aspirants who are qualified as far as acquisition of traditional degrees. The demand for graduate and post graduate courses in and outside the country has trebled in the past ten years. Young graduates passing out of various courses including technical courses like engineering, management, commerce and related areas are struggling to get placed in suitable jobs. The other face of the problem is the fact that fresh graduates and post graduates are working in jobs much below their competencies only to safeguard themselves from unemployment. Jobs offered by call centres and business process outsourcing firms involves tele-calling, data entry and marketing roles that do not require the educational qualification of Graduation and Post-Graduation. On one hand Corporates complain that freshers passing out of colleges are not able to fit into the job positions that are vacant consequent of a mismatch between qualitative aspects of the supply and demand of labour: demand has remained unfulfilled due to nonavailability of workers with requisite skills and workers have remained unemployed or underemployed as they have no skills or their skills have no demand. This mismatch seems to have grown in recent years due to fast changes in production technologies and structures to which the skill supply mechanisms and institutions have not been quick enough of study. It is the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

need of the hour to integrate in the education system, technical and soft skills so as to enable the freshersto be competent and adept. Advancement in the technology has changed the working environment of today's organization. The skills which are in demand now are different from earlier. Skill acquisition has become one of the key priorities of today's working environment. There is shifting demand for skills; this is due to challenges of competing in the world market and rapid growth in technology. Therefore, in this challenging environment, the role of higher education is not only to produce graduates with specific area of specialization, but also to develop employability skills which are required by the employer's. This study is an attempt to evaluate the skill gap and bridge the skill gap between the industry requirements and the skills of Post Graduate students.

KEYWORDS: *Industry Expectations, Skills Gap, Technical Skills, Soft Skills*

I INTRODUCTION

The economy is facing an unprecedented challenge of a colossal type. Even before the pandemic started its destructive trial in India in the month of February 2020, unemployability and under employability was predominant in industry bastions. A perfect storm is brewing across India's industrial complex, one that will truly test the country's demographic dividend. Restructuring in many existing industries is leading to layoffs in thousands while a future in which new projects could be driven largely by automation and robots could put paid to the aspirations of millions of young men and women readying to join the workforce every year. The problem, of course, is that sectors that were traditionally large employers particularly at the blue- collar level, have also altered irrevocably. However the education scenario shows that there are a lot more job aspirants who are qualified as far as acquisition of traditional degrees. The demand for graduate and post graduate courses in and outside the country has trebled in the past ten years. Young graduates passing out of various courses including technical courses like engineering, management, commerce and related areas are struggling to get placed in suitable jobs. [1]

The other face of the problem is the fact that fresh graduates and post graduates are working in jobs much below their competencies only to safeguard themselves from unemployment. Jobs offered by call centres and business process outsourcing firms involves tele-calling, data entry and marketing roles that do not require the educational qualification of Graduation and Post-Graduation. On one hand Corporates complain that freshers passing out of colleges are not able to fit into the job positions that are vacant consequent of a mismatch between qualitative aspects of the supply and demand of labour: demand has remained unfulfilled due to non-availability of workers with requisite skills and workers have remained unemployed or underemployed as they have no skills or their skills have no demand. This mismatch seems to have grown in recent years due to fast changes in production technologies and structures to which the skill supply mechanisms and institutions have not been quick enough of study. It is the need of the hour to integrate in the education system, technical and soft skills so as to enable the freshersto be competent and adept. [3]

Advancement in the technology has changed the working environment of today's organization. The skills which are in demand now are different from earlier. Skill acquisition has become one of the key priorities of today's working environment. There is shifting demand for skills; this is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

due to challenges of competing in the world market and rapid growth in technology. Therefore, in this challenging environment, the role of higher education is not only to produce graduates with specific area of specialization, but also to develop employability skills which are required by the employer's. This study is an attempt to evaluate the skill gap and bridge the skill gap between the industry requirements and the skills of Post Graduate students. [4]

II REVIEW OF LITERATURE

Ms. Chandra Vandhana R et al 2019 [2] in their article "Identifying employers perception of employability skills of graduates using a common framework of job classification-A study among HR managers in Kerala" found in the survey of employers assessing measurable qualities and skills that the employers think which are mandatory for recruitment. Employers expect graduates to have technical and discipline competences from their degrees, which will range from team work, communications, leadership, critical thinking, problem solving and managerial abilities. This also hints at the skill gap and points at the focus to be given for training for better employability.

Comments: The researcher has recommended a common framework of job classification and tried to measure employers perception of graduates employability skills. The study does not measure the stated competencies acquired through the courses studied by the students in their graduate program.

Yasmeen Ban DrS.V.Vasantha (2019) [5] Review on Employability Skill Gap, state that Employees have a responsibility to achieve company's sustainable goals. The development of soft skill becomes as important as technical skills and knowledge acquired during a degree. The main objective of the study is to review the employability skill gap. The paper deals with the issues that lead to the employability skill gap. The paper also provides information about ways to bridge the employability gap.

Comments: This study evaluates the skill gap of graduates that leads to a shortfall in achieving the goals of the company when recruited on specific jobs. The researcher suggests some ways to bridge the gap but the emphasis is on soft skills. Soft skills though important only supplement the technical skills needed for the job. A graduate cannot be recruited only on the basis of his soft skills, technical aptitude is imperative and this has not received due importance.

ShahbazMoazam, (2019) in his study Graduate Employability: Employers' Perception Survey Report, Naquebz Consulting report that Higher Education Institutions must reform and realign instruction and assessment systems in a way that provides realistic information on learning achievements of graduates. Lack of soft skills remains one of the major hurdles in induction of graduates in the industry. Graduates must have sufficient industry exposure and commercial awareness to acquire technical skills that will help them in becoming industry relevant.

Comments: The researcher in general identifies lack of soft skills and industry exposure as the main issue that comes in the way of making a graduate less industry relevant. The study does not sufficiently prescribe assessment systems to measure soft skills nor does it pin point instruction methods to assess learning achievements of graduates.

Huchet-Bourdon, 2018, [6] in his study states that the empirical literature acknowledges, however, that any transition dynamics triggered by economic opening can be complex and non-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

linear, making gains from trade for labour hard to identify. Finally, trade liberalization does not only affect job creation and growth, it has also an important impact on job quality.

Comments: This study is very general describing the macro economic aspects of job creation and growth.

Brown, 2019 [7] This working paper discusses the evolution of trade barriers over the past decade, the particular measures adopted by the United States and the background in terms of trade developments against which these measures were taken. It then provides an overview of already visible and potential future effects of these measures, based on a survey of recent publication in this area, and explains the likely outcomes for job growth both in advanced and emerging economies. It also gives an overview of the arguments provided in favour of these measures, which may have been reinforced by recent developments in the emerging digital economy. In our assessment, the escalating trade war, notably between China and the United States, does not remedy existing concerns about imbalances and negative consequences for employment arising from globalization. So far, direct negative effects for labour markets remain limited at this stage. However, significant risks for a collapse of the global architecture of trade do exist, which would have negative repercussions for labour markets.

Comments: This paper generally studies the impact of trade barriers on international labour markets. Though it provides a framework for studying the negative impact of trade wars on the employment opportunities, it does not probe into actual job opportunities that have been lost as a result of these trade wars nor the industries or countries that have been impacted.

III STATEMENT OF THE PROBLEM

Companies today look for a candidate who analyzes information, adapts to change, is capable of taking up responsibility, generates new ideas, works to high quality standards, uses time efficiently, maintains good working relationships, copes with pressures and setbacks, learns quickly, has a lot of professional potential and is high on achievement. In India, a lot of emphasis is placed on academic qualifications and good marks for a graduate as the only way to successfully engage at university. However, this is not a healthy trend. Graduates should also gain practical experiences in the campus and out of the campus to enhance their employability skills as these hands on experiences will also provide then with skills that are imperative so as to procure the job of their choice. The focus of college education especially post- graduation should be on curriculum building in a way to make the student industry relevant and fit for corporate challenges.

Employability skills are the skills desired by employers in the fresh graduates who are recruited. They are also called as 'soft' skills and they refer to a set of transferable skills and key personal attributes which are highly valued by employers and essential for effective performance in the workplace. Soft skills, unlike professional or technical skills which are generic in nature, rather than being job-specific, they are common to all work roles and workplaces across all industry types - for instance, communication skills, leadership skills and teamwork. The government has taken a lot of initiatives in improving the employability skills of the young graduates and post graduates. However, the effectiveness of these initiatives need to be measured in terms of the number of beneficiaries to these schemes and to what extent these programmes have helped them to acquire a job of their choice and aptitude.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IVOBJECTIVES OF THE STUDY

- To investigate the various technical and soft skills that are acquired by graduate and post graduate students during their tenure of the study which contribute to their employability.
- To estimate the number of Graduate students who are able to find suitable jobs and thus do not feel the need for Post-graduation.

V HYPOTHESIS

The course curriculum of post graduate students does not have an inbuilt system to promote Self-Efficacy in the Classroom, thus students do not possess the required skill sets.

VI SCOPE OF THE STUDY

This study is restricted to Post Graduate students from the Commerce and Management stream only. Data was collected from colleges of the states of Karnataka, Tamil Nadu and Kerala. The researchers also managed to interview some Indian students pursuing their Masters Programmes abroad.

VI RESEARCH METHODOLOGY

The data for the research was collected by using Primary and Secondary data. Primary data was collected by distributing questionnaires and interview method.

Sampling Plan

The study is divided into two parts, one is the survey on Post Graduate Students and data was collected through Questionnaire method from 26 institutions visited. More than 700 hard copies have been received and responses were also collected online. Sampling technique employed is the stratified random sampling technique where students from the states of Karnataka, Tamil Nadu and Kerala were selected from institutions offering Post Graduate courses in Commerce and Management.

Secondary data was collecting data from various sources like government websites, journals, magazines, and e- journals.

Statistical Techniques

The data collected was analysed through various sophisticated techniques. The following statistical tests were run on the data and the results found and inferences drawn. Friedman's test for significant difference among mean ranks.

Fisher's Exact Test or Chi Square test

VIII DATA ANALYSIS AND INTERPRETATION

TABLE 1: REGION-WISE CLASSIFICATION OF RESPONDENTS

City	Frequency	Percentage
Karnataka	338	52.6
Tamil Nadu	235	36.5
Kerala	26	4.0
Foreign	44	6.8
Total	643	100.0

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Source: Survey Data

The study was conducted in different places and the majority of the respondents were from Karnataka. A part of the respondents were also Indian students particularly from the coastal Karnataka region who are pursuing their Masters Degree abroad.

TABLE 2: AREA-WISE CLASSIFICATION OF RESPONDENTS

Area	Frequency	Percentage
Urban	548	85.2
Rural	95	14.8
Total	643	100.0

Source: Survey Data

The study was conducted in the Colleges of both in Rural and Urban areas

TABLE 3: NATURE OF THE JOB PREFERRED THE MOST

Nature of Job	Frequency	Percentage
Accounting & Finance	248	38.6
Marketing & Sales	68	10.6
Call Centres& BPO	10	1.6
Teaching	157	24.4
Banking	127	19.8
Insurance	15	2.3
Travel & Tourism	16	2.5
Content Writing	9	1.4
General Administration	25	3.9
Human Resource	47	7.3
Advertising & Media	23	3.6
Logistics	14	2.2
Photography	11	1.7

N=643 MRR=1.197 Sources: Survey Data

Note: Percentage is not equal to 100 because of multiple responses.

It is found that most of the students preferred accounting job followed by teaching job. The potential employers for students of Masters in Commerce and MBA are the Big 4 Audit companies, Ernest & Young (EY), KPMG, Deloitte, and PricewaterhouseCoopers (PwC). These are the most sought after companies by Post Graduate students. Among the four, EY and Deloitte conduct campus recruitments regularly.

TABLE 4: PAY EXPECTATION

Pay Expectation	Frequency	Percentage
Below 10000	16	2.5
10000-25000	211	32.8
25000-40000	258	40.1
40000-55000	91	14.2
Above 55000	67	10.4
Total	643	100.0

Source: Survey Data

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Majority of the respondents expect to earn a salary between 25000 to 40000. The expected salary depends upon the place of employment, metropolitan cities and Tier I cities being the most preferred among the respondents.

TABLE 5: REASONS FOR GETTING A JOB

Reasons for getting a Job	Frequency	Percentage
An absolute necessity to earn a livelihood	135	21.0
Just to pass your time	15	2.3
Vital to build a solid career	126	19.6
To become financially independent	245	38.1
Necessary to have your own identity	122	19.0
Total	643	100.0

Source: Survey Data

Most of the respondents say that the reason for getting the job is to become financially independent and some felt it's an absolute necessity to earn livelihood. Post graduates are very clear on their goal to work after their Masters as their pursuit of higher studies is for this one aim of becoming more employable.

TABLE 6: DESCRIPTIVE STATISTICS OF VARIOUS SKILLS TO BE POSSESSED					
Various Skills	Mean	Std. Deviation	Rank		
Psychological skills	2.3872	1.81401	10		
Cognitive Skill	2.8491	1.95684	9		
Team Work	4.0715	2.07669	8		
Creativity and Innovation	4.2846	2.07226	7		
Logical and Reasoning	6.4184	2.18977	4		
Mathematical Ability	5.9362	2.04253	5		
General Knowledge	5.5521	2.29350	6		
Leadership	6.7714	2.07094	3		
Verbal Communication	8.0047	2.10658	2		
Technical	8.6843	2.11835	1		

Source: Survey Data

The descriptive analysis shows that a fresher should possess technical skills followed by verbal communication to get a job employment.

TABLE 7: EXTENT TO WHICH ACCOUNTING AND FINANCE HELPED TO PERFORM WELL IN INTERVIEW

Accounting and Finance	Frequency	Percentage
To a great extent	458	71.2
To some extent	155	24.1
Very little	22	3.4
Not at all	8	1.2
Total	643	100.0

Source: Survey Data

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It is found that majority of respondents (71.2%) felt that accounting and finance subjects has helped them in acquiring employability skills to a great extent.

TABLE 8: USEFULNESS OF POSTGRADUATE DEGREE IN JOB PROSPECTS

Usefulness of Postgraduate Degree in Job Prospects	Frequency	Percentage
Strongly agree	223	34.7
Agree	298	46.3
Neutral	90	14.0
Disagree	24	3.7
Strongly disagree	8	1.2
Total	643	100.0

Source: Survey Data

Majority of the respondents agree that Post graduate degree is useful in improving the job prospects of post graduates.

TABLE 9: PG DEGREE HELPS IN GETTING PROMOTION

PG Degree helps in getting Promotion	Frequency	Percentage
Strongly agree	171	26.6
Agree	291	45.3
Neutral	117	18.2
Disagree	58	9.0
Strongly disagree	6	.9
Total	643	100.0

Source: Survey Data

The majority of the respondents agree that PG degree helps in getting promotion.

TABLE 10: PG DEGREE HELPS IN GETTING PART TIME JOB

PG Degree helps in getting Part Time Job	Frequency	Percentage
Strongly agree	154	24.0
Agree	277	43.1
Neutral	146	22.7
Disagree	50	7.8
Strongly disagree	16	2.5
Total	643	100.0

Source: Survey Data

The majority of the respondents agree that PG degree helps in getting part time job.

TABLE 11: DESCRIPTIVE STATISTICS ON FACTORS IMPORTANT FOR GETTING A GOOD JOB

	Minimum	Maximum	Mean	Std. Deviation
Job is better than staring a business	1	5	2.22	1.046
High grades ensure good job	1	5	2.73	1.141
Usefulness of post graduate degree	1	5	1.91	.860
in job prospects				
PG degree helps in getting	1	5	2.12	.937
promotion				

https://saarj.com

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PG degree helps in getting part time	1	5	2.22	.978
job				

Source: Survey Data

TABLE 12: DESCRIPTIVE STATISTICS ON IMPORTANT SKILLS TO GET GOOD EMPLOYMENT

Skills	Minimum	Maximum	Mean	Std. Deviation	Rank
Psychological skills	1	5	2.3872	1.81401	9
Cognitive Skill	1	5	2.8491	1.95684	8
Team Work	1	5	4.0715	2.07669	7
Creativity and Innovation	1	5	4.2846	2.07226	6
Logical and Reasoning	1	5	6.4184	2.18977	3
Mathematical Ability	1	5	5.9362	2.04253	4
General Knowledge	1	5	5.5521	2.29350	5
Leadership	1	5	6.7714	2.07094	2
Technical skills	1	5	8.6843	2.11835	1

Source: Survey Data

Table shows the importance of various skills in respect of employment in the study area. The results show mean ratings of various skills in the range of 2.3872 to 8.6843, S.D. between 1.81401 to 2.29350.

Out of ten items, most important skills, technical which shows the mean value of 8.6843 followed by leadership 6.7714, followed by Logical and reasoning skills 6.4184, Mathematical Ability skills 5.9362; General knowledge 5.5521, Creativity and Innovation 4.2846, Team work 4.0715, Cognitive skills 2.8491 and lastly Psychological skills 2.3872.

TABLE 13: DESCRIPT	TABLE 13: DESCRIPTIVE STATISTICS ON IMPORTANT SKILLS					
				Std.		
	Minimum	Maximum	Mean	Deviation	Rank	
General knowledge skill test	1	4	1.48	.686	12	
Spoken English skill test	1	4	1.46	.723	13	
Technical skill test	1	4	1.71	.769	9	
Creative thinking round	1	4	1.76	.745	8	
Reasoning ability	1	4	1.59	.758	10	
Mathematical Ability	1	4	1.93	.849	6.5	
Emotional quotient	1	4	2.27	.933	3	
Writing skills	1	4	1.93	.937	6.5	
Physical strength	1	4	2.45	1.113	1.5	
Psychological skills	1	4	2.14	.961	5	
Computer skills	1	4	1.58	.772	11	
Psychometric test	1	4	2.45	.982	1.5	
Skills present in the subject	1	4	2.15	.861	5	
learnt						

Source: Survey Data

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 14: DESCRIPTIVE STATISTICS ON IMPORTANT SKILLS ACQUIRED IN SUBJECTS LEARNT

	Minimum	Maximum	Mean	Std. Deviation	Rank
Accounting and Finance	1	4	1.35	.608	14
Economics	1	4	1.90	.743	4
Statistics	1	4	1.94	.850	3
Banking	1	4	1.77	.836	7
Human Resource	1	4	1.76	.793	8
Taxation	1	4	1.64	.796	12
Research Methodology	1	4	2.09	.910	2
Computer	1	4	1.68	.874	11
Security and Portfolio	1	4	2.16	.910	1
Management					
General Studies	1	4	1.78	.867	6
English	1	4	1.46	.730	13
Cost Accounting	1	4	1.72	.785	9
Management	1	4	1.70	.781	10
Accounting					
Languages	1	4	1.87	1.048	5

Source: Survey Data

TABLE 15: DESCRIPTIVE STATISTICS ON FACTORS IMPORTANT IN ACQUIRING A JOB

	Mean	Std. Deviation	Rank
Bribe	3.0047	1.86916	8
Good personality	3.5117	1.64377	7
Luck factor	3.9098	2.11462	6
High percentage	4.5397	1.42723	4
HR consultancy	4.6392	1.80009	3
Passing out	4.9580	2.12384	2
Reference from friends	3.9549	2.67901	5
High level influence	7.4152	1.40323	1

Source: Survey Data

Hypothesis

H0: There is no significant difference in the mean ranking on opinion of importance of various employability skills to get a good employment in present job market.

The table reveals the calculated Friedman test value and their significant difference in the mean ranking on opinion on importance various employability skills to get a good employment.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 16: FRIEDMAN'S TEST FOR SIGNIFICANT DIFFERENCE AMONG MEAN RANKS ON OPINION ON IMPORTANCE OF VARIOUS EMPLOYABILITY SKILLS TO GET A GOOD EMPLOYMENT

Employability Skills	Mean	Rank	Chi-Square	P Value and
	Rank	Kank	Value	Inference
Psychological skills	2.39	10		0.001<0.01
Cognitive Skill	2.85	9	2761.934	(Significant)
Team Work	4.07	8		H0 is Rejected
Creativity and Innovation	4.29	7		
Logical and Reasoning	6.42	4		
Mathematical Ability	5.94	5		
General Knowledge	5.56	6		
Leadership	6.78	3		
Verbal Communication	8.01	2		
Technical	8.69	1		

^{**} Denotes significant at 1% level

Source: Survey Data

The calculated Chi-square value is 2761.934. The significant value for 9 degrees of freedom is 0.000, which is less than 0.01. Hence, it can be inferred that there is significant difference in the mean ranking between the variables. From the above table, as far as employability skill considered is concerned, technical skill with mean rank of 8.69 is a very important skills majority of respondents are given highest rank, followed by Verbal Communication with mean rank of 8.01, leadership (6.78), Logical and Reasoning (6.42), and Mathematical Ability (5.94). The most influencing indicators compared with other significant indicators were tested using Friedman's test. Since asymptotic significant (sig.) is less than 0.01 (1% level of significance), the null hypothesis is rejected, and the hypothesis that there is a significant difference in the mean ranking for the opinion on importance various employability skills to get a good employment.

TA	TABLE 17: RANKS FOR VARIOUS SKILLS					
			Mean			
	CITY	N	Rank	Chi-Square	P value	
Psychological skills	KARNATAKA	338	303.22	10.703	P<0.05*	
	TAMILNADU	235	351.79		Significant	
	KERALA	26	319.35		H0 is rejected	
	FOREIGN	44	308.72			
	Total	643				
Cognitive Skill	KARNATAKA	338	306.64	20.587	P<0.05*	
	TAMILNADU	235	360.75		Significant	
	KERALA	26	287.85		H0 is rejected	
	FOREIGN	44	253.19			
	Total	643				
Team Work	KARNATAKA	338	315.53	4.999	P<0.05*	
	TAMILNADU	235	321.81		Significant	

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

	KERALA	26	309.81		H0 is rejected
	FOREIGN	44	379.93	_	3
	Total	643		_	
Creativity and	KARNATAKA	338	335.47	21.065	P<0.05*
Innovation	TAMILNADU	235	290.02	1	Significant
	KERALA	26	445.87		H0 is rejected
	FOREIGN	44	316.17		
	Total	643			
Logical and	KARNATAKA	338	324.16	23.01	P<0.05*
Reasoning	TAMILNADU	235	292.32	1	Significant
	KERALA	26	415.02	1	H0 is rejected
	FOREIGN	44	408.94	1	
	Total	643			
Mathematical Ability	KARNATAKA	338	306.98	7.206	P<0.05*
	TAMILNADU	235	341.94		Significant
	KERALA	26	367.17		H0 is rejected
	FOREIGN	44	304.20		
	Total	643			
General Knowledge	KARNATAKA	338	314.17	17.179	P<0.05*
	TAMILNADU	235	350.63		Significant
	KERALA	26	211.12		H0 is rejected
	FOREIGN	44	294.76		
	Total	643			
Leadership	KARNATAKA	338	327.59		
	TAMILNADU	235	328.22	5.952	P<0.05*
	KERALA	26	258.83		Significant
	FOREIGN	44	283.19		H0 is rejected
	Total	643			
Verbal	KARNATAKA	338	332.08	3.884	P<0.05*
Communication	TAMILNADU	235	315.85		Significant
	KERALA	26	274.88		H0 is rejected
	FOREIGN	44	305.28		
	Total	643			
Technical	KARNATAKA	338	340.60	10.475	P<0.05*
	TAMILNADU	235	306.42		Significant
	KERALA	26	264.06		H0 is rejected
	FOREIGN	44	296.58		
	Total	643			

Source: Survey Data

CORRELATION ANALYSIS

Hypothesis

H0: There is no correlation between list of subjects learnt, extent to which the courses helped Post graduate students in performing well in their job interview and Skills Test conducted in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

interview, The subjects that PG Students learnt in their Post graduate programme have given them all the skills that they needed to enable them to get the job that they want and skills are very important to get a good employment

The table reveals the calculated Karl Pearson Correlation values and their significant relationship between list of subjects learnt, the extent to which the courses helped post graduates in performing well in their job interview and Skills Test conducted in interview, The subjects that were learnt in Post graduate programme have given PG students all the skills that they needed to enable them to get the job that they want and skills are very important to get a good employment

TABLE 18: CORRELATIONS I

	IADLI	L 18: CORRELATIO		G1 111
			· ·	Skills are very
				important to get
G 1.4			st given me more	0
Correlations	10	Conducted (Q14)	skill (Q15)	employment
	and Pearson	.110**	.005	.005
Finance	Correlation	00.	001	001
	Sig. (2-tailed)	.005	.901	.901
-	N	643	643	643
Economics	Pearson	.324**	.061	.061
	Correlation			
	Sig. (2-tailed)	.000	.124	.124
	N	643	643	643
Statistics	Pearson Correlation	.352**	019	019
	Sig. (2-tailed)	.000	.634	.634
	N	643	643	643
Banking	Pearson	.259**	.032	.032
<u>U</u>	Correlation			
	Sig. (2-tailed)	.000	.419	.419
	N	643	643	643
Human Resource	Pearson	.195**	012	012
	Correlation			
	Sig. (2-tailed)	.000	.768	.768
	N	643	643	643
Taxation	Pearson Correlation	.142**	068	068
	Sig. (2-tailed)	.000	.086	.086
	N	643	643	643
Research	Pearson	.250**	.043	.043
Methodology	Correlation			
<i>U</i> ,	Sig. (2-tailed)	.000	.279	.279
	N	643	643	643
Computer	Pearson	.187**	015	015
1	Correlation			
	Sig. (2-tailed)	.000	.713	.713
	[-18. (= ttilled)	7 7 7	1	<u></u>

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

	N	643	643	643
Security And Portfolio	Pearson	.224**	.000	.000
Management	Correlation			
	Sig. (2-tailed)	.000	.995	.995
	N	643	643	643
General Studies	Pearson	.212**	.055	.055
	Correlation			
	Sig. (2-tailed)	.000	.164	.164
	N	643	643	643
English	Pearson	.103***	.032	.032
	Correlation			
	Sig. (2-tailed)	.009	.417	.417
	N	643	643	643
Cost Accounting	Pearson	.208**	.025	.025
_	Correlation			
	Sig. (2-tailed)	.000	.528	.528
	N	643	643	643
Management	Pearson	.192**	.024	.024
Accounting	Correlation			
_	Sig. (2-tailed)	.000	.548	.548
	N	643	643	643
Languages	Pearson	.265**	.044	.044
	Correlation			
	Sig. (2-tailed)	.000	.266	.266
	N	643	643	643

^{**} significant at the 0.01 level

The above table shows that there is positive correlation between various subject learnt in PG which has helped in facing interview and to successfully clear the Skills Test conducted in interview, at 1 % level of significance. As the p value shows the less than 0.01 in all the subject they learnt in PG –H1 is accepted for all the subjects

Source: Survey Data

There is no correlation between various subjects learnt in PG and **Subject Learnt in PG Have** given students more skill to that they needed to enable them to get the job that they want and skills are very important to get a good employment.

As the p value is more than 0.05 in all the cases, **H0 is accepted**

H0: There is no correlation between employability skill development programme being included in the curriculum and skill test conducted in the interview.

TABLE 19: CORRELATION	Skill test Conducted	
Employability skill development programme	Pearson Correlation	.114**
should be included in the curriculum	Sig. (2-tailed)	.004
	N	643

^{*}significant at the 0.05 level

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

There is a positive strong correlation between Employability skill development programme included in the curriculum and skills test conducted in various employment. As the p value is less than 0.01. H1 is accepted at 1% level.

SUMMARY OF FINDINGS, SUGGESTIONSAND CONCLUSION

- 1. It is found that most of the students preferred accounting job (38.6%) followed by teaching job (24%).
- 2. Majority (40%) of the respondents expect to earn a salary between 25000 to 40000.
- **3.** Most of the respondents say that the reason for getting the job is to become financially independent (38%) and some felt it's an absolute necessity to earn livelihood (21%) and 64% of the respondents opine that Job is better than starting a business.
- **4.** Most of the respondents (46%) prefer to be placed in jobs through campus recruitment and 77.3% of the respondents are interested working in foreign countries.
- **5.** The study shows that a fresher should possess technical skills or hard skills followed by verbal communication to get a job employment.
- **6.** According to the respondents, 61% opine that general knowledge skill test is most often conducted in a job recruitment drive, 65% of the respondents said that performing well in the spoken English test round is needed to be employed; majority of the respondents (45%) state that they have to perform well in the Technical round to qualify for a job; Majority of the respondents (45%) said that getting through the Creative thinking round successfully is sometimes needed to get a job. Majority of the respondents (55%) said that Reasoning ability is always required to get a job. 40% of the respondents opine that Mathematical Ability sometimes helps in getting placed. Majority of the respondents (40.4%) are of the opinion that having a high Emotional Quotient sometimes helps in getting a job.73% state that writing skill is always an essential skill to get a job according to this study. The respondents do not specifically state that the study of physical strength sometimes helps in getting a job; majority (40% respondents feels that Psychological Skills sometimes helps in getting a job. 57.4; majority of the respondents (57.4%) feel that test of Computer Skills is always conducted during a job placement drive and possessing them is helpful in getting a job. Majority of respondents (45.7) acknowledge that ability to crack the Psychometric Test sometimes helps in getting a job. However, more than 69% of the respondents opine that Skills taught in the Subjects only sometimes or rarely in the courses of study helps in getting a job.
- 7. With regard to employability skills, majority of the respondents (71.4%) say that additional courses should be done to acquire Computer skill as it is an important skill to be employable.
- **8.** The majority of the PG students (79%) feel confident to answer and pass the competitive exams after completing their courses.
- **9.** Majority of the respondents (46.5%) agree that High grades can ensure good job as many companies insist on a minimum overall percentage of 60% marks as a criteria for campus recruitment.
- **10.** It is found that majority of respondents (71.2%) felt that accounting and finance subjects has helped them in acquiring employability skills to a great extent; It is found that Economics

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

subject has helped the respondents only to some extent in acquiring employability skills; It is found that Banking subject has helped the respondent to a great extent. It is found that Human Resource subject has helped the respondents to a great extent. 53.3% of the respondents feel that Taxation subject has helped the them to a great extent. It is found that 39% of the respondents opine that Research Methodology subject has helped the respondent to some extent.

- 11. It is found that Computer courses have helped 54% of the respondents to a great extent in acquiring employability skills. It is found that 42% of the respondents feel that Security and Portfolio Management subject has helped the respondent to some extent in acquiring employability skills. It is found that English subject has helped majority (66%) of the respondents to acquire employability skills to a great extent.
- **12.** It was found that Out of ten items, most important skills, technical which shows the mean value of 8.6843 followed by leadership 6.7714, followed by Logical and reasoning skills 6.4184, Mathematical ability skills 5.9362; General knowledge 5.5521, Creativity and Innovation 4.2846, Team work 4.0715, Cognitive skills 2.8491 and lastly Psychological skills 2.3872.
- 13. As far as various skill tests conducted, Psychometric Test is the most common with a mean rank of 9.06, Physical Strength Test is next with Mean Rank of 8.79; Emotional Quotient with mean rank of 8.46; Skills Present in the subject learnt with mean rank of 8.03, Psychological Skills 7.81, Mathematical Ability 7.25; Writing Skills 7.05; Creative Thinking Round 6.51; Technical Skill Test 6.38; Reasoning Ability 5.77; Computer Skills 5.59; General Knowledge Skill Test 5.21; Spoken English Skill Test 5.09.
- **14.** According to the survey, the main factors that will assure PG students of getting the job of their choice after the completion of their Post graduate course, the most common factor that will get a fresher a job with a mean rank of 7.42 is High level influence; followed by passing out of a reputed college and the last factor is to have a good personality with mean rank of 3.52.
- **15.** There is a strong positive correlation between Employability skill development programme included in the curriculum and skills test conducted in various employment. As the p value is less than 0.01. H1 is accepted at 1% level.
- **16.** 71.5% of the respondents stated that they had the opportunity to complete internships in mostly Audit firms where they worked as Audit assistants and state that where 40% improved their computer skills, 35% of them improved their Accounting and audit skills.

CONCLUSION:

This study has examined in detail the major factors affecting employability skills as identified by thorough review of literature and identification of research gap. Industry employers expectation of Post Graduate students are mainly - Mathematical Ability & Quantitative skills in the Hard field and Development of oral & written communication in the Soft field. However, majority of the present pass outs from Graduate and Post Graduate courses in the field of Commerce are lacking in these skills. Thus, under the New Education Policy, the acquisition of just a degree is going to be a thing of the past. What matters is to promote higher education as a tool to build analytical skills, self-understanding, general management, work culture, leadership and problem-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

solving ability, communication ability, listening and learning skills, time management, creativity, computer skills, team work skills, work ethics and organisations thinking skills. All hard skills and generic skills acquired must be applied in the work place through team building skills with a constant desire to pursue knowledge in its whole sense so as to be empowered and add value and worth to the organisation and at the same time contribute to having true meaning to one's life and fulfil one's role in society and be a worthy citizen of the country. The true goal of higher education is to pursue not only a livelihood, but rather to find a vocation whereby it leads to inculcating moral values, positive thinking, attitude of helping, attitude of giving to society and ethical values these kind of students are only able to bring changes in society.

BIBLIOGRAPHY

- 1) Gowsalya G, Kumar AM. A Study on Identification of the Employability Skills Level among Arts and Science College Students in Namakkal District, Tamil Nadu. International Journal of Business and Management Invention. 2016;5(9):1-6.
- 2) Vandhana CR, Menon S, Mathew L; Thomas K, Mundroina K. Identifying employers perception of employability skills of graduates using a common framework of job classification- A study among HR managers in Kerala. International Journal of management, IT and Engineering. 2019;9(7):455-471.
- 3) Sanket V, Ravan. Employability skills- Need of an hour for MBA Students. PRA International Journal of Economic and Business Review. 2016;4(10).
- **4)** Ali FA. Employability Skills among Students and Employers' Perceptions: An Assessment of Levels of Employability. International Journal of Social Science and Educational Studies. 2017;4(2):39-52.
- **5**) Ban Y, Vasantha S.V. Review on Employability Skill Gap. International Journal of Research in Social Science. 2019;9(2):438-452.
- **6)** Autor DH, Dorn D, Hanson G. The China syndrome: Local labor market effects of import competition in the United States. The American Economic Review. 2013;103(6):2121-2168.
- 7) Bosch M, Goñi-Pacchioni E, Maloney W. 2012. Trade liberalization, labor reforms and formal informal employment dynamics. Labour Economics, 2012;19(5):653-667.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DISTRIBUTION OF RURAL SETTLEMENTS IN THE HIGH HIMALAYAN REGION: A CASE STUDY OF HAR KI DUN

D. K. Shahi*

*Associate Professor, DAV PG College, Dehradun, Uttarakhand, INDIA Email id: dkshahi.dehradun.india@gmail.com

DOI: 10.5958/2249-7137.2021.02698.7

ABSTRACT

The distribution settlement in the high Himalayan region is governed by interacting factors of both nature and culture. These factors are both attractive and restrictive. Thus, these factors create constraints or offer opportunities and possibilities. A combination of all these factors affects the site (location) and distribution of the settlements. It also defines the size of settlements and the economy of settlements. Har ki Dun is one of the remote mountain valleys in the high Himalayan region. It is known as 'The Valley within Mountains'. It is a distinct geographical entity besides it has a distinct socio-cultural 'identity'. The land of Har ki Dun has a very thin population with few scattered settlements. About 47 settlements with an estimated population of 22000 are concentrated in this region. A few of these settlements are located even above 3000 m in height. Unfortunately, information about the spatial distribution of settlement in this region is not available adequately. This research is an attempt to measure the location and analyse the spatial distribution of settlements in this region. The present research reflects that the elevation and slope are the basic but influential factors that affect the distribution of settlements and its size. These factors also affect the nature and form (economic character) of settlements.

KEYWORDS: Distribution of Settlements, Har ki Dun, High Himalayan Region

INTRODUCTION

Human settlements can be defined as places of human habitation. These are the places where populations are concentrated and where people live and attain their livelihood. The environmental conditions surrounding a human settlement are an extremely important (decisive) factor for the development of the settlement and its associated economy.

The settlements are indicators of natural geography, available natural resources and the ecological carrying capacity of the land. Simultaneously, (but any) variations in the natural environment and the land use (the most suitable adaptation to local environmental conditions) result in differences in the spatial distribution of settlements. Thus, settlements and their location also reflect their relationship with the natural environment.

No single factor can be considered solely responsible for the concentration of the population. In fact, multiple environmental factors influence the location and spatial distribution of settlements. Most of the factors often act collectively to facilitate the (suitable) conditions of the development of settlements.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The scientific analysis of the distribution of settlements is a significant ingredient (or element) of geographical research. It is the foundation of the study of settlement geography. However, there is still a lack of (intensive/micro) research on the distribution of settlements, particularly in remote mountainous areas. The present research can provide a reference for the study of settlement geography of high mountain areas.

The high Himalayan region has been the least studied area for the distribution of human settlements. There are not many comprehensive accounts of the factors affecting the distribution of settlements in these areas. This research is an attempt to analyse the distribution of settlements in terms of their spatial location in the valley of Har ki Dun. It measures the size of the settlements. It presents an analysis of the settlements with respect to the factors affecting their distribution. This research aims to present the maps of settlement distributions of this remote region of the Himalayas at a finer spatial resolution than ever before. Thus, it presents comprehensive settlement geography of the valley of Har ki Dun.

Literature Survey

The study of the distribution of settlements refers to an interpretation of spatial phenomena. Many early geographers including Ratzel explored the distribution of settlements and their dependence on the natural environment. Brunhes also made a comprehensive study on the relationship between rural settlements and the environment. Few Indian geographers like Ahmad, Deshpande and others have worked extensively on rural settlements (Ahmad 1952, O. H. K. Spate and C. D. Deshpande, 1952) [1,8]. In a similar attempt, Dickinson presented a detailed study of the dispersed settlements (Robert E. Dickinson, 1956) [11]. The study of Chisholm is a classic work on rural settlements and land use (Chisholm 1962).

The spatial distribution of human settlements (within a region) reflects the effect of the environmental conditions of the region. The analysis of factors affecting the distribution of rural settlements was made by different geographers. A few geographers have analysed the significance of natural factors and a few others have analysed the significance of both natural and cultural factors (Anabstani A.A., 2011, Azizpour, 2014) [2,4]. Many other geographers have worked on types of settlements and their morphology. But there is an evident dearth of research on the distribution of settlements in the high Himalayan region. This is an endeavour to fill the existing gap of information about the spatial distribution of settlements in the high mountainous region of the Indian Himalayas.

Aim and Objective

The spatial distribution of human settlements (within a region) reflects the effect of the environmental conditions of the region. The study of the distribution of settlement of any region is important to give an understanding of its association with natural and cultural factors, existing or prevailing therein. This research explores the spatial distribution of human settlements in the valley of Har ki Dun; a remote high Himalayan region. It also identifies the natural and cultural factors that affect the distribution of settlements in such regions. It thoroughly examines the influence of those natural and cultural factors responsible for the existence of dispersed settlements in the valley region. Finally, the research explains the locational diversity of human settlements in the valley of Har ki Dun.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Methodology

The study area for this research constitutes the valley of Har ki Dun. It is located in the western part of the Garhwal Himalayas. This research draws data and information from every existing data source; such as elevation map, terrain map, drainage map, map of reserve forest and settlement map. The location and size of settlements are determined from remote sensing images. It is added by the GPS location of each settlement. The census data is used for information regarding the population of the area. The distribution pattern of settlements is defined according to landscape (altitude and drainage). The spatial distribution of settlements has also been analysed according to their spatial location in the GIS environment. The whole analysis leads to the classification and generalization of the pattern of settlement distribution in the high Himalayan region.

This is an empirical study based on descriptive-analytical research. A proposed hypothesis for this research is that the location and distribution of settlements in the high Himalayan regionis a result of several environmental, social, cultural and historical factors. Several factors or critical resources influence the location of the location and distribution of settlements.

It is further hypothesized that the variations in environmental conditions affect variation in human (adaptive) activities. It is also hypothesized that the variations in the spatial distribution of settlements across different altitudes exist in accordance with environmental conditions. The environmental conditions influence their spatial distribution.

Description of the Study Area

Har ki Dun is known as 'The Valley within Mountains'. It is a distinct geographical entity besides it has a distinct socio-cultural 'identity'.

Location;

Har ki Dun is situated in Mori Tehsil (subdivision) of Uttarkashi district in Uttarkhand. It is spread between 31⁰02' - 31⁰20' N latitude and 77⁰55' - 78⁰40' E longitude. The altitude of the area varies from 1290 m to 6323 m. (**Arun Kumar, 2004**) [3]. The highest point of this area is the Bander Punch peak.

Area:

Har ki Dun covers a total area of 953.12 sq. Km. It is bounded in the north by Bander Punch ridge and in the northwest by Changsil peak. It has the tribal land of Jaunsar Bawar in its south. In the east, it is bounded by Kedar Kanta and a chain of mountain peaks of Uttarkashi and in the west by hills and mountains of Himachal Himalayas.

Land and Landscape;

Har ki Dun is an intermountain valley. The area is entirely composed of a succession of hills and mountains. It consists of high mountains covered with snow and glaciers, steep peaks and narrow valleys. The entire landscape is rugged and highly dissected.

Climate;

A large part of the area of Har Ki Dun remains covered under snow, throughout the year. It gets a typical high Himalayan climate with extreme cold weather conditions. The area gets rainfall

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

during July-August at lower altitudes. The average rainfall varies from 1000 to 1500 mm annually (Sayantan Das, 2016) [12].

Drainage;

This is the upper drainage basin of the Tons River. Two mountain tributaries of the river; Rupin and Supin flow through this area. Both these mountain streams join at Naitwar to form the river Tons. The upstream portion of the Supin is drained by its tributaries; Har Ki Dun Gad and Ruinsara Gad. The other tributary of this river is Obra Gad. All these rivers have narrow valleys (Sayantan Das, 2016) [12].

Human Habitations;

Most of the settlements are located in the mountain valleys or on uplands with lesser slopes. All these settlements are dependent on agricultural activities. The people of this valley mainly sustain on crop cultivation and livestock (such as sheep, goats and cattle) rearing.

Settlement Geography and Geography of Settlements

The distribution of settlements in mountainous regions is greatly influenced by the factors of the natural environment. It is also influenced by social, cultural and historical factors. The influence of nature gets more pronounced in high mountain regions.

The settlements of the high Himalayan region are relatively small and simple. These are an agglomeration of houses at a favourable and convenient site (location). The distribution settlement is governed by interacting factors of both nature and culture. These factors are both attractive and restrictive. Thus, these factors create constraints or offer opportunities and possibilities. A combination of all these factors affects the site (location) of the settlement. It also defines the size of the settlements and the economy of the settlements.

Har ki Dun has a great diversity of landscapes. It has natural conditions (constraints) for human habitation. The settled areas are confined to a limited part of the Har ki Dun. A large area that remains covered with snow or dense forests is devoid of human habitation. Apart from this, extensive areas are not suitable for the existence of human settlements as well as settled agriculture due to high relief, as well as other topographical features (slope and aspect of the landscape). This explains why some places are settled and others are not?

Diversity of Settlements in the Valley of Har ki Dun

There is a great diversity of settlements in the valley of Har ki Dun. The diversity of landscape creates diversity in the spatial distribution of population and diversity in terms of human settlements. This diversity is caused by the verticality of the landscape and the variation of climate. Thus, the villages are distributed differently in the region.

Har ki Dun also has a diversity of agricultural landscapes. Where the lowlands (valley floors) are conducive for a settled life, the highlands are suitable only for animal husbandry. The diversity of the agricultural landscape in Har ki Dun creates diversity in the spatial distribution of settlements. It is due to the logic of natural suitability and economic feasibility.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Permanent and Temporary Settlements;

The distribution of human occupation on a landscape gives a lot of information about how people use the landscape, about patterns of economic activities and about cultural and social activities of the given communities (Silbernagel et al., 1997) [13].

In general, there are few villages or permanent settlements and there are few other seasonal or temporary settlements. The villages (permanent settlements) are mainly concentrated in areas with lower altitudes. These settlements have an agropastoral economy. The empirical results show that few villages even have summer settlements at higher altitudes. Taluka is summer settlement of Dhatmeer. There are many more summer and winter settlements. Only temporary settlements are located close to mountain pastures. Close to such places, people make temporary settlements and engage in livestock farming (sheep rearing) due to the availability of abundant open pasture lands. Seasonal migration to higher pastures is the basic adaptation of the people of this region.

Classification of Settlements according to Location

The site or location of the settlement may be thought of in two ways: 'from the viewpoint of an individual site in the landscape or from the viewpoint of the landscape which is partially occupied by sites' (**Perkins**, **2000**) [9]. This research explains the location of settlements from both perspectives.

The unique mountain relief of Har ki Dun offers three locations for human settlements. In general, most of the settlements are situated in the mountain valleys, but few settlements are located on the ridges and the crests of mountains. Given the physical and geographic situation, to which human activities are added, there is a wide variety of terrain which can be used for agriculture (**Dumitrescu**, **2013**) [6]. According to location, the settlements of the region are of the following types:

Valley Floor Settlements or Settlements on Lower Terrasses; Few settlements are located at the bottom of the valley. These settlements experience a less restrictive effect of terrain. In these valleys, the land is relatively flat and the soil quality is good. Here the cultivated land areas are large and have suitability for different land use. Maximum suitability for agriculture is found along river banks and on terraces (Dumitrescu, 2013) [6]. According to location few of these settlements are located (distributed) on both sides or one side of the river. Settlements are also placed on land, in between hills, where surfaces are relatively horizontal.

Settlements on Terraces; In high mountains, few settlements are located at places on terraces or almost on the gentle slope of the surface. The rolling lands drained by small streams and endorsed with fertile soil are the possible suitable settlement areas. In Har ki Dun particularly, settlements are placed on proper terrains. The size of these settlements is limited due to the limitation of topography. Here also the residents use the area with the lowest slope as cultivated land and choose the places with a certain slope as the area for habitation.

Ridgetop Settlements; With increasing altitude, the total amount of geographical area reduces and with it, gradually, reduces the opportunities for the development of settlements (**Rizah Murseli, 2016**) [10]. The ridge top settlements are located on an elongated ridge or on below the summit. Because of the small area, these settlements are small in size and small in population concentration.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

According to the topographical features, there are 9 settlements in the valley area on valley floor or **on Lower Terrasses**, accounting for 10 % of the total, while there are 23 settlements on the slopes (mid slopes) or terrace, accounting for 60 % of the total. 11 settlements are located on very high terraces. There are 4 ridgetop settlements.

The results of the analysis of the distribution and location of settlements according to the topography are shown in following table.

Types of settlements	No. of settlements
Valley floor settlements	
or	9
Settlements on Lower Terrasses	
Settlements on (medium) terraces	23
and	
Settlements on higher terraces	11
Ridgetop settlements	4

[#] The location settlements have been distinguished and classified on the basis of interpretation of remote sensing images of the area.

Regional Distribution of Settlements / Distribution of Settlements according to River Valleys

All these high-altitude settlements in Har ki Dun are spread in three areas – Rupin valley, Supin valley and Ruinsara Gad and Obra Gad valley. According to the location of rivers, there are 19 settlements in the valley of the Supin river. There are 7 settlements are in the valley of Har ki Dun, Ruinsara and Obra Gad. The combined total of these river valleys is 26 settlements. Only part of Rupin valley is in the valley of Har ki Dun. There are 11 settlements in the valley of Rupin and 7 settlements are in the valley of Tons. As analysed the spatial distribution of those settlements by broad river basins, nearly 60 percent of the total settlements are found in the Supin river basin.

Regional Distribution of Settlements

River valley	No. Of Settlements #
Har ki dun ruisara gad	7
Supin	19
Rupin	11
Tons	7

[#] The location settlements have been distinguished and classified on the basis of interpretation of remote sensing images of the area.

The Vertical Spatial Distribution of Settlements

Settlements show a strong negative correlation with elevation(Tanovic, 2014). Sites (locations) at lower altitudes are convenient for human habitation. With the rising altitude, the settlements gradually become sparse. The places at higher altitudes have the most unfavourable conditions for agricultural production and even the development of the settlement.

In Har ki Dun settlements are located or distributed from 1500 m to 3500 m (main settlements lie below 3000 m). Naitwar is located at an altitude of 1500. It is a small settlement occupied by 65 families (houses). Naitwar has a population of 320 people. Only 14 settlements in Har ki Dun are

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

located above 2500 m of height. Some of the high-altitude settlements are Osla,Rala and Lewari. These settlements are located above 3000 m. Osla is perhaps the highest permanent settlement in this region. It is located at an altitude of 3600 m. The life and livelihood of the inhabitants is extremely difficult in these settlements due to extreme cold. The livelihood of the people of Osla, Rala and Lewariis associated with activities based on animal husbandry and summer cropping.

The settlements above 3000 m are seasonal (both temporary and permanent). From these settlements, people shift downward to lower altitude settlements during the winter and upward during the summer in search of pasture for their livestock and thus build temporary huts (chhanis) for living. Such seasonal settlements (chhanis) are widely scattered at sites above 3500 m.

Distribution of Settlements by Altitudinal Zones

Elevation	No of Villages
Below 2000	8
2000 – 2500	24
2500 – 3000	11
3000 – 3500	2
Above 3500	1

Villages according to GPS Location and Elevation

The above table exhibits that only 20% of the settlements are located below 2000 m. The largest number of settlements of all sizes lie in the altitudinal zones of 2000 - 3000 m. This elevation offers the most suitable sites for human habitation. All 7 largest settlements are situated below 2500 m.

The number of settlements constantly decreases, as the altitude increases. Jakhol the larges settlement of the region is situated at 2850 m of height. On the other hand, Rala one of the smallest settlements is located at the height of 3100 m. Osla is situated at the highest elevation. It is located at the height of 3600m.

Type of Settlements according to Size

Settlements of Har ki Dun are generally small but still, there are differences in the size of settlements. The size of the settlement mainly depends on the land use of settlements and the carrying capacity of the cultivated land. Dhara occupies the smallest size of the area. It is spread over less than 30 hectares of land. Dhara, Sankari, Dewara and Suchan Gaon occupy less than 50 hectares of land. There are about 9 small (tiny) settlements. These settlements have less than 100 hectares of land.

Bhitari is the largest village in the region. It is located above 2750 m. It even has a large population (1100 population and 175 houses). Jakhol is the largest village with a 1600 population located at an altitude of 2850 m. Both the villages have favourable terrain, fertile soil, abundant water sources, convenient irrigation and better agroclimatic conditions. These villages also have convenient transportation. The present settlement is a long (centuries-old) adaptation to the fragile environment.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

Geographical Area (Hr)	No. of Settlements
Below 50	5
50 – 100	5
100 - 150	4
150 - 200	4
200 - 250	9
250 – 300	5
300 – 350	3
350 – 400	3
Above – 400	8

Source: Data calculated from census report, (2011)

Types of settlements according to the size of habitat

There are 47 settlements. They are both permanent and temporary. The settlements in Har ki Dun range from a single-house settlement to 300 houses. A large number of settlements contain less than 50 houses. Which can be classified as a 'small settlement'. An almost equal number of settlements have 50 to less than 100 houses. These settlements can be termed as 'medium-sized settlements. The settlement with less than 100 houses constitutes nearly 70 percent of the total settlements. 50 percent of the villages have less than 70 houses. Deval, Gawalgaun, Dhara and Rala are the smallest of all the settlements whereas Jakhol and Nanai are exceptionally large settlements. Dhara is the smallest village according to area and Deval is smallest village according to population.

Village Size / No. of Houses	No. of Settlements			
Below 50	14			
50 – 100	17			
100 – 150	7			
150 – 200	6			
200 – 250	0			
250 – 300	2			

Source: Data calculated from census report, (2011)

Settlements are not only geographical entity but also social, cultural reality. The location and distribution of settlements decides (and defines) the economy and every other aspect of human geography.

CONCLUSION

The spatial distribution of settlements in high mountains shows a spatial orientation to low altitude and to low slope. These settlements are located significantly close to the rivers; thus form a special pattern of 'dense in river valleys and sparse on mountains.

The spatial distribution settlement is closely related to topography, climate and resources. The geographic area of settlements gets reduced with increasing altitude. It gradually reduces the opportunities for the development of settlements. Thus, the population gets increasingly concentrated in settlements located at lower altitudes.

High mountains present the verticality of settlement distribution. The distribution of settlements in Har ki Dun greatly corresponds to the altitude. The majority of those settlements are found at

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the altitudinal zones ranging from 2000 to 2500 m. The number and the size of the settlements are found constantly decreased with increasing altitude. Small settlements are located at higher altitudes. There are 14 villages are located above 2500 of height.

The variations in environmental conditions affect variation in human (adaptive) activities. Besides these, the variations in the spatial distribution of settlements across different altitudes exist in accordance with environmental conditions. The environmental conditions influence their spatial distribution.

The present research reflects that the elevation and slope are the basic but influential factors that affect the distribution of settlements and its size. These factors also affect the nature and form (economic character) of settlements.

REFERENCES

- 1. Ahmad E. Rural Settlement types in the Uttar Pradesh (United Provinces of Agra and Oudh). Annals of the Association of American Geographers. 1952;42(3): 223-246. DOI: 10.1080/00045605209352092
- **2.** Anabstani AA. The role of natural factors in stability of rural settlements, case study: Sabzevar county. Geography and Environmental Planning. 2011;40(4): **106-112**.
- **3.** Kumar K, Gupta SK, Padmanaban P. 2004. Some selected fauna of Gobind PashuVihar. Conservation Area Series. 2004;18:1-90
- **4.** Azizpour F, Shamsi R. The role of environmental factors in the spatial organization of rural settlements Case Study: Small village Lavasan. Scientific Research Quarterly of Research Data. 2014;23(89):106-112.
- **5.** Michael C. Rural Settlement and Land Use: An Essay in Location, Routledge, 1962. DOI: https://doi.org/10.4324/9781315128832
- **6.** Dumitrescu M, Cruceru N. Ways of using the relief for different types of human activities. International Journal of Engineering and Innovative Technology (IJEIT). 2013;3(5).
- **7.** Richard JH, Cheesman J. Topography and the environment, Harlow: Prentice Hall, 2002. ISBN-13: 978-0582418578
- **8.** Spate OHK, Deshpande CD. The Indian Village, Geography, 1952; 37(3). https://www.istor.org/stable/40563285
- **9.** Perkins P. A GIS investigation of site location and landscape relationships in the Albegna Valley, Tuscany, In Computer Application and Quantitative Methods in Archaeology, edited by Kris Lockyear and Others, BAR International Series 845, Archaeopress, Oxford, 2000. England.http://proceedings.caaconference.org/paper/16 perkins caa 1996/
- **10.** Murseli R, Dana H. Hypsometric demography of Kosovo: the distribution of Kosovo populationby altitude, City Territory Architecture, 2016;3:24. DOI 10.1186/s40410-016-0047-8
- **11.** Dickinson RE. Dispersed Settlement in Southern Italy. Erdkunde. 1956;10(4): **282-297.**https://www.jstor.org/stable/23217046

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **12.** Das S et al., Evaluation of different digital elevation models for analyzing drainage morphometric parameters in a mountainous terrain: a case study of the Supin–Upper Tons Basin. Indian Himalayas, Springer Plus, 2016;5:1544. DOI 10.1186/s40064-016-3207-0
- **13.** Silbernagel J, Martin SR, Gale MR, Chen J. Prehistoric, historic, and present settlement patterns related to ecological hierarchy in the Eastern Upper Peninsula of Michigan, U.S.A. Landscape Ecology, 2004;12: 223-240.DOI: 10.1023/A:100794690768

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

FRONTLINE NEWSPAPERS COVER THE CONTRIBUTION OF UZBEK INDUSTRY TO VICTORY DURING WORLD WAR II

Atabaeva Nigora Mahmudjanovna*

*Lecturer,
Department of Methods of Teaching Social Sciences,
Andijan State University, Institute of Pedagogy
UZBEKISTAN

Email id: atabaevanigora@gmail.com **DOI: 10.5958/2249-7137.2021.02682.3**

ABSTRACT

The article is devoted to the state of industry and agriculture in Uzbekistan during the Second World War, the history of the coverage of the contribution of industry to the victory over fascist and militaristic Japan.

KEYWORDS: World War II, Front-Line Newspapers, "Suvorovchi", "Vatan Uchun", "Soviet Warrior", "Bong", Collective Farm, State Farm, Factory.

INTRODUCTION

The complex and contradictory historical path of the peoples of Uzbekistan during the years of Soviet rule cannot be overestimated. It is necessary to study the Soviet era as it really is: all the positive and negative aspects, all the ups and downs, all aspects of the historical process. In particular, the participation of the peoples of Uzbekistan during the Second World War is one of the most pressing issues. Although the war did not take place on the Uzbek border, the people of Uzbekistan fought from the earliest days of the war when it moved to the former Soviet Union (June 22, 1941) to stop the enemy and throw it away. The full socio-economic potential of Uzbekistan has been mobilized in the fight against fascism. The hard work of our people on the way to victory, the high humanity of the Uzbek people, One of the most pressing issues today is the coverage of the history of Uzbeks' bravery on the battlefield on the basis of primary sources. From this point of view, Professor R.T. Shamsutdinov's first, second, and third books, World War II and Front Newspapers, published by Akademnashr in 2017, have not yet fully revealed the history of Uzbekistan's participation in World War II. There is no doubt that

In this article, we will focus on the militaryization of Uzbek industry and agriculture in the newspapers published on the fronts of World War II, and the extent to which the contribution of these workers to the victory was covered in the newspapers.

In fact, the front-line newspapers published during the Second World War also published a number of articles on the militaryization of Uzbek industry. In particular, an article in the Vatan Uchun newspaper on December 31, 1942, entitled "The Power of the Soviet People", elaborated on this: the Uzbek people, together with other peoples of our great country, defeated Nazi bandits. Uzbekistan has rebuilt its economy and economy in response to the war. At present, all industries of the republic produce mainly for the front [1.53-54].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

All the factories relocated from the western regions of the Union to Uzbekistan have already been relocated and are operating at full speed, and many of them are producing more than before. The first metallurgical plant under construction in Uzbekistan will soon begin production. Our republic has become one of the largest bases in the Union for the supply of rare metals such as tungsten, molybdenum and others. The Tashkent-Stalinugol deposits, which were put into operation in early 1942, provide the largest industrial area in the country, Tashkent, with coal. In 1943, another series of coal mines, including a coking coal mine in Baysun, will be put into operation. This coal is very important for our metallurgy, which is under construction. The Uzbek oil industry significantly increased production in 1942, with many new oil wells being put into operation; In 1943, oil production increased again. The tremendous growth of Uzbek industry has necessitated the expansion of its energy base. In 1943, the construction of three hydropower plants will be completed, and the construction of several more will begin. "[1.54]

On March 19, 1944, issue 18 (101) of the front-line newspaper Suvorovchi published an article entitled "The Pride of the Uzbek People - a Metallurgical Plant Launched." About the Metallurgical Plant operating in Uzbekistan: "The Uzbek people are having a good time. Steel began to melt in the open-hearth furnace of the Uzbek Metallurgical Plant. The foundation has been laid for the development of ferrous metallurgy in Uzbekistan. Ceremonial demonstrations were held throughout Uzbekistan on this occasion. This fact is considered to be a new step in the development of Central Asian industry. On the day the steel began to melt, a large rally was held at the plant. Leaders of the Uzbek party and government, representatives of collective farms, factories, as well as representatives of the Soviet intelligentsia and military units arrived here. The Chairman of the Council of People's Commissars of Uzbekistan, Comrade Abdurahmanov, delivered a speech. Emphasizing the importance of the construction of a metallurgical plant in Uzbekistan, he thanked the metallurgists of the Urals and Donbass, who took an active part in this work, on behalf of the Uzbek people. Comrade Smolyarenko, the chairman of the government commission that came to accept and launch the metallurgical plant, praised the work of the people who built and installed the plant ... "[1.149].

It should be noted that even during the Second World War, agriculture was mainly based on manual labor, and field work was carried out under extremely difficult conditions. For example, in 1944, when 13,396 horses were cultivated in agriculture, the number of tractors was only 648 **[1,149].**

During the war and in the post-war period, special attention was paid to expanding the area under cotton and increasing the number of collective farms specializing in cotton growing. If in 1944, the total number of collective farms in Namangan region alone was 513, then the number of cotton suppliers was 478 [2.48].

In 1943, after the terrible wars, Russia, Ukraine and Belarus were completely destroyed. The Soviet state issued a special resolution on the restoration of the national economy of these lands and instructed the republics to provide assistance. In this regard, Uzbekistan was finally forced to fulfill the task, despite the difficult situation. In September 1943, 13 tons of grain, 8,100 kg of raw fruits, 90 head of cattle, 2,500 kg were delivered to Kharkov, Tashkent region. potatoes, 4246 clothes, shoes, cotton pants 78,000 soums in cash.

89 tons of grain, 1330 heads of sheep and cattle, 11 tons of fresh fruits, 4 tons of dried fruits and 68,000 clothes were sent from Namangan region to Kharkov. Apparently, about 1,500 large and small cattle were sent from Tashkent and Namangan. These were of great importance to the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

peasants in the liberated lands. This is because there was no sign of black cattle in the settlements [3.46].

On October 24, 1944, issue 68 (151) of the newspaper "Suvorovchi" was published an article entitled "The ranks of progressives are expanding." The article says that Darvish Ubaidullayev, an experienced cotton grower on the Stalin collective farm in the Degrezlik district of Namangan region, has achieved great success in his brigade. At the Kirov collective farm in the Gavazan village council of the Yangikurgan district, Kulmatov's unit has fulfilled its annual cotton production plan by 235 percent. Zainabkhon Yuldasheva handed over 37 centners of cotton per hectare at the Yangiobod collective farm in the Kattaydak village council of the Naryn region. In Namangan oblast, 4 kolkhozes, 20 brigades and 150 units exceeded their annual cotton production plans. The movement of five thousand people in the region is expanding day by day. Boltabaeva, a member of the Telman collective farm in Namangan district, has so far harvested 3,500 kilograms of cotton, Inoyatkhon Kadyrova, a picker at the Bolshevik collective farm in Turakurgan district, 4,200 kilograms, and Umragul Holboeva, a member of the Komsomol collective farm in the same district. A well-known cotton grower working on the Stalin collective farm in the Namangan region, Tojikhon Askarova, a member of the Supreme Soviet, has already picked 7,127 kilograms of cotton. "[1,260]

"Workers of Uzbekistan are celebrating the 20th anniversary of their republics with new victories." On the contribution of Namangan workers to the cotton harvest: "The leading districts and collective farms of Namangan oblast, which fulfilled their cotton production plan ahead of schedule, are celebrating the 20th anniversary of Uzbekistan's cotton harvest. They are fulfilling their obligations to the socialist race before the anniversary. Collective farmers of Kosonsov district promised to deliver 700 tons of cotton in excess of the plan, and by November 27 they had delivered 249 tons of cotton. Currently, 16 collective farms, more than 100 brigades and 450 units in the district are fulfilling the annual plan and handing over additional cotton to the state. The Lenin Yuli collective farm (co-chaired by Turakhuja Nizomov) provided an additional 8 centners of cotton per hectare. Kayum Khalilov, a member of the Pravda collective farm in the Tergachi village council, handed over 36 centners of cotton instead of 14 centners per hectare on 30 hectares of land. The head of the collective farm, Giljon Azimov, harvested 60 centners per hectare, which is 600 percent of the annual plan. Collective farmers of Yangikurgan district have so far delivered 585 tons of cotton in excess of the plan. The Lenin collective farm of the same district (chairman Ortikov) delivered more than 5 tons of cotton in a short period of time. Collective farms in the Naryn region have fulfilled half of their obligations by delivering an additional 823 tons of cotton. Uchkurgan district delivered 130 tons of cotton, Pop district - more than 100 tons. The advanced districts and collective farms of the region have so far provided the state with 1891 tons of cotton in excess of the plan. Additionally, cotton continues to be delivered, "[4,280].

In the July 29, 1945, issue 60 (256) of the newspaper Sovet Jangchisi, Ahmad aka Samatov, head of the Ijtimoiyat collective farm in the Toshbulak village council of the Namangan district, said that last year the yield was 60 centners per hectare. It is reported that it is struggling to get 100 centners per hectare this year [5,383]. There is no doubt that such reports have served to raise the morale of the fighters on the fronts.

From January 4 to May 14, 1944, the Uzbek-language newspaper on the Far Eastern Front was called BONG, with 32 issues published. The newspaper publishes news and articles reflecting

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the heroic activities of the people of Uzbekistan on the front and behind the front. The editor-inchief of the newspaper was SS Ustinov, his deputy was N. Jabborov. The staff of Namangan Meat Processing Plant is working well. This year, the plant has been significantly expanded, and the oil smelting and farm shops have recently been put into operation. A number of measures have been successfully implemented that have made it possible to make extensive use of production waste. The plant will save a lot of money in 10 months. Production has increased significantly. The quality of work has also improved. The plant has exceeded its annual production program ahead of schedule "[5.361]

In short, the information published in the front pages of the newspapers covered the history of Uzbekistan in the Soviet period, in particular, the years of World War II, in particular, the history of the war in 1941-1945. Not only is it an important source in identifying the names of our compatriots, but it is also important in revealing the history of the glorious labor of the workers of our republic behind the front in the fields of industry and agriculture.

LIST OF USED LITERATURE.

- **1.** Shamsutdinov R. World War II and front-line newspapers. Book 1 Tashkent: Akademnashr, 2017.
- 2. Haydarov Z. Namangan region past and present. (1917 2013) Namangan, 2017.
- 3. Ziyaev H. Uzbekistan during the First and Second World Wars. Tashkent: Editor, 2011.
- **4.** Shamsutdinov R. World War II and front-line newspapers. Book 2 Tashkent: Akademnashr, 2017.
- **5.** Shamsutdinov R. World War II and front-line newspapers. Book 3 Tashkent: Akademnashr, 2017.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DEVICE FOR AUTOMATING TECHNOLOGICAL PROCESSES

Karaboyev Ibragim Turdiyevich*; Ilyosov Shohruh Bakhtiyor Ogli**; Panjiyev Davron Shokir Ogli***

*Assistant,

Department of Electric Power,

Faculty of Energy and Transport Systems,

Termez branch of Tashkent State Technical University named after Islam Karimov, UZBEKISTAN

Email id: qaraboyev@gmail.com

**Student,

Department of Electrical Energy, Faculty of Energy and Transport Systems,
"Automation and control of production of technological processes,"
Termez branch of Tashkent State Technical University named after Islam Karimov,
UZBEKISTAN

Email id: ilyosov2003@gmail.com

***Student.

Department of Electrical Energy, Faculty of Energy and Transport Systems,
"Automation and control of production of technological processes",
Termez branch of Tashkent State Technical University named after Islam Karimov,
UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02683.5

ABSTRACT

Today, the Arduino platform is used in many projects. Students, Automators and professional programmers use Arduino's open source platform. The Arduino was developed at the Ivrea Interaction Design Institute to enhance the knowledge of students who have no knowledge of electronics or programming. Therefore, it is convenient for users to use. In training, the Arduino is used for robotics and programming classes. Designers and architects use it to create interactive prototypes. This will help investors show what a ready-made project can look like.

KEYWORDS: Motherboard, processor, relay module, Wi-fi, Bluetooth, Internet automation, USB, interactive, prototype, SRAM, EEPRAM.

INTRODUCTION

An Arduino is a small board with its own processor (microcontroller) and memory. There are dozens of contacts on this board, through which it is possible to connect various electrical components. For example: LED lights, sensors, relay modules, networks (Wi-fi, Bluetooth, Internet), sensors, motors, magnetic door locks and everything that works with electricity.

The Arduino is great for young people interested in robotics and electronics. This device is used to create small programs, algorithms, create robots and perform other operations. An Arduino is a device that combines software and hardware. The Arduino was developed at the Ivrea

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Interaction Design Institute to enhance the knowledge of students who have no knowledge of electronics or programming. Therefore, it is convenient for users to use.

Nowadays, the Arduino platform is used in many projects. Students, Automators and professional programmers use Arduino's open source platform. In training, the Arduino is used for robotics and programming classes. Designers and architects use it to create interactive prototypes. This will help investors show what a ready-made project can look like. Musicians use it to test new instruments. [1]

Beginners of Arduino will start using the Uno or Nano type of Arduino. The difference between the Arduino Uno and other types is the processor, microcontrollers, more or less digital and analog outputs. The Arduino Uno Rev3 has everything you need to support a microcontroller.

To get started, connect it to a computer with a USB cable or plug it into an uninterruptible power supply.

"Uno" means "one" in Italian.

Arduino IDE - a program for users of the Windows operating system, Allows you to write your own programs for the Arduino platform.

This platform is a program aimed at creating simple automation and robotics systems.

Arduino is not used in the implementation of large-scale industrial projects or in the management of important high-tech projects. The program is designed for teaching.

The Arduino IDE consists of a very simple text code editor, a project manager, a compiler, and a firmware download module for the microcontroller. This program is written in Java and is based on other open source programs. Unlike the online version of the code editor (Arduino Web Editor), the desktop version is available without the Internet.

The Arduino programming language is standard C ++ (using the AVR-GCC compiler), making it easy to write programs for beginners.

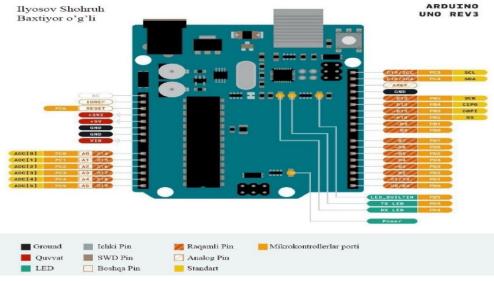
Advantages of Arduino IDE: easy to use and clear interface, the program is compatible with all versions of Windows operating systems, the availability of the necessary tools for work, several options of programming languages, built-in sample software package, save thumbnails, export, check, search, switching functions.

Disadvantages of Arduino IDE: the program is not designed to work with complex systems, in the opinion of users, the performance of individual versions is characterized by instability.

Installing the Arduino IDE for Windows: Installing the software does not require complex manipulations. Download the Arduino IDE, open the downloaded file, and follow the special instructions given in the installation window.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

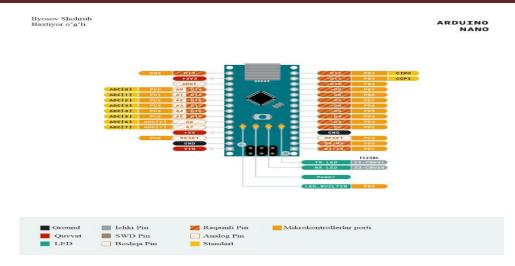
Arduino Uno Rev3



MICROCONTROLLER	ATmega328P
PRODUCTION	5V
STRENGTHENING	
INTRODUCTION IS STRONG	7-12V
NISHI (RECOMMENDED)	
INTRODUCTION INCREASE	6-20V
(LIMIT)	
DIGITAL I/U PINS	It has 14 digital input / output pins (6 of which can be used as PWM output)
PVM DIGITAL I / U PINLARA	6
ANALOGIC INPUT PINS	6
CONSTANT FLOW FOR ONE I	20 mA
O PIN CODE	
DC CURRENT FOR 3.3V PIN MINE	50 mA
FLASH MEMORY	32 KB (ATmega328P), of which 0.5 KB is used by the
	loader
SRAM	2 KB (ATmega328P)
EEPROM	1 KB (ATmega328P)
CLOCK SPEED	16 MHz
LED_BUILTIN	13
LENGTH	68.6 mm
WIDTH	53.4 mm
WEIGHT	25 g

Arduino Nano

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



MIKRONATROLLER	ATmega328			
ARCHITECTURE	APR			
PRODUCTION STRENGTHENING	5 V			
FLASH MEMORY	32 KB, of which 2 KB is used by the loader			
SRAM	2 KB			
CLOCK SPEED	16 MGts			
ANALOG IN PINS	8			
EEPRAM	1 KB			
DCJ FLOW OF ONE INTRODUCTION 40 mA (I/O pins)				
/ FLIGHT PINS				
INTRODUCTION STRENGTHENING	7-12 V			
DIGITAL I / O PINS	22 (6 ofthem PWM)			
PWM EXIT	6			
POWER CONSUMPTION	19 mA			
DIMENSIONS	18 x 45 mm			
WEIGHT	7 g			
PRODUCT CODE	A000005			

The Arduino Nano is a small, full, and board-friendly board based on the ATmega328 (Arduino Nano 3.x). It just doesn't have a DC power connector and works with a Mini-B USB cable instead of a standard cable.

Arduino IDE: you can download it from this link "https://biblprog.org.ua/ru/arduino_ide/download/".

REFERENCES:

1. Kakhkharov AA, Avazov Y, Ruziyev UA. Computer systems and networks. "Science and Technology" 2019

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

WORKING WITH RETIRES, DIRECT, POLYLIA, POLYGON, ARC, CIRCLE, CLOUD, SPLINE, COMMANDS IN AUTOCAD PROGRAM

Ilyosov Shohruh Bakhtiyor Ogli*; Karaboyev Ibragim Turdiyevich**

*Student,

Faculty of Energy and Transport Systems, Department of Electrical Energy,
"Automation and control of production of technological processes",
Termez branch of Tashkent State Technical University named after Islam Karimov,
UZBEKISTAN

Email id: ilyosov2003@gmail.com

**Assistant,

Department of Electric Power, Faculty of Energy and Transport Systems, Termez branch of Tashkent State Technical University named after Islam Karimov, UZBEKISTAN

Email id: qarabaev@gmail.com

DOI: 10.5958/2249-7137.2021.02684.7

ABSTRACT

Working with commands Retires, straight, polyline, polygon, arc, circle, cloud, spline, ellipse. The main means to view and edit DWG files uploaded to Autodesk 360 Online memory is available for free plan users, but the tool package is very limited. The first version of the system was released in 1982.AutoCAD and based on programs are widely used in mechanical engineering, construction, architecture and other areas.

KEYWORDS: *SAPR, CAM, architecture, AutoLIPS , Visual Basic, C++, protsessor, RAM, HDD,Retires, straight, polyline, polygon, arc, circle, cloud, spline, ellipse.*

INTRODUCTION

AutoCAD -This is a 2D and 3D PACR / CAM system developed by Autodesk. The first version of the system was released in 1982. AutoCAD and based on programs are widely used in mechanical engineering, construction, architecture and other areas. The program was published in 18 languages. Autolips, Visual Basic and C ++ programming languages. Recommended computerer: Intel® For Windows 7: Intel® Pentium® 4 processor, monitor with 4GB (HDD) 6GB and at least 1024 x 768 pixels. The initial versions of AutoCad worked with several facilities such as circles, lines, arcs and text, and more complex objects were created. AutoCAD "Electronic Description Tsa" was famous as.

The two-dimensional design allows you to use AutoCad complex objects. The program has the ability to work with layers and measurements, text, symbols. The use of the mechanism of XREF (XREF) the drawing is allowed to divide the drawing to complex files and the dynamic blocks expand the possibility of automation of 2D without demanding programming by a simple user. From version of 2010, AutoCAD supports the 2D parametric drawing. In the 2014 version of the program, the drawing could be tied dynamically with real cartographical data. [1]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AutoCAD contains a full set of complex 3D modeling devices (supports solid, surface and multi-molgular modeling).

The AutoCad provides high quality indicating models using the light display system. The program is also 3D printing management (simulation result can be sent to 3D printers) and allows you to work with 3D scan results. At the same time, the lack of 3D parameters cannot compete directly with AUTCAD-inventory medium-level inventure. Autocad 2012 includes direct modeling technology by making direct modeling technology. On the basis of AutoCAD, AutoDesk itself and third partial manufacturers have many special apps such as AutoCAD Mechanical, AutoCAD Electrical, AutoCAD Architecture, GeoniCS, Promis-e, PLANT-4D, AutoPLANT, SPDS GraphiCS, MechaniCS, Geobridge, SAPR power transmission line, Rubius Electric Suite and others. [2]

AutoCAD Microsoft is certified to work in Windows and OS X operating systems. Version 2014 Supports Windows XP (SP3), Windows 7 and Windows 8. Supports OS X is still limited to the 2013 version. Package (for Windows) includes versions for 32 and 64-bit systems. AutoCad supports the use of computing resources of multi-core systems and multi-core systems.

AutoCad Web is a program for cloud-based Internet apps and Apple iOS (iPad and iPhone) and Android mobile devices are distributed under the Freemum business model. The company offers 3 tariff plan - free and 2 paid: Pro and Pro plus. The main means to view and edit DWG files uploaded to Autodesk 360 Online memory is available for free plan users, but the tool package is very limited. The following functions are invited to paid tariff plans: Creating new drawings, additional editing facilities, increasing large files, increasing the online memory size, etc. You can connect AutoCAD 360 to other cloudy services, but edit files from third party sources are available only for paidary tariff plans.

AutoCAD for desktoping systems offers this service direct link (from version 2012).

Drawing panel (Painting)



section Drawing cuts.

Drawing methods:

- 1. 1) First point -the 1st point is selected,
- 2. 2) Next point -the next point is selected,
- 3. The Cordies (X2; Y2) will then be selected after 1st positions (x1; y1).
- 4. Once the 1st spot is selected, then it is entered as the direction using the mouse is set.
- 5. Using the mouse, select the 1st point and select "L + <a" (length of the L-section, the angle between the a-x axis).
- 6. Using the mouse, select the 1st point and select the coordinates (X; Y) (where the coordinates are relative to the point X, Y).

Direct -straight line

Drawing Methods: All of the above cross-sectional drawing methods are used.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It lasts indefinitely in 2 directions as opposed to cutting.

Polyline -- collection of cuts.

Drawing Methods: All of the above cross-sectional drawing methods are used.

It is considered a single body as opposed to a cross section. They are inextricably linked.

Polygon - Equilateral closed polygon.

Drawing methods:

- 1. Show the center of the polygon at the center of the polygon,
- 1) the number of parties is determined;
- 2)the center point is marked;
- 3)Inscribed in a circle (Draw inside the circle) selected or Circumscribed around a circle (Drawn outside the circle).
- 4) The radius of the circle is selected
- 2. Side -on the side
- 1) the number of parties is determined;
- 2)we enter the 1st point of the side;
- 3)we enter the 2nd point of the side,

Drawing methods;

- 1. Initialarc point the starting point of the arc is selected.
 - 1) Second point of arc the 2nd point is selected,
 - 2) The 2nd point is selected the end point is selected.
- 2. Center of the arc the center point of the arc is selected.
 - 1) Initial arc point the starting point of the arc is selected.
 - 2.1) Center corner the corner of the arc is selected.
 - 2.2) Chord length the length of the arc is selected.

Circle drawing a circle

Drawing methods;

- 1. 3T- Draw a circle through 3 points.
- 1) First point of circle -1st point is selected,
- 2) Second point of the circle -the 2nd point is selected,
- 3) Third point of the circle -the 3rd point is selected.
- 2. Drawing a circle through 2T- 2 points.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 1) First point of circle -1st point is selected,
- 2) Second point of the circle the 2nd point is selected,
- 3. Kascas radius (KCR)- drawing a circle through attempts.
- 1) Selected the 1st test point of the circle.
- 2) Selected the 2nd test point of the circle.
- 3)The radius of the circle is selected.
- 4. The center point of the circle is selected.
 - 1) The radius of the circle is selected.

Cloud Cloud drawing

Cloudcommand is often used to define a specific object.

Drawing methods;

- 1. Drawing along the contour of the cloud.
- 1) Initialpoint is marked,
- 2) The cursor is moved along the contour of the cloud.
- 2. Draw along the contour of the object (polygon, circle, etc.).

The object is selected.

Spline \sim - drawing without forming an angle.

- 1. Drawing mode:
- 1) First point is selected,
- 2) The next point is selected
- 2. Control methods:
- 1) Through markers,
- 2) Through control peaks

🗢 - Ellips

Drawing methods:

- 1. Ellipse drawing
- 1) The center point of the ellipse,
- 2) The second end point of the axis,
- 3) Length of the other axis,

REFERENCES:

- 1) Merkulov A. Creating a Project In Autocad "From Idea To Print". 2015
- 2) Poleshchuk N. Programming for AutoCAD 2013-2015. Moscow. 2017

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INVESTIGATING CITIZENS' SENSE OF SECURITY IN TEHRAN

Mohammad Reza Haghighat Nia*; Dr. Seyed Jamaluddin Daryabari**

*Master Student,

Department of Urban Management and Planning, Science and Research Branch, Islamic Azad University, Tehran, IRAN Email id: mrz.haghighatnia@gmail.com

**Associate Professor,
Department of Urban Management and Planning,

Science and Research Branch, Islamic Azad University, Tehran, IRAN Email id: mohit.map@gmail.com

DOI: 10.5958/2249-7137.2021.02693.8

ABSTRACT

Security as a basic need has a special place in human communities, and planners and designers of social spaces, especially cities, try to identify security factors, especially in public spaces, to provide security for users. This study was conducted to investigate the sense of security of citizens in 12 area of Tehran. To conduct this study, 383 people were selected using Cochran's formula as the sample size. For the research methodology, using random sampling, a questionnaire was distributed among the study population and the research hypotheses were used T-test and Descriptive statistics tests and Friedman with SPSS software. The results showed that the sum of the average variables of security feeling is equal to 2.9891, which is smaller than the assumed average (3) and the value of significant was equal to 1.556, which is greater than the error value (0.05) and statistically. In general, the level of security of the residents of Tehran's 12th area was assessed as very low, which is directly related to the criminality of the region. Therefore, it can be concluded that with the increase in crime in the region, citizens feel less financial, life and moral security, and this is directly related to the insecurity of urban space and high crime rates.

KEYWORDS: Security, Sense Of Security, Urban Space, Citizens And Crime.

1. INTRODUCTION

Today, paying attention to the concept of citizen security and ways to improve it is one of the main priorities of urban theorists. Apart from the social and cultural effects of planning and designing safe urban environments on patterns of citizenship behavior and improving the environmental quality of residential areas, explaining the characteristics and effects related to the physical role of the city on reducing urban crime or reducing crime, is an independent issue. It is important to mention in the form of new theories of urban planning and the physical role of the city in reducing and preventing urban crimes (**Khalilabad Kalantary et al., 2013**) [4]. Since today's urban spaces are a component of urban anomalies and therefore the lack of security in the city, therefore, it is necessary to examine the qualitative and quantitative aspects of security, both physically and socially, in urban spaces (**Qaraei et al., 2010**) [10].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The issue of security and a sense of security is important for the citizens of a city in two ways. First, the city, as a biological location that includes a large number of people, will be able to perform its special functions if security is considered acceptable to its residents. Second, given the urbanization of the majority of people around the world, the issue of security in the city is closely linked to key issues such as national security (**Hemmati, 2007**) [3]. Public spaces are one of the main urban spaces where civic life flows and the transcendent dimension of people's relationships is manifested in it.

The alienation of the city of Tehran today from its traditional self, the lack of urban components with contemporary stability and the uncontrolled development and far from the planning of the city has led to a kind of confusion, confusion and illegibility in it.

Security as a basic need has a special place in human communities, and planners and designers of social spaces, especially cities, try to identify security factors, especially in public spaces, to provide security for users.

District 12 of Tehran Municipality is one of the oldest districts of Tehran, which is located in the center of this city. This area with an area of 16.95 square kilometers and a population of 240720 people, includes 6 districts and 13 neighborhoods. One of the most important features of this area is the location of Tehran Bazaar and many government centers, ministries and embassies in this area.

Safe urban spaces have many objective and physical features and components that sometimes have interactions, so based on the structure of the research, first reviewing the relevant theories, the theoretical foundations of the security component and the urban landscape and the citizens' sense of security are examined. According to the components of urban landscape has been studied.

Since today's urban spaces are a component of urban anomalies and therefore the lack of security in the city, therefore, it is necessary to study the qualitative and quantitative aspects of security, both physically and socially, in urban spaces (Qaraei et al., 2010) [10].

2. Background

Velashani et al. (2015) [12] in an article entitled "Investigating the effect of physical factors on people's sense of security in the traditional market of Isfahan", examined the effect of some physical factors in the traditional market on citizens' sense of security. The results show that factors such as the shape of the roof and the similarity of the appearance of the room have the greatest impact, and the height of the roof has the least impact on the feeling of security.

Paul et al. (2013) [9] conducted an article entitled Crime Prevention through Environmental Design in the United Arab Emirates. After examining the process of crime prevention in Western countries, they examined the transfer of this theory in the United Arab Emirates. And they explored the challenges facing this theory in these areas. The results of their research showed that with intercultural knowledge, crime prevention can be developed in these areas.

Kiani et al. (2017) [5] conducted a study entitled "Searching and measuring the sense of security in the Ilam city. The findings of this study indicate that people in spaces such as dark and secluded alleys, crowded streets and spaces of the city, properties without owners and custodians, semi-finished and abandoned or abandoned buildings, large but small adjacent spaces

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

And the income and places where addicted and annoying people are present have a lower sense of security.

Najafi and Goodarzi (2016) [8] published an article entitled "Investigating the effect of citizens' sense of security on their use of urban centers (a case study of Isfahan Naghsh Jahan Square)." The findings show that there is a significant difference between the feeling of security in urban centers. Also, the second hypothesis about the difference between security day and night has been accepted for the use of Naghsh Jahan Square, and the quality of the texture of the surrounding complexes, architectural and urban design, as well as the presence of security forces have a great impact on this issue.

Foroughzadeh and Shariati Mazinani (2015), [2] in an article entitled "Study of women's sense of security in public spaces in Mashhad, the level of sense of security (mental aspect of security) by three dimensions of financial, life and moral among women aged 15 and over in the city They examined Mashhad. The findings of their study showed that the level of security in Mashhad for women with a favorable situation, a significant and tangible distance. The important point here is the low level of moral security in society. In terms of women's sense of security in public spaces, underpasses and private passengers have been the most insecure situations for respondents. Parks and the area around the living quarters are on average next to each other, and buses, pedestrian bridges and taxis are more secure than other public spaces.

Madani et al. (2014) [6] in a study entitled "Study of physical factors affecting the sense of security in the public space of urban neighborhoods, a case study of Shirabad neighborhood of Zahedan, examines the factors affecting the sense of security of citizens. The findings indicate that there is a significant relationship between health, lighting of passages and the type of green space on the feeling of security of residents, so that with increasing brightness and health, the feeling of security also increases. They feel more secure.

Bani Fatemeh and Salimi (2011) [1] in a study entitled the feeling of social security of youth and related social factors have been studied to examine the feeling of social security and related factors. Based on Pearson correlation coefficient, the feeling of social security with the variables of participation, order, relationships, identity and social control had a direct and significant correlation, but the feeling of social security based on gender and ethnicity of students was not significant.

Research objectives

- Investigating the level of citizens' sense of moral security in District 12 of Tehran
- Investigating the level of citizens' financial security in District 12 of Tehran
- Investigating the level of emotional security of citizens in District 12 of Tehran

Research questions

- Does the feeling of moral security in District 12 have a favorable situation from the residents' point of view?
- Does the feeling of financial security in District 12 have a favorable situation from the residents' point of view?
- Does the sense of security of life in District 12 have a favorable situation from the residents' point of view?

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Research hypotheses

Hypothesis 1: It seems that the feeling of moral security in District 12 is not in a good condition from the residents' point of view.

Hypothesis 2: It seems that the feeling of financial security in District 12 is not in a good situation from the residents' point of view.

Hypothesis 3: It seems that the sense of security in the 12th district is not in a good condition from the residents' point of view.

3. Method

The present research is in the field of applied research in terms of purpose and in the field of descriptive-analytical research in terms of method of doing work. In the present study, library and field methods were used to collect information and data. In order to collect library information, the required information was collected in person by referring to the municipality of Tehran's 12th district, Tehran's beautification organization, as well as websites and scientific books and articles. The tool used in the present study is a researcher-made questionnaire. The validity of the questions was calculated using experts and experts and its reliability was calculated using Cronbach's alpha test (in the present study, 0.87).

3.1 Sampling method and sample size

The statistical population of the present study is all residents of District 12 of Tehran. Cluster sampling was performed and the sample size was determined using Cochran's formula. Given that the population of the region is 240,720, the sample size was 383.

4. Method of data analysis

In order to investigate the research hypotheses, according to the nature of the studied variables, which were based on the questionnaire, inferential statistical tests such as Kolmogorov-Smirnov, T-test and Friedman were used. The data were collected and analyzed using a questionnaire using a sample of 350 samples and the research hypotheses were answered accordingly. SPSS software has also been used to analyze the data.

4.1 Results of Kolmogorov-Smirnov test to check the normality of safety data

The normative test is used to test for normality.

: H0 Distribution of data related to each of the variables is normal

: H1 Data distribution for each of the variables is not normal.

TABLE 1- TEST RESULTS ARE NORMAL DISTRIBUTION OF SECURITY DATA (KOLMOGOROV-SMIRNOV)

Variables	Average	Semi- variance	Kolmogorov- Smirnov Z	Sig	Tests results
Feeling financially secure	2.5477	.54423	1.839	.101	Normal
Feeling safe	2.8011	.61639	1.621	.210	Normal
A sense of moral security	2.651856	.687652	1.839	.123	Normal

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Ref: Field of Survey

Based on the results, it was determined that the data distribution is normal. Since the test statistic obtained for all variables of financial, emotional, and moral security, greater than the error value of 0.05, there is no reason to reject the null hypothesis that the data is normal, in other words, to distribute the data. The use has been normal.

4-1-1- Investigating the feeling of financial security in Tehran's 12th district

In order to investigate the level of financial security in Tehran's 12th district, a single-sample T test was used.

$$\begin{cases} H_0: \ \mu_1, \ \mu_2, \ \mu_3..., \ \mu_5 > 3 \\ H_1: \mu_1, \ \mu_2, \ \mu_3..., \ \mu_5 \le 3 \end{cases}$$

Based on the results of the table below, all the indicators used to measure the feeling of financial security in District 12 of Tehran have a low level of significance (greater than the amount of error). Therefore, citizens do not have enough financial security in the study area.

TABLE 2 -SIGNIFICANT T-TEST TO ASSESS THE LEVEL OF FINANCIAL SECURITY IN TEHRAN'S 12TH DISTRICT

Index	idev Of S	_	C	Average differences	Confidence interval At the 95% level	
		uniferences	Lowest	Maximum		
Ensure the safety of the car and its accessories	3.776	349	.07	.9938	1.5366	3.0038
Parking cars on the sidewalks of the neighborhood	3.267	349	.77	.0073	1.7388	2.7838
Security of bags and personal belongings in taxis	4.627	349	.112	-1.0062	1.7371	-2.009
A sense of security over the property in personal passenger car	3.008	349	.324	.7723	1.00983	3.5543
Security of bags and personal belongings when crossing the pedestrian bridge	4.1332	349	.990	.9005	2.0028	2.5574
Bag security and personal belongings on the bus	3.0203	349	.101	.4354	1.7377	2.4335
Fear of theft in parks	3.991	349	.55	1.883	.66547	1.9978
Carry cash	3.0019	349	.09	1.00987	.4431	2.0091

Ref: Field of Survey

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3-4-3- Ranking of the components of financial security in Tehran's 12th district

Friedman test is used to rank the variables studied. This test is based on the following two assumptions:

Zero Assumption: The priority of the indicators is the same.

Opposite assumption: At least two indicators have different priorities.

TABLE 4-9- FRIEDMAN RANKING TEST IN ORDER TO RANK THE COMPONENTS OF FINANCIAL SECURITY IN TEHRAN'S 12TH DISTRICT

Average rank	statement	Rate
8.47	Security of bags and personal belongings in taxis	First
7.58	Bag security and personal belongings on the bus	Second
6.35	Ensure the safety of the car and its accessories	Third
6.07	A sense of security over the property in personal passenger car	Fourth
4.80	Security of bags and personal belongings when crossing the pedestrian bridge	Fifth
3.40	Parking cars on the sidewalks of the neighborhood	Sixth
3.03	Carry cash	Seventh
2.99	Fear of theft in parks	Eighth

Ref: Field of Survey

TABLE 4-10- SIGNIFICANT LEVEL OF FRIEDMAN TEST FOR THE COMPONENTS OF FINANCIAL SECURITY IN TEHRAN'S 12TH DISTRICT

Counts	350
Statistics of Kai Square	173.083
Degrees of freedom	8
Significant level (sig)	.000

Ref: Field of Survey

According to the Friedman ranking test, a significant level of 0.000 is obtained, which is less than 5%, so the null hypothesis is rejected, meaning that at least two indicators have different priorities and the impact of each component Are different. According to the results of the Friedman ranking test, citizens feel the most secure about their bag and personal belongings in taxis (with an average rating of 8.47) and then the ratio of the security of their bags and personal belongings in the bus (with the average rank). E5.58) and had the lowest sense of security in parks for fear of theft (with an average rating of 2.99).

4-3-4- Investigating the feeling of life safety in District 12 of Tehran

In order to investigate the level of emotional security in the 12th district of Tehran, a single sample T test was used. Based on the results of the table below, the indicators used to measure the feeling of safety of life have a low level of significance (greater than the amount of error) and the average difference for all components of going to the park without fear of death. Crossing the air bridge without fear of death, injury and bodily harm during car theft, fear of accident, fear of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

being attacked by evil people (with a knife, etc.) and injury while walking were assessed negatively. Which shows the feeling of low security in the 12th district of Tehran.

TABLE 4-11- SIGNIFICANT T-TEST IN ORDER TO INVESTIGATE THE LEVEL OF EMOTIONAL SECURITY IN THE 12TH DISTRICT OF TEHRAN

Index	T-test statistics	Degrees of	Significance level	Average differences	Confidence interval At the 95% level	
	Statistics	freedom	10 / 01	annoronees	Lowest	Maximum
Go to the park without fear of death	3.878	349	.199	1.0423	.0231	.4073
Cross the flyover without fear of injury	3.207	349	1.009	1.0512	.0967	.2811
Damage and bodily injury during car theft	4.523	349	1.653	1.009	.2076	.1331
Fear of an accident	3.099	349	1.028	1.332	.0825	.3403
Fear of being attacked by evil people	3.1398	349	.113	1.8777	.0376	.2410
Injury while walking	3.993	349	.089	1.993	.1597	.0725

Ref: Field of Survey

4-5-3- Ranking of components affecting the feeling of life safety in Tehran's 12th district

Friedman test is used to rank the indicators. This test is based on the following two assumptions:

Zero Assumption: The priority of the indicators is the same.

Opposite assumption: At least two indicators have different priorities.

TABLE 4-13-FRIEDMAN RANKING TEST IN ORDER TO RANK THE COMPONENTS OF LIFE SAFETY IN TEHRAN'S 12TH DISTRICT

Average rank	statement	Rate
8.22	Injury while walking	First
6.4	Fear of an accident	Second
6.20	Fear of being attacked by evil people (with a knife, etc.)	Third
5.37	Damage and bodily injury during car theft	Fourth
4.01	Cross the flyover without fear of injury	Fifth
3.77	Go to the park without fear of death	Sixth

Ref: Field of Survey

TABLE 4-14- SIGNIFICANT LEVEL OF FRIEDMAN TEST FOR THE COMPONENTS AFFECTING THE FEELING OF LIFE SAFETY IN DISTRICT 12 OF TEHRAN

Number	350
Statistics of Kai Square	140.284
Degrees of freedom	8
Significant level (sig)	.000

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Ref: Field of Survey

According to the Friedman ranking test, a significant level of 0.000 is obtained, which is less than 5%, so the null hypothesis is rejected, meaning that at least two indicators have different priorities and the impact of each component Are different. According to the results of the Friedman ranking test, citizens have the highest sense of safety in walking injuries with an average rating of 8.22 and the lowest sense of safety in going to the park with an average rating of 4.72.

4-3-6- Investigating the level of moral security in Tehran's 12th district

In order to investigate the level of moral security in Tehran's 12th district, a single-sample T test was used. According to the results of the table below, among the indicators used to assess the level of moral security, the index of riding a private passenger without fear of driver harassment or abduction had a high level of significance (0.001), but other indicators The study had a low level of significance, which shows the low level of moral security of citizens in the 12th district of Tehran.

TABLE 4-15- SIGNIFICANT T-TEST TO EXAMINE THE SENSE OF MORAL SECURITY IN DISTRICT 12 OF TEHRAN

SECURITY IN DISTRICT 12 OF TEHRAN								
Index	T-test statistic	Degrees of	Significance level	Average difference s	Confidence interval At the 95% level			
Index	S	freedom			Lowest	Maximum		
Disturbance (hearing ugly and insulting words) on the street	1.8 23	349	.691	.04439	.00 7	1.1845		
Disturbance when crossing the pedestrian bridge	.98 6	349	.552	.43342	.13 29	.0441		
Just go to the park without fear of disturbance	- 8.3 09	349	.773	.18974	- .53 60	.330		
Staying on the side of the road without worrying about passing drivers	3.9 09	349	.09	.13830	- .28 89	094		
Get on a personal passenger without fear of being disturbed or abducted by the driver	- 2.9 87	349	.001	3.2868 6	.24 34	4.033		
The neighborhood is safe for children, teenagers and women in terms of harassment, kidnapping and assault	- 4.2 9	349	.116	- .11316	- .40 13	172		
Disturbance (hearing ugly and insulting words) on the street								

Ref: Field of Survey

4-3-7- Ranking of components of moral security in Tehran's 12th district

Friedman test is used to rank the indicators. This test is based on the following two assumptions:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Zero Assumption: The priority of the indicators is the same.

Opposite assumption: At least two indicators have different priorities.

TABLE 4-17-FRIEDMAN RANKING TEST IN ORDER TO RANK THE COMPONENTS OF MORAL SECURITY IN DISTRICT 12 OF TEHRAN

Average rank	statement	Rate
6.37	Get on a personal passenger without fear of being disturbed or abducted by the driver	First
6.23	Just go to the park without fear of disturbance	Second
5.58	Disturbance when crossing the pedestrian bridge	Third
4.40	Staying on the side of the road without worrying about passing drivers	Fourth
3.345	Disturbance (hearing ugly and insulting words) on the street	Fifth
3.001	The neighborhood is safe for children, teenagers and women in terms of harassment, kidnapping and assault	Sixth

Ref: Field of Survey

TABLE 4-18- SIGNIFICANT LEVEL OF FRIEDMAN TEST FOR THE COMPONENTS OF MORAL SECURITY IN TEHRAN'S 12TH DISTRICT

Number	350
Statistics of Kai Square	3084.66
Degrees of freedom	8
Significant level (sig)	.000

Ref: Field of Survey

According to the Friedman ranking test, a significant level of 0.000 is obtained, which is less than 5%, so the null hypothesis is rejected, meaning that at least two indicators have different priorities and the impact of each component Are different. Based on the results of the Friedman ranking test, citizens feel the greatest sense of security in riding a private passenger without fear of being disturbed or abducted by the driver (with an average rating of 6.37) and the least sense of security in the area. For children, adolescents and women in terms of harassment, abduction and assault (with an average rank of 3.001).

3-4-3- Investigating the general level of security in Tehran's 12th district

In this study, in order to investigate the level of security in Tehran's 12th district, the following components have been used:

- Feeling financially secure
- Feeling safe
- A sense of moral security

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Therefore, in order to examine the general level of citizens' sense of security in Tehran's 12th district, the average difference test (T) has been used. The mathematical form of the statistical assumption is as follows:

$$\begin{cases} H_0: \ \mu_1, \ \mu_2, \ \mu_3..., \ \mu_5 > 3 \\ H_1: \mu_1, \ \mu_2, \ \mu_3..., \ \mu_5 \le 3 \end{cases}$$

TABLE 4-19- GENERAL LEVEL OF SECURITY IN TEHRAN'S 12TH DISTRICT

Comp	onent		Average	Standard deviation	Variance	Lowest	Maximum	Statistics T	sig
Feeling	safe	in							1.5
District	12	of	2.9891	1.094	1.2103	1	5	1.332	56
Tehran									30

Ref: Field of Survey

As can be seen from the results, the sum of the mean variables of security feeling is 2.9891, which is smaller than the assumed average (3). Which is greater than the error value (0.05) and is not statistically significant. Therefore, it can be said that citizens' sense of security in District 12 of Tehran is smaller than average, so most residents of District 12 do not feel safe in public spaces, because the average sense of security of citizens is lower than average, which indicates a lack of feeling. Security in the region. As a result, the second hypothesis of the study is that "it seems that the feeling of security in District 12 is not in a favorable situation from the point of view of the residents."

CONCLUSION

Quality of urban life is one of the most important areas of urban studies that has social components; Environmental; It is physical and economic. Due to its role in cities, attention to this indicator has generally increased due to its role in determining the viability.

In this study, in order to assess the level of citizens' sense of security, the components of financial, life and moral security were used. The results showed that all indicators used to measure the feeling of financial security in Tehran's 12th district had a low level of significance and citizens did not have a sufficient sense of financial security in the study area. Also, the significance level of the indicators used to measure the feeling of mortality has a low level of significance and the average differences for all components of going to the park without fear of death, crossing the air bridge without fear of death, Damage and bodily harm during car theft, fear of an accident, fear of being attacked by vicious people (with a knife, etc.) and injury during a walk were assessed as negative, indicating a feeling of low safety in the area of Tehran. In order to assess the level of moral security in Tehran's 12th district, a single-sample T test was used and the results showed that among the indicators used to assess the level of moral security, the index of riding a private passenger without fear of Driver harassment or kidnapping had a high level of significance (0.001), but other indicators examined had a low level of significance, which indicates the feeling of low moral security of citizens in the 12th district of Tehran. As can be seen from the results, the sum of the average security variables is 2.9891, which is smaller than the assumed average (3), and the sig value is equal to 1.556, which is greater than the error

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

value (0.05). And it's not statistically significant. Therefore, it can be said that the feeling of security in District 12 is not favorable for the residents.

In the current century, unfavorable urban environments have caused many problems for the security of citizens and social harms have increased. There are many factors that reduce urban security, one of which is urban spaces, which are usually protected from view. Such as urban sub-stairs, inside underpasses, air bridges, pits, etc., which are unprotected spaces in cities, and this is where the importance of lighting is considered as one of the main factors in ensuring the security of the urban environment. Today, security is one of the quality characteristics of life in cities, and social harms are one of the most important consequences of security, for example, dark and dim streets and places are a good place for delinquency. Light is recognized as a factor in the occurrence of social anomalies. The most important characteristics of behavioral pollution and crime at night are darkness, low light and improper distribution of the lighting system that dominates the environment and provides a good opportunity for criminals.

REFERENCES

- **1.** Fatemeh BH. Salimi A. Feeling of social security of youth and related social factors. Journal of Sociological Studies. 2011;3(12):59-77.
- **2.** Fadeh FS. Mazinani SS. A study of women's sense of security in public spaces of Mashhad. Social Order Quarterly. 2015;7(2):1-32.
- **3.** Hemati R. Community-based police and its role in reducing insecurity. Scientific journal of Iran polic. 2007;9(3):131-147.
- **4.** Kalantary KH. et al. Planning of Safe urban spaces Based on Gender Separation with CPTED approach (Case study: Farhangian neighborhood of Bonab city). Journal of Islamic -Iranian cities Studies. 2013;12;15-26.
- **5.** Kiani A, Abaszadeh A, Azadi A. Assessing the Sense of Security in the City (Case Study: Payam Ilam Neighborhood). The First National Conference on Urban Planning and Knowledge-Based Architecture, Tehran, Islamic Azad University, Tehran Science and Research Branch, 2017.
- **6.** Madani I, Azari K, Parvizy A, Hoseini RB. Investigating the physical factors affecting the feeling of security in the public space of urban neighborhoods, a case study of Shirabad neighborhood of Zahedan, 2nd International Congress of Structures, Architecture and Urban Development, Tabriz, Permanent Secretariat of the International Congress of Structures, Architecture and Urban Development, 2014.
- **7.** Minnery JR and Lim B. Measuring Crime Prevention through Environmental Design. Journal of Architectural and Planning Research, 2005;22:330-341.
- **8.** Najafi A, Godarzi A. Investigating the effect of citizens' sense of security on their use of urban centers (case study of Naghsh Jahan Square in Isfahan), International Conference on Urban, Civil and Architecture Engineering, Qom, University of Applied Sciences, 2016.
- **9.** Paul E, Rachel A, Leanne M, Ben C. Crime Prevention Through Environmental Design in the United Arab Emirates: A Suitable Case for Reorientation? Built Environment, Alexandrine Press, 2013;39(1):92-113.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **10.** Qaraei F. et al. Investigating and measuring the sense of security in different urban districts (case study: districts 2 and 11 of Tehran). Journal of Armanshahr. 2010;4;17-32.
- **11.** Van Helden P, Lor PJ, & Bothma TJ. Developing a GIS-based inventory of South Africa's public libraries: the Public and Community Libraries Inventory of South Africa (PaCLISA) project. South African journal of libraries and information science. 2005;71(3):268-274.
- **12.** Velashani ST, Madani I, Azeri AR, Hosseini B. Effect of Physical Factors on the Sense of Security of the People in Isfahan's Traditional Bazaar, 6th Asian Conference on Environment-Behaviour Studies, Iran University of Science & Technology, Tehran, 2015.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

STUDY OF SUITABLE SITES FOR TOURISM DEVELOPMENT IN THE GORI GANGA WATERSHED KUMAUN HIMALAYA BY USING REMOTE SENSING AND GIS

D. S. Parihar*

*Research Scholar,
Department of Geography, Kumaun University,
S.S.J. Campus Almora, Uttarakhand, INDIA
Email id: d.s.parihar.geo@gmail.com

DOI: 10.5958/2249-7137.2021.02695.1

ABSTRACT

Tourism is a fast growing and leading industry in all service sectors at the globally which supports socio-economic development of the destination. It provides job opportunities in different tourist sectors like accommodation, catering, transport, entertainment and others which related to tourism activities. The current research area Viz. Gori Ganga watershed is chosen by keeping the above perception in the mind, to analyze the tourist arrived status in different tourist destinations. Aims of this study are mapping existing tourism sites and data analysis according to tourism offices and also suggesting some suitable sites of tourism developments with the help of field survey Global Position System (GPS) and Geographic Information System (GIS) software in the Gori Ganga watershed. There are total 9 tourism spot categories which contribute 50 existing tourist sites in the different part of the study area and suggesting 20 tourism sites in different tourism spot categories. A brief account of these results it's discussed in the following paragraphs.

KEYWORDS: *Tourism, Suitable Sites, Development, GPS and GIS.*

1.0 INTRODUCTION

The present-day tourism sector is closely linked to development and many new destinations as possible. In the Indian Himalayan Region tourism has experienced continued growth and increasing diversification over the last few decades to become one of the fastest growing economic sectors in India as well as many other countries. This status is in line with predictions for the sector, which is expected to grow at an average annual rate of 7.9% from 2013 to 2023 (NITI Aayog, 2018) [7]. Since most of the nature-based tourism destinations are located in peripheral regions where communities are marginalized, outside investors tend to control the tourism industry and obtain most of the benefits.

If tourism developed with a responsible, pro-poor and equitable approach, has an obvious poverty reduction potential (DFID 1999 [4], Ashley et al., 2001 [1], UNWTO 2004 [11], UNESCAP 2003 [9], Hall 2007) [5]. Tourism can yield high levels of employment and income for the poor, especially in mountain areas where biodiversity and indigenous cultures have not yet been significantly eroded. Tourism brings relatively powerful consumers to Southern countries, an important market potential for local entrepreneurs and an engine for local

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

sustainable economic development (UNWTO, 2002) [10]. Tourism, one of the most important sectors of Nepal's economy, contributes 9.1 percent of total foreign currency and employs approximately 257,000 people (MCTCA 2004) [6]. Recent studies suggest that the tourism industry has a higher multiplier and positive spillover effect than other economic sectors, with one job directly created for every additional 3.5 tourist, and a further 0.8 indirectly created in support sectors (SASEC/ADB, 2008) [8]. Many mountain regions have seen a strong rise in living standards after tourism was introduced. Even in the European Alps, where tourism is now one of the major sources of income for many mountain resorts, most mountain communities were poor agricultural settlements before the growth of mountain tourism began in the 18th century (Beniston, 2000) [2]. Alternative policies, based on the specific mountain conditions or 'specifities' and focused on establishing benefits for the poor and socially excluded are crucial. Case studies by Campbell, 2008 have shown that where policies and training have been introduced to support local communities, such as in the Annapurna Conservation Area in Nepal, or the Yuksum area in Sikkim, India, tourism benefits for the poor have increased substantially.

2.0 OBJECTIVES

The fundamental objectives of the present investigation viz., tourism and suitable sites for tourism development in the Gori Ganga watershed Kumaun Himalaya, Uttarakhand, which incorporates the follows:

- Detailed study about tourism and visited sites in the Gori Ganga watershed.
- Suggesting suitable sites on the basis of field survey for tourism development.
- Mapping of tourism existing and suitable sites in the study area.

3.0 METHODOLOGY

Mapping for the present study based on field survey and Global Position System (GPS) prepared by Geographic Information System (GIS) software Arc GIS. Number of tourist arriving in the study area were received from District Tourism Office Pithoragarh. Plates 1 are collected during field survey of the Gori Ganga watershed.

4.0 LOCATION AND EXTENT OF STUDY AREA

The study area viz., the Gori Ganga watershed, Kumaun Himalaya (Figure-1) extends between 29°45′0′′ N to 30°35′47′′ N latitudes and 79°59′33′′ E to 80°29′25′′ E longitude, and encompasses an area of about 2191.63 km². Internationally known Milam glacier lies in this watershed from which the Gori Ganga river originates. It is a valley glacier having compound basin belonging towards south east from the Trisul peak. The Milam glacier is the second largest glacier of the Kumaun Himalaya. The glacier is 16.7 km long and it receives ice from the Trishul peak and from seven other tributary glaciers of the Gori Ganga watershed. Munsyari remains one of the last accessible hill stations by motor road in the region. The Munsyari and Madkote towns located in the study area are currently the starting point for many track routes into the Himalayan interior. Munsyari town one of its key advantages is the superb backdrop that is provided by the high Himalayan Pancha-Chooli range in full view. It is an awe inspiring place surrounded by undisturbed nature and high mountains. Land uses spread across region comprise settlements, terraced farms, Van Panchayat (forests governed by village forest councils), reserve forests and the Askote Musk Deer Sanctuary. The last village in the watershed is Milam which is 65 km far

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

away from the nearest motor road. Three main valleys i.e., Gori Ganga valley, Ralam valley and Johar valley are famous valleys in the study area.

5.0 RSULT AND DISSCUSSION

The Gori Ganga watershed is constructed of two physiographic regions (Great Himalayan region and Lesser Himalayan region) where 50 existing tourism sites (Table-1) are available for tourist which is geographically distributed in Figure-2. There are the data to total arrived tourists in the study area are registered in Table-2 and diagrammatically presented in Figure-3. Where 20 suggested tourism sites are presented in Figure-4 and example of suitable sites of tourism development in the study area presented in Plate-1. A brief account of these results it's discussed in the following paragraphs.

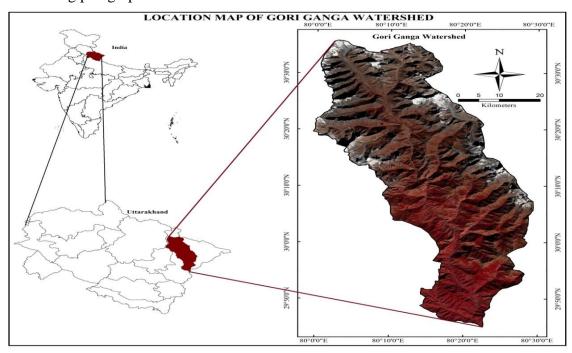


Figure-1: Location and extent of the study area viz., Gori Ganga watershed, Kumaun Himalaya (Uttarakhand).

6.0 TOURISM IN GORI GANGA WATERSHED

The environment and natural beauty around the Gori Ganga River is works in many different ways for the possibilities and conditions for tourism industry. Gori Ganga watershed is rich in natural beauty i.e. many glaciers, Panchachuli Peaks, Monal Bird, Kasturi Mirg (Musk deer), Brahma Kamal (Saussurea Obvallata) and also rich in social and culture i.e. Traditional village, tribal culture, old village etc. Table-1 depicts the details of tourism spots in the study area which is presented in Figure-2. Table-2 depicts number of tourist visited in the study area from 2010 to 2019 and diagrammatically presented in Figure-3. Table-2 is define that highest number of tourists visited about 104692 in the year 2016 where about 49308 tourists visited Munsyari, about 20152 tourists visited Jauljibi and about 35232 tourists visited Dharchula. Lowest number of tourists visited about 15952 in the year 2012 in the study area where about 10924 tourists visited Munsyari, about 2003 tourists visited Jauljibi and about 3025 tourists visited Dharchula.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Table-2 also define tourism destination wise tourist visited in the study area where largest number about 67092 tourists visited Munsyari in the year 2017.

TABLE-1: DETAILS OF TOURISM SPOTS IN THE GORI GANGA WATERSHED (BASED ON FIELD SURVEY AND GPS).

S.	Tourism spots types		Name of tourism sites		
N.	Names	in no.			
1	Glaciers	3	(1) Milam, (2) Ralam, (3) Panchachuli		
2	Waterfalls	6	(1) Josha Gad, (2) Dharikhet, (3) Fagua, (4)		
			Dhunamani, (5) Andheri Ghat, (6) Alam waterfall		
3	Tourist rest house	3	(1) Bhujani, Khaliya Top, (2) Kumaon Mondal Vikas		
			Nigam (KMVN) Tourist Rest House (TRH)		
4	Parks	2	(1) Eco park and (2) Lichen Park		
5	Lakes	2	(1) Thamri Kund and (2) Messar Kund		
6	Hot water spring	3	(1) near Madkote, (2) Bhadeli and (3) Sera		
7	Tourist places	14	(1) Askote Musk Deer Sanctuary, (2) Dhandhura		
	_		Reserve Forest, (3) Chhipla Kedar, (4) Khaliya Top,		
			(5) Dana Dhar, (6) Nirtoli Dhar, (7) Ralam Village, (8)		
			Najuri Kote, (9) Balanti Farm, (10) Munsyari, (11)		
			Chulkote Dhar, (12) Khariya Khan near Toli, (13)		
			Dhunamani Dhar and (14) Milam Village		
8	Temples	12	(1) Darkote Mandir, (2) Dana Dhar Mandir, (3)		
			Gayatri Chetna Kendra Mandir, (4) Chulkotedha		
			Mandir, (5) Shiv Mandir Madkote, (6) Waigadhar		
			mandir, (7) Mahakali Mata Mandir Umta, (8) Maa		
			Nanda Devi Mandir, (9) Maftal Dhar Mandir, (10)		
			Maa Nanda Devi Bhikuriya, (11) Nanda Astami		
			Sirtola, (12) Kanar Devi		
9	Park	2	(1) Eco parks, (2) Dana Dhar Eco park		
10	Flower garden/valley	3	(1) Tulip, (2) Orchid, (3) lichen garden		
Total 5		50			

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

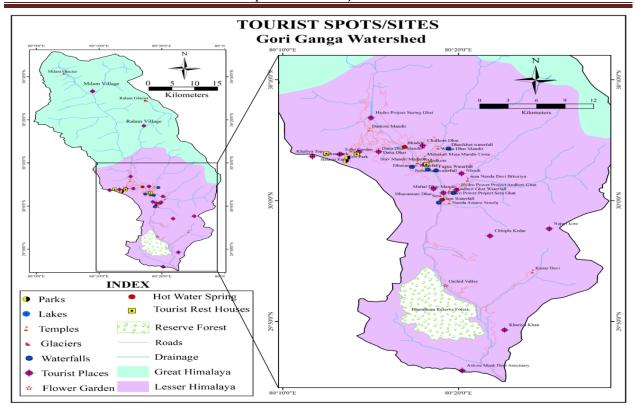


Figure-2: Geographical distribution of existing tourist spots in the Gori Ganga watershed (based on field survey and GPS).

TABLE-2: DETAILS OF NUMBER OF TOURIST VISITED IN THE GORI GANGA WATERSHED DURING 2010 TO 2019 (SOURCE: DISTRICT TOURISM OFFICE, PITHORAGARH).

			• • / •			
Years	Tourism Office	Tourism Office				
	Munsyari	Jauljibi	Dharchula			
2010	10819	34000	0	44819		
2011	11505	34500	0	46005		
2012	10924	2003	3025	15952		
2013	10023	45006	18610	73639		
2014	11777	46524	19711	78012		
2015	12272	48781	20227	81280		
2016	49308	20152	35232	104692		
2017	67092	17689	18744	103525		
2018	23021	2016	12315	37352		
2019	42120	0	19363	61483		
Total	248861	250671	147227	646759		

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

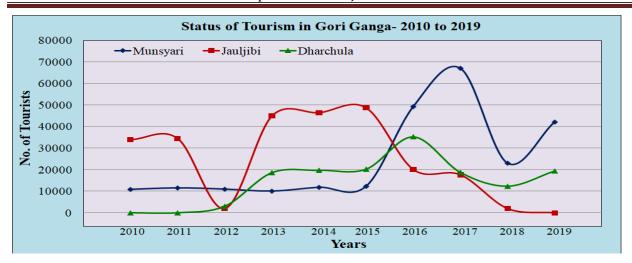


Figure-3: 2010-19 status of tourism in Gori Ganga watershed (*source: District Tourism Office Pithoragarh*).

7.0 SUITABLE SITES FOR TOURISM DEVELOPMENT

The Gori Ganga watershed is diverse in physical landscape and rich in natural scenic beauty. It has beautiful glacial landforms which provided large number of tourist and trekking attraction. Figure-4 depicts the suitable sites which can be developed as tourism site and places in the study area. These tourism sites are beautiful lakes (1- Charthi, 2- Golpha, 3- Najuri, 4- Bogdiyar, 5- Gaukha and 6- Quiry Zimiya), Glaciers (1- Panchachuli, 2- Burfu, 3- Lwa, 4- Martoli, 5- Goukha and 6- Bilju) and Bugyals (Charthi, Chhipla Kedar, Kamba Bagar, kolgu, Laspa, Nagini Dhoora, Panchachuli and Thalba). Example of suitable sites for tourism development are presented in Plate-1 besides these, for speedy development of tourism in the Gori Ganga watershed, there is urgent need for development of tracking routes for connecting with existing nationally and international tourist places such as Milam, Munsyari etc.

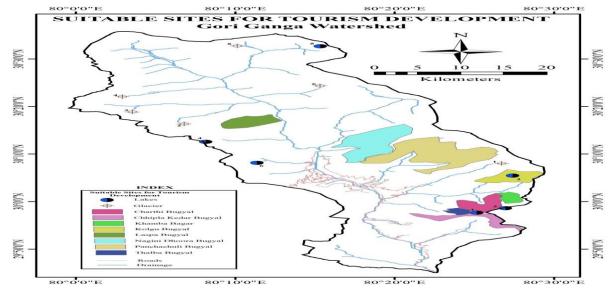


Figure-4: Geographical distribution of suitable sites for tourism development in the Gori Ganga Watershed (*based on field survey*).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Plate-1: Suitable sites for tourism development in the Gori Ganga watershed: (A) Chhipla Kedar lake, (B) Khaliya lake, (C) Najuri lake, (D) Parvati lake, (E) panoramic natural scenic view of Himalaya from Chhipla Kedar Bugyal, (F) Panchachuli Glacier, (G) Ralam Glacier.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

8.0 CONCLUSIONS

Tourism drives economic prosperity and sustainable development in the any destination of the world. Study area were visited large number of tourists between 2010 to 2019 but all 50 sites were not visited lack of tourist guide and bed tracking routes. The Gori Ganga watershed has large natural tourism sites and scopes as well were sustainable tourism cane develop very well. Some suitable tourism sites in the study area are struggling for attract visitors cause lack of proper tracking routes, lack of good tourism map of the study area. Tourism could be one of the more promising strategies to address the rampant poverty situation in the watershed, based on the region's comparative strengths and advantages. There is undeniable scope to increase income retention from tourism for the poor in the Himalaya by facilitating links between tourism and the local product system. The geographical information system technology is currently being offered a wide scope of scientific research and help to finding new tourism development sites in the study area.

REFERENCES

- **1.** Ashley C, Dilys R, Harold G. Pro-poor tourism strategies: making tourism work for the poor. A review of experience, Pro-Poor Tourism Report No. 1, Nottingham: Overseas Development Institute. 2001.
- 2. Beniston M. Environmental change in mountains and uplands. London: Arnold. 2000.
- **3.** Campbell G. Sustainable mountain development: reflections on supporting the development of inclusive and pro-environment policies in the Himalayas. Policy Priorities for Sustainable Mountain Development, 2008. pp. 21-30.
- **4.** DFID. Tourism and poverty elimination: untapped potential. London: DFID. 1999.
- **5.** Hall MC. Perspectives on tourism and poverty alleviation. Bristol: Channel View Publications. 2007.
- **6.** MCTCA. Annual statistical report. Kathmandu: Ministry of Culture, Tourism and Civil Aviation. 2004.
- 7. NITI Aayog. Sustainable tourism in the Indian Himalayan region. Report of Working Group II, Sansad Marg, New Delhi, 2018. p.1.
- 8. SASEC/ADB. Tourism development plan report. Manilla: Asian Development Bank. 2008.
- **9.** UNESCAP. Poverty alleviation through sustainable tourism development. New York: United Nations Economic and Social Commission for Asia and the Pacific.2003.
- **10.** UNWTO. Tourism and poverty alleviation. Madrid, Spain: United Nations World, Tourism Organization.2002.
- **11.** UNWTO. Tourism and poverty alleviation: recommendations for action. Madrid, Spain: United Nations World Tourism Organization. 2004.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE STUDY OF THE CHASSIS OF FOUR WHEELER

Shri Bhagwan*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: shribhagwan.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02641.0

ABSTRACT

A chassis is the fundamental framework that gives the body its power and offers a resting place for all machine components. The basic framework of a vehicle is an example of a chassis. The automobile sector has a serious issue with mass or weight reduction. A few research from the past years were evaluated in this article. In general, the chassis is the fundamental framework of a car, motorbike, or truck. The study paper on chassis analysis, the technique used to analyze chassis, and the material utilized in chassis production is published previously in this article. A variety of analytical and experimental methods are available for evaluating the chassis and the materials used in its manufacture. In various chassis constructions, steel forms are commonly utilized; however, aluminum has also been used in the past.

KEYWORDS: Automobile, Automotive, Chassis, Framework, Vehicle.

1. INTRODUCTION

The name "chassis" comes from a French word that meaning "frame" or "primary framework" of a vehicle. The chassis of an automobile is the vehicle's exterior framework, which contains all of the vehicle's components and is placed on the wheels with the assistance of a frame. Simply said, an automotive chassis is a complete vehicle that does not have a body. It's the same as being a fully clothed person. The frame is an essential component of the chassis, on which the vehicle's whole body is attached[1].

Except for big vehicles, the term "chassis" has become a French term that refers to the whole vehicle. With the exception of additional body fittings, when light-heavy vehicles are mono constructed, the whole car is labeled: "The chassis comprises the engine, train power, brakes, steering system, and wheels placed on the frame." The whole vehicle is protected by an interior chassis, which also offers structural support. It's like an animal's skeleton. Over the past several years, the nature and usefulness of on-road vehicles have substantially improved[2].

A chassis is the basic structure that provides the body its power and allows all machine components to rest. A chassis is an example of a vehicle's fundamental structure. The automotive industry has a significant problem in reducing mass or weight. Chassis is a common body structure that employs rich memories during severe injuries and has a substantial impact on product imagery. If the chassis fails, the whole vehicle structure will be destroyed, and it will be impossible to repair it fast. The frame system must be able to safely support and transport the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

weight of vehicle components as they accelerate longitudinally, laterally, and vertically in the races[3].

The chassis, often known as the "Frame," is the car's main support structure [4]. It bears all of the car's stresses in both static and dynamic situations. The skeleton of living creatures is comparable to that of a vehicle. In French, the phrase "chassis" comes from the word "chassis." Whether it's a two-wheeler or an automobile, every vehicle needs a chassis framework. As a result, its form is significantly influenced by the kind of vehicle. In most passenger vehicles in the mid-twentieth century, a skeleton was created in the vehicle's chassis, on which the engine, wheels, axle joints, gears, steering motors, frequencies, and suspensions were placed. The body was lightweight attached to the chassis during a technique known as body-on-frame construction[5]. This technique has now been expanded to heavy-duty vehicles, such as trucks with a big central frame, which are susceptible to the pressures required in material transportation, such as the absorption of motor and axle movement, which is permitted by the combination of body and frame. The following functions are performed by chassis:-

- Assists or supports the vehicle's body load
- Provide space and assembly for various vehicle aggregates.
- Supports the weight of a variety of vehicle components, including the drive train, gearbox, and so on.
- Supports the freight as well as the luggage.
- Is resistant to the forces imposed by bad roads.
- Relieves strain during vehicle acceleration and breaking.

In contemporary passenger vehicle designs, the chassis frame and the body are merged into one structural component. The steel body shell is reinforced with bracing, making it sufficiently stiff to resist the imposed stresses. A unit body (or anybody) structure is the name given to this configuration. For better noise insulation, some vehicles have utilized alternative frames or partial "stub" frames. In modern component designs, heavy strength steel also helps to retain energy during collisions and minimize damage[6].

1.1Chassis' Purpose:

- To sustain the vehicle's body weight and loading
- To assist with car accessories
- To assist with the power and control systems
- To make room for the passengers
- To achieve the ideal aerodynamic design in order to reduce drag.
- To combine all of the vehicle's components

1.2 Types of Chassis

The chassis of a car may be regarded an underrated component. Few people are aware of it, and even fewer are concerned. Although we have no option in selecting the chassis for our vehicle,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

familiarity with them will enable you to identify the capabilities and limits of your vehicle. The four main chassis types are as follows in the figure 1 and describe below:-

1.1.1 Ladder chassis: - The Hose chassis, which is similar to a ladder because it is a kind of hose, is one of the earliest chassis. Two large, hefty beams are flanked by two smaller beams. The ladder chassis' main selling point was how quickly it could be made. At the dawn of the automobile era, technology was still developing, and the flexibility of a ladder chassis made mass production easier. The chassis also enables the vehicle to be positioned. The ladder's chassis is hefty, and it's still used in vehicles that have to travel over large obstacles.

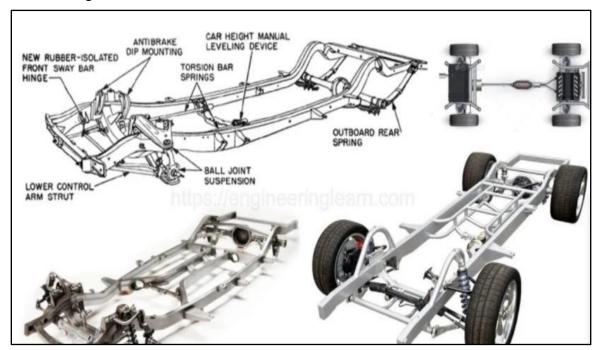


Figure 1: The Different Types of Chassis in the Four Wheeler.

- 1.1.2 Backbone chassis: -The Hose chassis, which is similar to a ladder because it is a kind of hose, is one of the earliest chassis. Two large, hefty beams are flanked by two smaller beams [7]. The ladder chassis' main selling point was how quickly it could be made. At the dawn of the automobile era, technology was still developing, and the flexibility of a ladder chassis made mass production easier. The chassis also enables the vehicle to be positioned. The ladder's chassis is hefty, and it's still used in vehicles that have to travel over large obstacles [8].
- 1.1.3 Monocoque Chassis: -Its name is also derived from its structural aspect, which is a continuous frame. Monocoque is French for "single shell" or "single hull." There is just one shell. The monocoque was first employed in ships and later in airplanes. It took me a long time to realize that they may even be found in automobiles. A monocoque armchair is constructed of a single piece of furniture with both chassis serving as the frame. Because of its many advantages over the other two chassis, this chassis is perhaps the most frequently utilized.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.1.4 Tubular chassis: - Tubular chassis were mainly utilized in racing vehicles due to its unrivaled safety. The chassis were updated to three dimensions and were much heavier than the ladder's chassis. To increase total power, they placed a strong structure beneath the doors. On rail vehicles, tube chassis are never utilized.

2. LITERATURE REVIEW

The whole vehicle is protected by an interior chassis, which also offers structural support. It's like an animal's skeleton. Over the past several years, the nature and usefulness of on-road vehicles have substantially improved. A chassis is the basic structure that provides the body its power and allows all machine components to rest. A chassis is an example of a vehicle's fundamental structure. This reduction in mass or weight is a significant issue for the automotive industry[9].

Tubular chassis were most often seen in racing vehicles. The chassis were updated to three dimensions and were much heavier than the ladder's chassis. To increase total power, they placed a strong structure beneath the doors. On rail vehicles, tube chassis are never utilized [10].

3. DISCUSSION

A chassis is the fundamental framework that gives the body its power and offers a resting place for all machine components. The basic framework of a vehicle is an example of a chassis. The automobile sector has a serious issue with mass or weight reduction. Chassis is a typical bodily structure that uses vivid recollections after serious injuries and has a significant effect on product images. The whole vehicle structure will be destroyed if the chassis breaks, and it will be difficult to rebuild it quickly. As the vehicle components accelerate longitudinally, laterally, and vertically in the races, the frame system must be able to safely support and convey their weight.

The chassis, often known as the "Frame," is the primary support component of the vehicle. In both static and dynamic conditions, it bears all of the car's pressures. A live creature's skeleton is similar to that of a vehicle. The word "chassis" is the source of the term "chassis" in French. Every vehicle, whether it's a two-wheeler or a car, need a chassis structure. As a consequence, the kind of vehicle has a major impact on its shape. The engine, wheels, axle joints, gears, steering motors, frequencies, and suspensions were all mounted on a skeleton in the chassis of most passenger cars in the mid-twentieth century. Using a method known as body-on-frame construction, the body was connected to the chassis in a lightweight manner. This method has now been extended to heavy-duty vehicles, such as trucks with a large central frame, which are sensitive to the stresses needed in material transportation, such as motor and axle movement absorption, which is made possible by the coupling of body and frame.

The chassis frame and the body are combined into one structural component in modern passenger car designs. Bracing reinforces the steel body shell, making it rigid enough to withstand the applied pressures. This design is known as a unit body (or unibody) construction. Alternative frames or partial "stub" frames have been used in certain cars to improve noise insulation. Heavy-duty steel is also used in contemporary component designs to assist preserve energy and reduce damage during collisions.

4. CONCLUSION

The chassis, often known as the "Frame," is the primary support component of the vehicle [1]. In both static and dynamic conditions, it bears all of the car's pressures. A live creature's skeleton is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

similar to that of a vehicle. The word "chassis" is the source of the term "chassis" in French. Every vehicle, whether it's a two-wheeler or a car, need a chassis structure. As a consequence, the kind of vehicle has a major impact on its shape. The engine, wheels, axle joints, gears, steering motors, frequencies, and suspensions were all mounted on a skeleton in the chassis of most passenger cars in the mid-twentieth century. Using a method known as body-on-frame construction, the body was connected to the chassis in a lightweight manner. The chassis frame and the body are combined into one structural component in modern passenger car designs. Bracing reinforces the steel body shell, making it rigid enough to withstand the applied pressures. This design is known as a unit body (or unibody) construction. Alternative frames or partial "stub" frames have been used in certain cars to improve noise insulation. Heavy-duty steel is also used in contemporary component designs to assist preserve energy and reduce damage during collisions. In the analysis, the majority of instances are examined:

- It was discovered that the majority of contemporary researchers utilized popular FEA software, with ABAQUS, NASTRAN, and HYPERVIEW being much less often used.
- The properties of a variety of alternative materials, including carbon fiber, magnesium, titanium, and conventional light steel, have been studied and compared using these literature surveys.
- Despite a thorough examination of many research studies, it was discovered that many investigations on the changeable segment idea and trailer chassis had not been completed.
- In order to estimate chassis life, further research on base material for load variation and the effect of both static and dynamic loads is required.
- As a result, further studies of the chassis and trailer chassis concepts, as well as the materials to be utilized in vehicles, should be conducted and researched.

REFERENCES

- **1.** F. A. Conle and C. C. Chu, "Fatigue analysis and the local stress-strain approach in complex vehicular structures," Int. J. Fatigue, 1997, doi: 10.1016/s0142-1123(97)00045-5.
- **2.** F. Zhen et al., "Development of a heavy heavy-duty diesel engine schedule for representative measurement of emissions," J. Air Waste Manag. Assoc., 2009, doi: 10.3155/1047-3289.59.8.950.
- **3.** S. Yoon, J. Collins, A. Thiruvengadam, M. Gautam, J. Herner, and A. Ayala, "Criteria pollutant and greenhouse gas emissions from CNG transit buses equipped with three-way catalysts compared to lean-burn engines and oxidation catalyst technologies," J. Air Waste Manag. Assoc., 2013, doi: 10.1080/10962247.2013.800170.
- **4.** "What Is A Chassis And What Are Its Types?".
- **5.** N. Y. Kado et al., "Emissions of toxic pollutants from compressed natural gas and low sulfur diesel-fueled heavy-duty transit buses tested over multiple driving cycles," Environ. Sci. Technol., 2005, doi: 10.1021/es0491127.
- **6.** M. P. Lammert, R. L. McCormick, P. Sindler, and A. Williams, "Effect of B20 and Low Aromatic Diesel on Transit Bus NOx Emissions Over Driving Cycles with a Range of Kinetic Intensity," SAE Int. J. Fuels Lubr., 2012, doi: 10.4271/2012-01-1984.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **7.** M. Cavazzuti, A. Baldini, E. Bertocchi, D. Costi, E. Torricelli, and P. Moruzzi, "High performance automotive chassis design: A topology optimization based approach," Struct. Multidiscip. Optim., 2011, doi: 10.1007/s00158-010-0578-7.
- **8.** Chassis Handbook. 2011.
- **9.** H. H. Rathod, S. Kumar, V. Goel, and B. E. Pursuing, "A Review on Analysis and Design of Vehicle Chassis and its Materials," Int. J. Sci. Eng. Res., 2018.
- **10.** "Types Of Car Chassis Explained | From Ladder To Monocoque!".

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE BRIEF REVIEW ON THE USE OF NUCLEAR METHODS

Harish Kumar*

*Lecturer,

Department of Mechanical Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: harish.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02642.2

ABSTRACT

Humanity must accept the reality that it cannot depend on coal, gas, and oil for most of its energy requirements indefinitely. Many energy breakthroughs may be considered in the ultimate process of removing fossil fuels, and the majority of them can be utilized in specific applications. In the long run, however, we believe that nuclear fission technology is the only developed energy source capable of supplying the vast amounts of energy needed to run modern industrial economies efficiently, effectively, reliably, and sustainably, both in terms of the atmosphere and the available resource base. In many cases, the alternative—dedicated energy storage for grid-connected intermittent energy sources (as opposed to backup)—is not yet economically viable. However, in geographically isolated locations without access to a large electrical grid, unstable sources combined with storage may be cost-effective for local energy delivery. Nonetheless, for the bulk of fossil fuel displacements this century, nuclear fission energy will be needed.

KEYWORDS: Carbon Dioxide, Fission, Fossil Fuels, Nuclear, Renewable.

1. INTRODUCTION

The theoretical study of the nuclear equation of state (EOS) is a field of research that addresses many of nuclear physics' fundamental issues. This book provides an overview of the current state of the nuclear EOS microscopic theory. Its primary goal is to serve as a textbook for students new to the field, covering the various subjects as thoroughly and didactically as possible; and second, to serve as a reference book for all researchers working on nuclear matter theory, providing a report on the most recent developments. The numerous open problems that exist today, as well as the prospects for their possible solutions, are given special attention.

Nuclear physics techniques are currently used in physics, chemistry, metallurgy, biology, clinical medicine, geology, and archaeology, among other fields. Accelerators, reactors, and other equipment created in tandem with nuclear physics have often been discovered to provide the foundation for more productive and sensitive analytical methods.

Nuclear Methods in Science and Technology gives scientists and engineers a thorough knowledge of the fundamental concepts of nuclear methods and their potential for use in a variety of fields. The first section of the book covers the main aspects of nuclear physics' basic theory and experimental techniques, stressing ideas and simple models that provide a sense of how actual systems behave. The second section uses many instances to demonstrate the tremendous possibilities that nuclear techniques provide.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The Mossbauer Effect, slow neutron physics, activation analysis, radiography, nuclear geochronology, channeling effects, nuclear microprobe, and a variety of other subjects in contemporary practical nuclear physics are covered in this book. Tomography, the use of short-lived isotopes in clinical diagnostics, and nuclear physics in ecology and agriculture are all covered in this book. When nonnuclear analytical methods are available, the author compares them to the applicable nuclear approach, allowing readers to decide which technique is most appropriate for them.

This book applies different nuclear physics techniques to a broad variety of fields and includes a bibliography and comprehensive reference list for readers who wish to dig further into a specific subject. Electricity is produced from coal, gas, nuclear, or renewable energy and is not a primary fuel. In the case of nuclear power, heat is generated by a controlled fission process, which is then utilized to create steam for electrical generators. A nuclear power plant, with the exception of the heat production method, is remarkably similar to a coal-fired power station, with comparable thermal efficiency levels (37%) under current design.

Uranium is a radioactive element that occurs in nature. Radioactivity comes in three forms: alpha, beta, and gamma. It is a natural component of the climate. Alpha particles have a high density and carry a lot of energy, which may cause tissue damage, although other components rapidly block them [1]. The absorption of alpha radiation is another major threat. Beta radiation is less harmful to tissue than gamma radiation, yet it penetrates materials more rapidly. Gamma rays are high-energy x-rays that have no mass or electrical charge yet penetrate deeply (figure 1).

In general, nuclear reactors' thermal energy is used as a primary heat source to produce hydrogen through thermochemical processes like steam-methane reforming (SMR) and thermochemical water splitting, as well as electrochemical processes like water electrolysis and high-temperature steam electrolysis, as shown in Fig.2. A minimum temperature of 2500°C is needed for hydrogen generation through direct electrolysis of water. A lower temperature is needed to get the same overall outcomes in thermochemical processes like the water-splitting cycle, which includes a succession of chemical reactions[2].

The total performance of the nuclear-hydrogen system will be determined by operating circumstances, coolant selection, conversion efficiency, and reactor type, since these factors will influence the system's economic and technical viability. Despite the fact that nuclear technology has reached a certain level of maturity, this power generation plan is still mainly speculative. The cost effectiveness and efficiency of the process have yet to be tested and evaluated since no prototype of a hydrogen-producing reactor has been constructed. The major technological difficulty that has a direct effect on the overall cost of the system is thermal to electrical conversion efficiency [3].

Ionizing live cells with high amounts of radioactivity has the potential to cause tissue death. Ionization at lower levels may cause cell mutations, which can lead to cancer. Over time, radioactive material may lose its radioactivity due to decay. The sample's half-life is the amount of time it takes for 50% of the radioactive decay[5]. This may range from seconds to thousands of years for radioactive isotopes, with atoms in each isotope having the same probability of decay and radiation exposure. The radioactivity of an isotope decreases to zero after 6 half-lives as a rule of thumb. Figure 2 shows the nuclear power plant[6].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

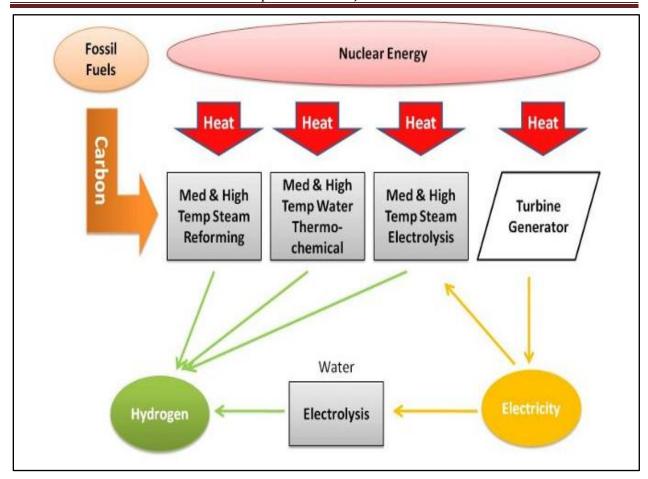


Fig.1: Thermal Energy Is Used As A Primary Heat Source To Produce Hydrogen Through Thermochemical Processes Like Steam-Methane Reforming (SMR) And Thermochemical Water Splitting, As Well As Electrochemical Processes Like Water Electrolysis And High-Temperature Steam Electrolysis[4].

2. LITERATURE REVIEW

British attempts to develop plutonium-based weapons in the 1940s provided experience with graphite-moderated reactors, which were subsequently commercialized. For its first fleet, European nations like as the United Kingdom and France focused on gas-cooled technology, while the US research program started with water-cooled reactors. Calder Hall, a Magnox design that went online in 1956, was the first nuclear power station in the UK. Water-cooled technologies of Generation III and III+ are presently being developed for new construction. The European Pressurized Water Reactor (EPR) and the Advanced Passive 600, both designed in the 1990s, are examples of Generation III designs (AP600)[8][9]. Humanity must accept the reality that it will never be able to meet all of its energy requirements by burning coal, gas, or oil Many energy breakthroughs may be considered in the ultimate process of removing fossil fuels, and the majority of them can be utilized in specific applications [10].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

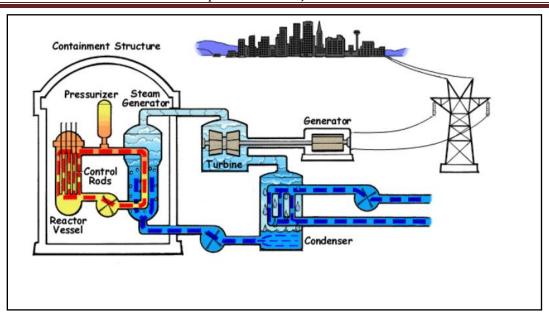


Figure 2:Representation of Nuclear Power Plant Workings [7]

3. DISCUSSION

First-generation reactors were based on earlier military reactors and were developed in the 1950s and 1960s. British attempts to develop plutonium-based weapons in the 1940s provided experience with graphite-moderated reactors, which were subsequently commercialized. For its first fleet, European nations like as the United Kingdom and France focused on gas-cooled technology, while the US research program produced water-cooled reactors from the start. Calder Hall, a Magnox design that went online in 1956, was the UK's first nuclear power station. First-generation reactors were based on earlier military reactors and were developed in the 1950s and 1960s.

British attempts to develop plutonium-based weapons in the 1940s provided experience with graphite-moderated reactors, which were subsequently commercialized. For its first fleet, European nations like as the United Kingdom and France focused on gas-cooled technology, while the US research program produced water-cooled reactors from the start. Calder Hall, a Magnox design that went online in 1956, was the UK's first nuclear power station. Water-cooled technologies of Generation III and III+ are presently being developed for new construction projects. Generation III reactors, such as the European Pressurized Water Reactor (EPR) and the Advanced Passive 600, are contemporary light water reactors built in the 1990s (AP600). Generation III+, on the other hand, is a more recent development of these initial prototypes, with the Advanced Passive 1000 as an extension of its lower capacity predecessor and the Advanced CANDU Reactor as a constructed version of the Canadian CANDU-6 designs, both scheduled for deployment by 2010.

4. CONCLUSION

In the next decades, humanity will have to gradually decrease its dependence on large-scale fossil fuel burning for energy generation, with the aim of completing this transition by the end of the century. All energy sources should be evaluated in this process, and some may be used in beneficial 'good' applications. Only nuclear power plants, on the other hand, are capable of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

providing the enormous amounts of renewable and affordable energy needed to run contemporary economies while reducing greenhouse gas emissions in a sustainable and efficient manner.

Renewable energy sources (mainly wind and solar) would not be able to sustainably, effectively, and consistently supply the enormous amounts of electricity needed. Clean energy sources with fossil-fired backup capacity, on the other hand, would not always result in the eradication of greenhouse gas emissions. It is economically unproductive to distort the market with incentives and restrictions to push intermittent energy technologies to uses for which they are not well suited. A grid-connection fee will be imposed on nations with substantial transitory generating capacity to compensate neighboring countries for the usage of their energy as one method to avoid 'free riding.

REFERENCES

- 1. G. Petridis and D. Nicolau, Nuclear power plants. 2011.
- 2. D. C. Levin, V. M. Rao, L. Parker, A. J. Frangos, and J. H. Sunshine, "Bending the curve: The recent marked slowdown in growth of noninvasive diagnostic imaging," Am. J. Roentgenol., 2011.
- **3.** J. A. Mares et al., "Healthy diets and the subsequent prevalence of nuclear cataract in women," Arch. Ophthalmol., 2010.
- **4.** P. Rao et al., "The relationship between serum 25-hydroxyvitamin D levels and nuclear cataract in the carotenoid age-related eye study (CAREDS), an ancillary study of the women's health initiative," Investig. Ophthalmol. Vis. Sci., 2015.
- **5.** OECD Nuclear Energy Agency, "Uranium 2014: Resources, Production and Demand (The Red Book)," Iaea, 2014.
- **6.** K. E. Lee, B. E. K. Klein, R. Klein, and T. Y. Wong, "Changes in refraction over 10 years in an adult population: The Beaver Dam Eye Study," Investig. Ophthalmol. Vis. Sci., 2002.
- 7. "Nuclear power.".
- **8.** H. W. B. Skinner, R. A. Charpie, J. Horowitz, D. J. Hughes, and D. J. Littler, "Progress in Nuclear Energy," Math. Gaz., 1957.
- **9.** E. Kriegler et al., "The role of technology for achieving climate policy objectives: Overview of the EMF 27 study on global technology and climate policy strategies," Clim. Change, 2014.
- **10.** B. W. Brook, A. Alonso, D. A. Meneley, J. Misak, T. Blees, and J. B. van Erp, "Why nuclear energy is sustainable and has to be part of the energy mix," Sustain. Mater. Technol., 2014.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

INCREASING THE EFFECTIVENESS OF STUDENTS 'INDEPENDENT WORK IN DEVELOPING THE SUBJECT "DRAWING GEOMETRY"

Gaziev Nabihon*; Soliev Doniyor**; Toychieva Mavjuda***

*Senior Teacher Namangan Institute of Engineering and Construction, **UZBEKISTAN** Email id: gazievnabihon@gmail.com

**Teacher,

Namangan Institute of Engineering and Construction, **UZBEKISTAN**

***Master Student. Namangan Institute of Engineering and Construction, **UZBEKISTAN**

DOI: 10.5958/2249-7137.2021.02685.9

ABSTRACT

The article describes effective ways to work independently to increase the level of knowledge of students in the higher education system. It also describes the types of independent education of written, graphic, practical nature. The life experiences of swimmers in the school, especially in small courses, may be limited or non-existent in terms of these objects and processes, making them difficult or practically impossible to remember in the school environment. Some methods use the concepts of "experimental methodology" and "experimental technique". They are interconnected, but also have an independent significance.

KEYWORDS: Qualified, Continuous, New Pedagogical Technology, Graphics, Knowledge, Independent Study, Project.

INTRODUCTION

Continuous improvement of the process of training highly qualified specialists is one of the main problems of our time. Improving the quality of staff through the introduction of new pedagogical technologies in the educational process is the main direction of solving these problems [1].

In the following years, the fact that each student had lecture notes from academic subjects provided them with more opportunities to gain in-depth knowledge. At the same time, in order to effectively use these lectures and other handouts, it is advisable to inform students in advance about the amount of knowledge to be studied in the form of questions, tests and other forms [2,3].

Independent work is a part of the knowledge, skills and competencies defined in the curriculum of a particular subject and to be mastered by the student, and is carried out in the classroom or outside the classroom on the basis of teacher's advice and recommendations. In this section, students are given questions and assignments by the relevant departments on the implementation of independent work, as well as methodological recommendations for their implementation.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Depending on the nature of the science, assignments are developed for the types of independent work listed in the following diagram.

Questions are developed by the student that require independent writing (in the form of an abstract or report). Assignments are developed to develop the student's creative abilities.

Written independent assignments:

-perform tasks for calculation, filling in summary and iterative tables, development of technological maps, preparation of reports on laboratory, practical work and similar tasks.

Graphic independent assignments:

- preparation of various projects for them includes sketching of drawings, description of cuts and intersections (drawing some details and nodes, etc.), drawing diagrams, graphs, diagrams, description of the results of observations and similar tasks.

Independent assignments of a practical nature:

- In the process of independent work on the basis of the teacher's assignments, students carry out such activities as preparation of products and products, repair of equipment and tools, product processing, calculation, design of new devices, preparation of models and models.

As a didactic principle of visual education, a known teaching method finds its implementation. In the teaching of mechanical engineering, exhibition methods are carried out by demonstrating real technical objects and technological processes, as well as their models and posters, posters, tablets, films and slides, experiments, demonstration experiments, student observations. The exhibition method can also be shown on television. With its help, objects, equipment and technological processes are directly demonstrated from the workshops and laboratories of industrial enterprises.

Demonstrative method provides clarity and reliability of the most conscious formation of knowledge. In the study of technical and technological subjects, it is very important to consider verbal explanation by various means. However, it should be noted that in some methods the visual methods and tools are not sufficiently developed, with the exception of the general technical subject "Technical Mechanics".

There are several reasons why the demonstration method is not sufficiently evaluated. Objects, events, processes studied in general education, natural and scientific sciences (for example, in physics - mass, forces, movements; in chemistry - the interaction of substances, etc.) are relatively easily remembered in the classroom and laboratory. In many cases, students will have personal life experiences. Mechanical engineering disciplines deal with technical and technological processes and objects operating in production conditions (e.g. metal cutting machines, steel melting furnaces, etc.) as opposed to general education, natural and scientific sciences. The life experiences of swimmers in the school, especially in small courses, may be limited or non-existent in terms of these objects and processes, making them difficult or practically impossible to remember in the school environment.

In technical and technological education, many real objects cannot be replaced by anything at all, because the learning process not only forms notions and perceptions about them, but, as a result, focuses on shaping the skills and abilities of swimmers to work with them in their professional activities. This is not to conclude that the mechanical sciences are only studying real, technical

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

objects (machines, machines, mechanisms) and technological processes. The formation of skills and abilities to work with machines or service the technological process, reveals the previous stage of the structure and principled operation of these facilities. At this stage, the lesson allows the use of models, layouts, electronic diagrams, dynamic posters and other visual aids in solving didactic problems. These visual aids help teachers and learners to form an initial overview of a technical object or technological process. Has an arsenal of special methods and tools for teaching methods and purposes of technical or technological education.

Although there is talk of the availability and diversity of visual aids, it should be noted that they do not provide effective teaching. The teacher must have a number of professional methodological skills and skills in their use in the educational process. Without denying the uniqueness of the methods, techniques and means of presentation in each of the mechanical sciences, the general requirements for training demonstrations may be as follows.

- 1. A requirement for arranging for swimmers to understand the essence of an object or process is the visibility and impact of the show. This requirement is implemented with careful placement of objects, their adequate lighting, choice of design, choice of color, and so on. Adherence to this requirement is necessary to ensure that all swimmers have sufficient visibility of the objects on display from their workplaces. When choosing models and models, it is necessary to make a didactic analysis, in which the swimmers are shown the structure and principle of operation of the same object (insignificant details, etc. to be done). In other words, the display device is required to be simple, with the main nodes, parts, and some details highlighted in light color.
- 2. The reliability of the demonstration is achieved by eliminating the additional events that adversely affect the outcome by conducting retrospective and additional demonstrations to separate the main process or vocabulary.
- 3. The reliability of a demonstration depends on the meticulousness of its preparation.
- 4. The creation of problematic situations (voluntary and involuntary) to increase the attention of swimmers, the intensity of the experience is achieved by the harmony of the words spoken by the teacher's actions.
- 5. The short duration of the show is necessary to maintain a high level of activity, interest, attention. This is achieved by selecting the speed and separating the individual stages of the show.
- 6. The technical aesthetics of the show enhances the impression of the experience, allowing them to be remembered well. It is provided with the correct choice of the device, the shape and color of the instruments, the detailed preparation of the details of the technical object.
- 7. The safety of technical aesthetics in the exhibition is ensured by the risk of explosion, combustion, removal of toxic substances (ultraviolet), ultraviolet, X-ray, radioactive radiation, the use of barriers and safe methods of work, as well as the issuance of the necessary instructions to swimmers.

Some methods use the concepts of "experimental methodology" and "experimental technique". They are interconnected, but also have an independent significance. For example, in preparation for a lesson on the topic of "crystals", the teacher decides to show a film "crystals", a model of a spatial lattice, a collection of samples of sodium chloride or alloys and other substances with a crystalline composition. Demonstrations can have different options. If there is enough time, it is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

advisable to hold all the shows in a row, if there is not enough time, it is necessary to hold some of them.

If the teacher places the spatial grid on a table in order to make it look good, improves the lighting, or moves it along the row, then the teacher's activity belongs to the "experimental technique."

REFERENCES

- 1. http://www.myshared.ru/slide/1419841/
- 2. Tolipov U, Usmonbaeva M. Pedagogical technology: theory and practice. Tashkent. 2005
- 3. Omonov HT. Pedagogical technologies and pedagogical skills. 2012. pp49-50.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

STUDYING METHAPHORICAL TERMS IN COMPUTER DISCOURSE ANALYSES

Lobar Usmanova Abduvasilovna*

*Teacher, Second Foreign Langua

Department Second Foreign Languages, Uzbekistan State University of World Languages, UZBEKISTAN

Email id: lobarkhon.usmanova@mail.ru DOI: 10.5958/2249-7137.2021.02686.0

ABSTRACT

This article discusses the study of the specifics of the formation of the terminology system of computer discourse in relation to two languages. The article analyses the types of terms-metaphors in the aspect of computer terminology, which is one of the most pressing issues of our time with metaphorical transfer; and the connection of metaphorical models in typologically unrelated languages.

KEYWORDS: Metaphorization, Metaphorical Model, Computer Discourse, Term, Terminological System, Concept, Terminology System, The Features And Effectiveness, Structural Analysis.

INTRODUCTION

Metaphorically makes it possible to explain the new through the old. Metaphorization in term formation is estimated by researchers as one of the most productive ways of nomination due to the ability of metaphor to act simultaneously as a mechanism for cognition and conceptualization of reality, and as a way of the most capacious nomination of various fragments of the surrounding world.

The existing methods of analyzing metaphorical terminology [1-6; 7] make it possible to formulate the stages of describing the phenomenon under study:

- 1) Identification of terms-metaphors in the terminology system, certification (description of nominative and structural characteristics, typical properties);
- 2) The definition of the main areas-sources of the formation of terms-metaphors and the construction of metaphorical models in the terminology system. As a result of the structural analysis, 67 one-word metaphor terms, 51 binary term elements, 5 three-word and 2 four- word metaphor terms were identified. Note that the most frequent and productive nominative model N + N, characteristic both for the binary structure of metaphor terms in particular, and for the entire terminology in general. Less productive, respectively, are the models N + N,
DISCUSSION

In computer discourse, most metaphorical terms are either a combination of units of general literary, general scientific and scientific languages proper, or are generally based on metaphorical terms: bar code - bar code; blue screen of death - "blue" screen of death (a phenomenon observed

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

in the event of a serious Windows NT error) - (general literary + general scientific). Due to its all-encompassing nature, computer discourse is largely different in its characteristics from all other discursive varieties.

As a result of studying computer discourse, it becomes clear that although computer terminology is an integral part of it, this discourse is still not the only sphere of implementation of computer terminology. It itself delineates such segments of verbal communication in which computer slang (jargon) is mostly in demand, rather than computer terminology as such.

Obviously, the dynamics of the development of the terminological system reflects the dynamics of scientific cognition, therefore, the modern stage of terminology in computer discourse can be characterized as the stage of "terminological explosion" [8]. As a result, the most relevant in linguistics is the study of metaphoric terms in computer discourse from the standpoint of cognitive terminology. Within the framework of this direction, concept terms are one-level mental formations, the core of which is a concept, except for metaphorically formed terms, which, in addition to the core,

In the computer discourse presented all base metaphorical models: anthropomorphic metaphor (implying a person with all of its biological and psycho-intellectual characteristics and different manifestations of its activity as a metaphorical terms of transformation: author, client push / pull , handshake, dumb terminal , carbon a footprint , old body , etc.

In this case it is realized such pattern transfer, like:

1) The image of the "human body": core -computer random access memory; image "disease": core cancer - a process of slow drainage of resources; Image "action": to grovel - to work slowly; the image of a "human characteristic":

Winner is a successful program; thin client is a "thin" client;

2) Natural metaphors: the image "water stream" - broadcast stream, flood;

image of sound, light effects when the explosion, a flash flame bait - the of pleasantries in the message, leading to acrimonious exchange Internet: click. flashcard; image "weather phenomena, air, wind" - freeze, cloud technologies; Image of "flora", n. phytomorphic metaphors (based on comparison with plants) - Daisy chain, Apple key, cold (hot) potato routing; clover key. bamboo; image of "fauna", ie. n. zoomorphic metaphors (arise, if the subsidiary subject comparisons favour the animal) - beta bug, mouse pad, Mozilla Firefox, hungry puppy, rabbit job;

3) Artifact metaphor (the objects of everyday items) - menu; key ring;

(professional tools and actions) - client / server filter, hub, harvest, stack; bitty box; (Food supply): Cookie, vanilla. The most differentially here the image of a "house»: a backdoor - a loophole, a secret door, the back door (way to gain access to the computer system to bypass its defense system through the left undocumented programmers input methods), Front Door, data warehousing, window, a wallpaper, etc.

4) Social metaphors (characterize social status): host, orphans. Among the analyzed social metaphors, the most frequent are the images: "war" - holy war, DOS-attack, cut and paste attack; «Disease» - virus, infected directory, etc.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

So, referring to the field of knowledge "computer virology", the central concept of which is a computer virus, we note that the latter acts as a complex metaphorical construction reflecting the concepts of the following areas of knowledge: "war", "medicine", "biology", etc. In some cases difficult to determine, from a region of the source has been borrowed by the term: "Corporate organizations already recognize Symantec and the Norton brand as a solution they can trust to protect against the threat of virus attack" [9]. The model of social religious metaphor is of particular interest. It is based on comparing the computer with objects of religious activity, traditions, values and teachings.

RESULT.

Hybrid texts acquire specific features (vocabulary, syntax, style, etc.) that conflict with the norms of the language of the host culture. Different cultures are not only differently express ideas differently they draw up concepts in the texts. Hybrid text is essentially a transitive and historical phenomenon.

Hybrid texts allow introducing new concepts into the accepted culture through media. So, in the Russian-language magazine about computer technologies upgrade, you can find numerous examples of hybrid texts, in which there is a clear localization of English terms. Their use is associated with the need to designate a certain phenomenon (in the absence of a complete synonym in the language) or with the desire for a clearer and shorter expression of the concept, for example: freeware - (from the English freeware "free distribution", about a computer program); post - (from the English post "put" a message in a network conference ") [9]. An example of the hybridity of computer discourse in the aforementioned journal is also reflected in the heading NEW IRON, article "A1: SOS": "How it works, for sure, you know - you move your finger, and the mouse pointer stomps after it ..." [9] - the hybridity can be traced at the level synthesis / syncretism of speech styles (pointer (term) + stomp (colloquial)). Computer discursive practice often creates hybrid texts with signs of creolized texts, with elements of play and carnivals, saturated with new conceptual metaphors.

CONCLUSION.

A significant part of the terminology of computer discourse is made up of terms formed as a result of metaphorization of the meanings of common words on the basis of characteristic features of the called phenomena identified as a result of cognitive activity.

REFERENCES:

- **1.** Lazebna NV. Structural-semantic and functional peculiarities of computer terminology vocabulary with a figurative component in contemporary English: dis. ... kand.philol nauk: 10.02.04. Zaporozhye, 2013. 212p.
- **2.** Nikolaeva AO. Structural-semantic characteristic of terminology of programming, computer networks and information security: author's abstract. dis ... kand. philol nauk: special 02.10.01. Kharkiv, 2002. 16p.
- **3.** Panko TI. Ukrainian Terminology. T. I. Panko, I. M. Kochan, G. P. Matsyuk. Lviv, 1994. 216 p.
- **4.** Prikhodko AM. Concepts and Concepts in the Cognitive-Discursive Paradigm of Linguistics. A. M. Prikhodko. Zaporozhye: Vydavnytstvo "Premier", 2008. P.331.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **5.** Selivanova OO. Modern Linguistics: Directions and Problems: Textbook [monograph]. O. O. Selivanova. Poltava: Dovkillya-K, 2008. 712 p.
- **6.** Strelbitskaya L. The Internet as a natural language development ground. Visnyk natsionalnoho universytetu Lviv Polytechnic University. 2005;538:33–38.
- 7. Toroptsev I S. Word-production model. Voronezh: Vydavnytstvo VSU, 1980. 148 p.
- **8.** Bauwens M. What Is Cyberspace? Computers in Libraries. 1994. p. 42–48.
- **9.** Biocca F. Communication in the Age of Virtual Reality. Lawrence Erlbaum Associates. 1995. 356 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

INVESTIGATION OF THE SITTING PROCESS OF SLANTED TOOTED **TRANSMISSION**

A.F.Raximjonov*; S.S.Umarov**; M.M.Mirzaabdullayev***

*Teacher,

Namangan Engineering and Construction Institute,

UZBEKISTAN

Email id: raximjonov@gmail.com

**Magistr,

Namangan Engineering and Construction Institute,

UZBEKISTAN

***Magistr,

Namangan Engineering and Construction Institute,

UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02687.2

ABSTRACT

This paper presents an expression that defines the coupling coefficient, which is one of the main parameters that takes into account the continuity and smoothness of the coupling process of the bevel gears and the bevel gear drive.

KEYWORDS: Bevel, Coupling Coverage Coefficient, Belt, Coefficient Of Elasticity, Torque, Coupling Arc, Coupling Modulus, Coupling Line.

I. INTRODUCTION

The coupling coefficient has a special place in the transmissions due to coupling. The coating coefficient takes into account the continuity and smoothness of the coupling in the transmission. Such qualities of the extensionare ensured by the fact that one pair of teeth covers the work of another pair of teeth. To do this, each subsequent pair of teeth must also be attached before the previous pair of teeth can be separated. The size of the coating is estimated based on the coverage factor.V/

II. RELATED WORK

In the study of the coefficient of coverage in gears, we consider the example of involute gears. As shown in [1], the coverage factor is the angle of inclination of the cross section, pha, which is the angle of rotation of the wheel from the position of the wheel teeth when they collide at point V' and to the position when they collide at point B' (Fig. 1a).

Consequently, the coverage coefficient of a straight gear transmission

$$\varepsilon_{\alpha} = \frac{\varphi_{\alpha 1}}{\tau_1} = \frac{\varphi_{\alpha 2}}{\tau_2} \tag{1}$$

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

this τ_1 -corner step $(\tau_1 = \frac{2\pi}{z_1})$; $\varphi_{\alpha 1}$, $\varphi_{\alpha 2}$ - the turning angles of the steering and steering gears, respectively $(\varphi_{\alpha 1} = \frac{g_{\alpha}}{r_{b1}})$, $\varphi_{\alpha 1} = \frac{g_{\alpha}}{r_{b2}}$; g_{α} -the length of the active attachment line $(g_{\alpha} = g_f + g_{\alpha})$, m; g_f -the length of the attachment line to the pole, m; g_f post-pole length, m (Fig. 1b).

III. LITERATURE SURVEY

The lengths of the coupling line before and after the pole are determined as follows

$$g_f = r_{h2}(\tan \alpha_{\alpha 2} - \tan \alpha_{\omega}), \tag{2}$$

$$g_{\alpha} = r_{b1}(\tan \alpha_{\alpha 1} - \tan \alpha_{\omega}), \tag{3}$$

This r_{b1} , r_{b2} -the radii of the initial circles of the leading and driven gears, respectively, m; α_{ω} -contact angle; $\alpha_{\alpha 1}$, $\alpha_{\alpha 2}$

IV. METHODOLOGY

If $r_b = 0.5mz \cos \alpha \text{Substituting}$ (2) and (3) into (1), we obtain the formula for determining the coverage coefficient of a straight gear transmission [1, 2, 3].

$$\varepsilon_{\alpha} = \frac{z_1 \tan \alpha_{\alpha 1} + z_2 \tan \alpha_{\alpha 2} - (z_1 - z_2) \tan \alpha_{\omega}}{2\pi},\tag{4}$$

this z_1 , z_2 -leading and unmounted in accordance with the gear wheel teeth.

According to the data given in [4, 5], the coverage coefficient of straight gear transmissions by radii is expressed as follows

$$\varepsilon = \frac{ab}{p_x} = \frac{\sqrt{r_{\alpha 1}^2 - r_{b 1}^2} + \sqrt{r_{\alpha 2}^2 - r_{b 2}^2} - a_\omega \sin \alpha_\omega}{\pi m \cos \alpha_\omega}$$
 (5)

this m- attachment module, mm.

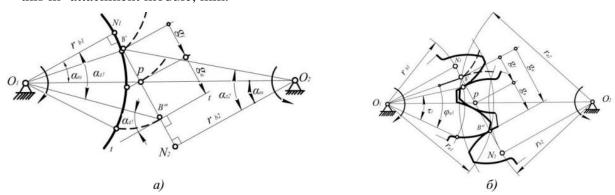


Figure 1. Evolventa profile gear coupling

If ε_{α} < 1 is calculated according to formulas (4) and (5), the process of tooth adhesion is not continuous: one pair of teeth has time to separate from the tooth before the other pair of teeth have yet to be attached. Therefore, the minimum allowable value of ε_{α} is 1.05. This value ensures that the sharing process is uninterrupted with a 5% backup.

In a bevel gear, the sticking time of a pair of teeth (bevel $\beta \neq 0$) is longer than in a bevel gear (bevel angle $\beta = 0$).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Therefore, the coverage factor of the bevel gear egis greater than the coverage factor ε_{γ} of the right gear transmission and is calculated according to the following formula:

$$\varepsilon_{\nu} = \varepsilon_{\alpha} + \varepsilon_{\beta}$$
 (6)

In this sum, ea is determined by the addition of (4) or (5), and the second addition is determined by the following relation.

$$\varepsilon_{\beta} = \frac{B}{p_{x}},\tag{7}$$

this B – thickness of the gear wheel (B= ψ m, ψ – thickness coefficient of the gear, determined by the condition of tooth strength and abrasion resistance, m-coupling modulus, m.), m; p_x – tooth axial pitch $p_x = \frac{\pi m}{\sin \beta}$, M.

V. EXPERIMENTAL RESULTS

We do this by substituting B and p_x into the expression ε_{β}

$$\varepsilon_{\beta} = \psi \sin \frac{\beta}{\pi}.$$
 (8)

It is clear from equations (6) and (8) that the ε_{γ} coverage coefficient of the bevel gear ($\beta\neq0$) is greater than the coverage coefficient ea of the straight gear transmission ($\beta=0$). This is the advantage of bevel gear transmission.

Figure 2 shows the distribution of the coupling arc of straight and bevel gears. According to this scheme, the coverage coefficient is defined in [6] as follows. That is, the propagation of the coupling arc of a straight gear measured

along the initial circumference is expressed as follows when considered as a straight line.

$$a'b' = r_b \varphi_\alpha. \tag{9}$$

The coverage coefficient of such a gear is as follows

$$\varepsilon = \frac{a'b'}{p_x},\tag{10}$$

this a'b' - the length of the propagation of the coupling arc, m.

According to the diagram shown in Figure 2, it takes longer because of the time it takes for the teeth to engage in the bevel gears $\varphi' > \varphi$. The propagation of the coupling arc measured along the initial circumference of the bevel gear is expressed as follows when considered as a straight line

$$a'b'' = r_b \varphi_{\alpha}'. \tag{10}$$

Based on the above, we express the coefficient of coverage of bevel gears as follows

$$\varepsilon_k = \frac{a'b''}{p_x} = \frac{a'b'}{p_x} + \frac{b'b''}{p_x} = \varepsilon + \frac{B\tan\beta}{p_x}.$$
 (12)

In our study, the principle of coupling the gear belt with the gear pulley in the gear belt transmissions was considered as a special case of the coupling laws of the gears. However, since one of the two joints in the gear belt drive is a flexible element, it is important to take into account the elastic deformation when determining the coverage coefficient [6,7]. According to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the scheme shown in Figure 3, the teeth of the gear belt are deformed under the influence of rotational force and move from state $b_1^{'}b_1^{''}$ to state $b_1^{'}b_1^{''}$.

VI. CONCLUSION

It is known that gear belt extensions serve for power transmission. Therefore, a deformation force is generated in the belt teeth during operation, and we express it as follows

$$P = c\delta, \tag{13}$$

this c-coefficient of elasticity of the band, Nm / rad; δ -belt teeth deformation value of, m.

Given Equation (13), we determine the torque transmitted by the gear belt transmission as follows.

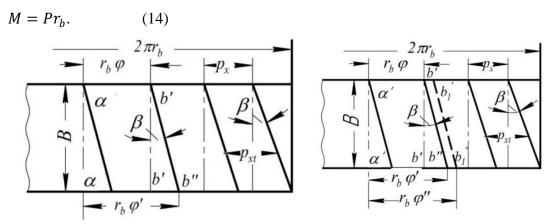


Figure 2. Propagation of the coupling arc of straight and oblique gears

Figure 3. Scheme for determining the coverage coefficient of bevel gear

Using equations (13) and (14), we determine the deformation value of the belt tooth $\delta = \frac{M}{p_x c r_b}$. (15)

According to the results of theoretical research, the coefficient of coupling of the proposed bevel gear is given by equations (12) and (15) as follows

$$\varepsilon_y = \varepsilon + \left(B + \frac{M}{cr_b}\right) \frac{\tan \beta}{p_x} \,.$$
 (16)

It can be seen from Equation (16) that the value of the coverage coefficient also increases as the width of the gear belt, the value of the torque and the angle of inclination of the teeth increase. It is practiced in gear extensions $\varepsilon_{\nu} > 10$ [8].

REFERENCES

- **1.** Frolov KV, Popov SA., Musatov BK. Mechanism and machine theory. T.: Teacher, 1990. 496 p.
- **2.** Mashnev MM, Kraskovskiy EA, Lebedev PA. Theory of mechanisms and machines and details of machines. M.: Mashinostroenie, 1980. 512 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **3.** Levitskaya ON, Levitskiy NI. Course theory of mechanisms and machines. M .: Vysshayashkola, 1978. 269 p.
- 4. Usmonho'jaev HH. Mechanism and machine theory. T.: Teacher, 1970. 576 p.
- **5.** Korenyakov AS. Theory of mechanisms and machines. M.: Vysshayashkola, 1976. 444 p.
- **6.** Turdaliyev V, Qosimov A, Mansurov M, Shodmonov D, Komilov S. Dynamic Analysis of the Transfer Mechanism of the Soil Processing Unit. International Journal of Advanced Research in Science, Engineering and Technology. 2020;7(9):14890-14896.
- **7.** Mukhamedov J, Qosimov A, Mansurov M, Shotmonov D, Asqarov N. Development of Structures and Structural Analysis of Gear-Lever Belt Transmission. International Journal of Advanced Research in Science, Engineering and Technology. 2020;7(10):5100-15104.
- **8.** Konvisarov DV. Theoretical bases of design of mechanisms. M .: Mashgiz, 1950. 320 p

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

SPEECH APPREHENSION OF FIRST YEAR ENGINEERING STUDENTS IN THE PANDEMIC ERA: BASIS FOR AN INTERVENTION PROGRAM

Genesis G. Genelza*

*Researcher,

University of Mindanao Tagum College, PHILIPPINES Email id: genesis.genelza@umindanao.edu.ph

DOI: 10.5958/2249-7137.2021.02694.X

ABSTRACT

The study aimed to determine the problems of First Year Engineering Students on Speech Apprehension in the virtual classroom during pandemic. The study was conducted using quantitative non-experimental with descriptive survey method. Results revealed that the problems in speaking performance have garnered a mean of 3.10 (moderate) as descriptive equivalent and it was found out that the prevailing problem is anxiety with a mean of 3.84, interpreted as high. Thus, an intervention program is designed to address the problems in speaking performance of the respondents. This program is divided into two: Overcoming Speaking Anxiety Seminar Workshop and Speaking Enhancement Activities.

KEYWORDS: Anxiety, Communication, Oral Speaking, Pandemic Era, Speech Apprehension

INTRODUCTION

The goal of classroom English instruction is to educate students how to use the English language effectively for communication in any scenario. It is identified by presenting various teaching tactics and speaking activities to encourage students to participate more actively in conversations. Teachers of English language initiate the conversation or choose an activity that requires them to speak their ideas to the class in a variety of ways.[1]

There is a lot of evidence that speech apprehension exists in the communication classroom, particularly in classes that focus on public speaking and/or presentations. In face-to-face, hybrid, and online communication courses, much work has been done over the years on intentional approaches to equip students to effectively manage their speech anxiety. These findings have resulted in best practices and strong pedagogical techniques that generate a supportive classroom culture and engaged learning. Then came COVID-19, and everything changed. Everyone went online in an effort to keep campuses safe and rescue the spring semester. [2]

Many teachers and students were getting their first taste of online learning, and their nervousness was naturally high. Our stress levels rose as a result of the unknown implications of a global pandemic, the uncharted territory of a midterm pivot to totally online schooling, and the unknown effects of the crisis on our educational institution. With Zoom sessions and cameras, public speaking and presentations took on a whole new meaning, and our speech anxiety skyrocketed. We will compile a list of best practices to prepare kids to effectively manage their speech anxiety with agency, ability, and confidence, based on previous scholarship, an appreciation of our current circumstances, and a look toward the future (Gersham, 2020). [5]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The coronavirus pandemic arrived in the United States in early spring 2020, necessitating an extraordinary mid-term pivot. In a matter of days, classes went from face-to-face instruction to online platforms. Teachers who had never taught online were learning as they went along, juggling an extra workload while trying to stay in touch with worried and frequently overwhelmed students. There were concerns about online learning, the economics, and mental health, in addition to the virus's public and personal health problems. The silver side was that in many classes, relationships had already been made before to the pivot, allowing teachers and students to interact with familiar faces in new ways. Although the scenario was not ideal, there was a sense that we were all in this together (Burke, 2021). [4]

English Language Teachers (ELTs) in the Philippines acknowledge the aforementioned problem. Indeed, Mukoroli (2011) [6] conducted a study on Effective Teaching Strategies for Academic Purposes, emphasizing the importance of providing English Language Learners (ELLs) with extensive exposure to speaking activities inside the classroom in order for them to become proficient in speaking English over time. When ELLs have a solid comprehension of and foundation in particular speaking skills learnt in the classroom, they will be able to switch between registers as needed.

In Panabo, Region XI, Orbeta and San Jose (2013) [7] conducted a study on Language Learning Anxiety and Oral Performance in English at the University of Mindanao, Panabo Campus, and found that most respondents felt shy towards their peers and teachers, which directly affected their speaking performance; additionally, they discovered that the respondents' insecurity when speaking English creates language anxiety, which blocks their ability to communicate.

As per my observations in a virtual classroom, first-year engineering students struggle to communicate well in front of the class. Stuttering, trembling, and needless motions are common among students. Furthermore, whenever they are required to speak in front of a group, they frequently employ mother-tongue and code-switch. They are unable to participate as a result of these factors. Thus, the researcher believes that the study is necessary because the speech apprehension has been observed to be prevalent in the virtual classroom. This issue must be addressed in order to accomplish the objective and significance of English language instruction (ELT).

With this, the study is to determine the speech apprehension of First-year Engineering students in the pandemic. The following objectives were considered for a thorough discussion specifically,

- 1. To determine the level of speech apprehension of First-year Engineering students in terms of:
- 1.1. Anxiety;
- 1.2. Lack of Topical Knowledge;
- 1.3. Low Participation; and
- 1.4. Mother-Tongue use.
- 2. To know the dominant/prevailing problem in speech apprehension affecting students speaking performance.
- 3. To give possible intervention/s to address the problems in speech apprehension of First-year Engineering students.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Theoretical Framework

The study is underpinned on Ur's (1996) Communicative Language Teaching (CLT), also known as the Communicative Approach, which emphasizes the significance of learning a second language in order to be able to speak in it. As a result, teachers encourage students to speak in the target language throughout the classroom. The use of CLT in language schools has limitations, according to Ur, because of the following issues in speaking performance: anxiety, lack of topical knowledge, low participation, and mother-tongue use. With these issues, he claims that the theoretical concept of Communicative Language Teaching will be useless in an English language class. As a result, these issues should be treated seriously in order to achieve the primary goal of English language instruction, which is the ability to communicate successfully in English.

Affective filter, according to Krashen's Affective filter hypothesis in the theory of Second Language Acquisition (1985), is a screen that is impacted by emotional variables and can inhibit learning. Many factors, such as worry, self-confidence, motivation, and stress, impede students' language acquisition. As a result, students' speaking abilities will be severely harmed, as they will be unable to communicate effectively in English. In order to fight this, the instructor must provide a safe, inviting environment in which pupils can study.

Piaget's cognitive theory (1936) also stresses exposure treatment, which focuses on psychological components of learning. This assists pupils in confronting their anxieties by providing a safe setting in which they can be exposed to the things they are afraid of. Fear is reduced and avoidance is reduced when feared items, activities, or events are exposed in a safe atmosphere. As a result, when a student's worry is alleviated, his or her confidence rises. Then, through speaking successfully in an English class and engaging in various speaking exercises, students will be willing to communicate their ideas and thoughts.

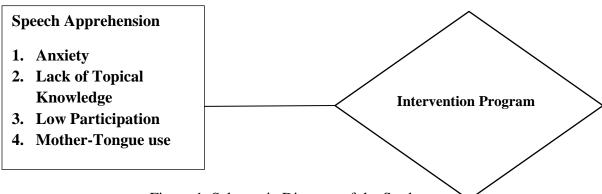


Figure 1. Schematic Diagram of the Study

Method

A quantitative non-experimental design with descriptive survey method is employed in this research. This research involves gathering of data in order to answer questions pertaining to the current issue of the research problem.

The respondents of the study involved 120 students of third-year Engineering students in University of Mindanao Tagum College taking a GE 2 – Purposive Communication with Interactive Learning subject (40 students from 8:00-9:00; 40 from 11:00-12:00 and 40 from

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1:30-2:30 class). This study used the total enumeration technique in determining the overall number of respondents as a whole.

This study utilized adapted and modified questionnaire. The questionnaire is composed of the four indicators of the study – anxiety, lack of topical knowledge, low participation, and mother-tongue used. Further, this questionnaire is done through the process of validation to make the instrument reliable and ready to administer to the respondents.

RESULTS & DISCUSSION

Speech Apprehension of First-year Engineering students in terms of Anxiety

Anxiety. Table 1.1 specifies the speech apprehension in terms of anxiety. Results show that the most dominant sub-indicator is *I worry about making mistakes in speaking English* with a mean of 3.94 interpreted as high. This is followed by the sub-indicators: *I keep thinking that my classmates are better English speakers than I am; I am not confident when I participate orally in class; and I am afraid that my classmates will laugh at me when I speak English with the means of 3.88, 3.88, and 3.87 respectively which also describe as high. This indicates that students fear and anxious to use and speak English in communicating and expressing their feelings and ideas whether they thought that his/her classmates are better than him/her or they will laugh at him/her when he/she will make mistakes in speaking English in front of the virtual class and in virtual classroom discussions and activities.*

TABLE 1.1SPEECH ANXIETY OF FIRST-YEAR ENGINEERING STUDENTS IN TERMS OF ANXIETY

ANXIETY	N	Mean	Description
I worry about making mistakes in speaking English.	120	3.94	High
I keep thinking that my classmates are better English speakers than I am.	120	3.88	High
I am not confident when I participate orally in class.	120	3.88	High
I am afraid that my classmates will laugh at me when I speak English.	120	3.87	High
I tremble whenever I speak without preparation in our English class.	120	3.69	High
Overall	120	3.85	High

This is supported by the affective filter hypothesis in the theory of Second Language Acquisition (SLA) of Krashen (1985) that people acquire second languages only if they obtain comprehensible input and if their affective filters are low enough to allow the input 'in'. The affective filter hypothesis discusses variables that can work out as a filter that obstruct language acquisition. In his theory, affect includes motivation, attitude, anxiety, and self-confidence.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Affective factors are believed to play an important part in acquiring a second language. Comprehensible input might not be used by L2 learners if a "mental block" is in place, which inhibits them from getting the language. The affective filter works like a barrier to language acquisition when the learner is not motivated, not having confidence, or thinking about failure, and the filter is low when the learner is not anxious or is trying to get involved in the language (Du, 2009).

Lastly, the sub-indicator *I tremble whenever I speak without preparation in our English class* is considered to be the least determined with a mean of 3.69. This also entails a high level of problems in speaking performance in terms of anxiety. Nevertheless, that doesn't mean to be neglected and to not put emphasis too. The result implies that students feel nervous when he is not prepared to speak English in class.

The above-mentioned statement is supported by the theory of Thorndike (1898), the "Connectionism Theory" under the law of readiness which refers to a preparatory set on the part of the organism to learn. It points out that one speaks only when he is physically and mentally ready for it. In other words, preparatory set on the part of the organism is an important condition when a student wants to speak.

Nonetheless, the total calculated mean is 3.85 and described as high. It is interpreted that the problems in speaking performance in terms of anxiety is manifested in about 7 to 8 out of 10 occasions. This means that the respondents have high level of problems on anxiety in speaking performance.

In conclusion, the respondents find anxiety as a threat in speaking performance. All these indicate the importance for teachers to help students reduce those feelings to maximize their learning to speak in English.

The teachers' efforts should be focused on developing students' ability to speak since learning to speak is considered as the greatest challenge for all language learners (Pinter, 2006). In this sense, teachers have to give more opportunities to their students to express themselves by providing them with speaking activities that enable them to speak English (Brown, 2001).

Speech Apprehension of First-year Engineering students in terms of Lack of Topical Knowledge

Lack of Topical Knowledge. Table 1.2 specifies the Speech Apprehension of First-year Engineering students in terms of Lack of Topical Knowledge. Using the given results, it can be elucidated that among the sub-indicators that have been measured, respondents have the high problems in speaking performance in the sub-indicator *I find it difficult to speak because my teacher's chosen topic is not relevant for me* with a mean of 2.66 described as moderate. The result simply means that the topic plays an important role for the students to participate and speak English in class. Thus, teacher's chosen topic is a factor that should be relevant and can arouse the interest of the learners.

In support to the above-statement, Baker & Westrup (2003) professed those learners have nothing to express mainly because the teacher had chosen a topic which is not suitable for him. Thus, it would be difficult for the students to respond when the teachers ask them to say something in an English language since they do not have interest on it, or they do not find it relevant and related to their lives.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 1.2 SPEECH APPREHENSION OF FIRST-YEAR ENGINEERING STUDENTS IN TERMS OF LACK OF TOPICAL KNOWLEDGE

LACK OF TOPICAL KNOWLEDGE	N	Mean	Description
I hesitate to speak when I know a little about our topic.	120	2.46	Low
I do not speak often because I lack vocabulary to express my ideas to class.	120	2.34	Low
I find it difficult to speak because my teacher's chosen topic is not relevant for me.	120	2.66	Moderate
I cannot think of anything to say because I have no motivation to express myself.	120	2.45	Low
I cannot comprehend and reason well if the question does not stimulate my past experiences and knowledge.	120	2.24	Low
Overall	120	2.43	Low

On the other hand, the above-mentioned sub-indicator is followed by the sub-indicators: *I hesitate to speak when I know a little about our topic; I cannot think of anything to say because I have no motivation to express myself; and I do not speak often because I lack vocabulary to express my ideas to class with the means of 2.46, 2.45, and 2.34 respectively which described as low. The result shows that the respondents are not hesitant to speak when they know little about the topic or even, they have no motivation to express their selves.*

The results of the study were supported by Peng (2016) that vocabulary knowledge or grammar knowledge and lack of motivation is not the leading factor to achieve willingness to communicate in the classroom discussion. Thus, familiar topics that are related to their daily lives stimulate higher willingness to communicate.

On the contrary, Zefeng (2007) exposes that lack of motivation, and grammar knowledge were frequently reported to have caused unwillingness to communicate in a classroom discussion. Learners often complain that they cannot explain or express their selves due to have no motivation about the topic. And most of all, it would be problematic for the learners to communicate when the teacher asked them to answer in a foreign language because they could have little ideas about what to say, which vocabulary to use, or how to use grammar correctly.

On the other hand, the sub-indicator *I cannot comprehend and reason well if the question does not stimulate my past experiences and knowledge* is considered to be the least determined with a mean of 2.24 which is also described as low. This indicates that the respondents can comprehend and reason well even if the question posted by the teacher does not motivate his/her past experiences and knowledge.

Jobs (1996) explain that experience and knowledge are the secret to being able to speak and express their thoughts and to make connections so readily that is because they were able to connect experiences and prior knowledge they've had and synthesize new things. And the reason

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

they were able to do that was that they've had more experiences in that particular topic. With that, even if the students can comprehend and reason out well to the question, it is much better to have past experiences and knowledge about the topic for them to achieve optimal performance in a classroom setting.

However, it has been rejected by the idea of Bialystok (1990) in Communicative Strategies under the Theory of Second Language Acquisition that learners will frequently encounter communication problems caused by a lack of linguistic resources, but they will use strategies (paraphrasing, coining new words, substitution, asking clarification, etc.) to overcome those problems in order to convey their intended meaning. Communicative strategies not only play an important role in communication, but they also contribute to second language acquisition. It can help to keep the communication channel open, encourage hypothesis formation and automatization. Thus, even without motivation or past experiences they can communicate and express their selves using their CS.

Additionally, it was supported by the approach to Communicative Competence (CC) under Strategic Competence of Canale & Swain (1980) which stresses to a person's ability to keep communication going on when there is a communication breakdown or to enhance the effectiveness of the communication. This ability is especially important to lower-level English language learners.

To sum up, the total calculated mean of the five (5) sub-indicators in lack of topical knowledge is 2.43 which described as low. It is interpreted that the Problems in Speaking Performance in terms of lack of topical knowledge is manifested in about 3 to 4 out of 10 occasions. This denotes that the respondents have low level of problems in speaking performance in lack of topical knowledge.

In conclusion, based on the results of the study, the respondents find lack of topical knowledge as the least determined problem in speech apprehension. Therefore, they can achieve his or her optimal performance without the knowledge of the topic.

Speech Apprehension of First-year Engineering students in terms of Low Participation

Low Participation. The level of problems on Speech Apprehension of First-year Engineering students in terms of low participation is specified in Table 1.3. Using the data gathered, results show that among the five (5) sub-indicators of low participation, the sub-indicator *I do not engage in oral participation because I see my teacher as strict, and authoritarian* ranks the highest with a mean of 3.80 which labelled as high. This exemplifies that the respondents do not want to join and involve in oral participation because their teacher is strict and authoritarian. Thus, they rather stay silent and remain aloof in their seats.

The result of the study is supported by Weaver and Qi (2005) noted that students may feel intimidated or inadequate in front of their professors. Thus, they choose not to participate.

Wright, Sanders, & Horn (1997) added and supported the findings of the study that the most important factor affecting student learning is the teacher. Effective teachers appear to be effective with students of all achievement levels, regardless of the level of heterogeneity in their classrooms. If the teacher is not effective, students under that teacher's tutelage will achieve inadequate progress academically, regardless of how similar or different they are regarding their academic achievement. And if the teacher is strict and authoritarian, students tend not to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

participate in a classroom discussion but instead they will just listen and remain silent until the time period is over.

TABLE 1.3 SPEECH APPREHENSION OF FIRST-YEAR ENGINEERING STUDENTS IN TERMS OF LOW PARTICIPATION

LOW PARTICIPATION	N	Mean	Description
I am not interested in participating orally using the English language.	120	3.67	High
I cannot participate in the classroom because my teacher does not give me opportunities to speak.	120	3.56	High
I choose not to participate because I am not capable of speaking English fluently.	120	3.72	High
I do not engage in oral participation because I see my teacher as strict and authoritarian.	120	3.80	High
I am discouraged to participate in front of the class because I observe that I do not belong in the group.	120	3.72	High
Overall	120	3.69	High

Similarly, Hyde and Ruth (2002) also found out that students were more likely to participate if they considered the climate to be supportive and noted that the professor should work to create this type of environment by providing positive feedback and handling controversial topics with grace.

With that notion, teacher should balance being strict and being kind. Effective teachers are the one who is passionate and responsible enough to help students gain academic achievement. And most of all encourage students to take part in class freely – give free hand to students to response and actively interact in the classroom. They should be ensured that it is their time to speak now and minimize their fear of being wrong.

On the other hand, the sub-indicators *I* am discouraged to participate in front of the class because *I* observe that *I* do not belong in the group, *I* choose not to participate because *I* am not capable of speaking English fluently, and *I* am not interested in participating orally using the English language ranks 2nd, 3rd and 4th with the mean of 3.72, 3.72, and 3.67 respectively which also labelled as high. This indicates that the respondents experienced the said sub-indicators.

The results were supported by (Crombie et al., 2003) that a climate where students and the instructor respect each other, where the students respect one another, and where the instructor cares about the students, is conducive to class participation. A type of classroom climate that he/she is comfortable and can feel the belongingness in the group and that works to increase student confidence, and comfort in participation is the key to achieve good academic performance.

In addition, Tatar (2005) stressed that students who did not speak English as their first language were less likely to participate. Students are not interested to be part of the discussion because

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

they are not comfortable, and they feel incapable in speaking English language fluently. Thus, speaking performance capability of the learners deteriorates.

Lastly, the sub-indicator *I cannot participate in the classroom because my teacher does not give me opportunities to speak* is considered to be the least determined among the sub-indicators with a mean of 3.56 which labelled also as high. This does not mean that it should be ignored and left it behind but instead give emphasis too. The result denotes those respondents wanted to participate in the classroom, but the teacher did not give an opportunity for them to speak.

Additionally, Fassinger (2000) stated that teacher should give everyone an opportunity to speak in class and not be biased in calling a student even if students' answer is wrong. Higher participation classes were more supportive, cooperative, and student-centered.

The above-mentioned was supported by Campbell (2007) that teachers should not only be the one to speak in class but also give the students an opportunity to express their selves no matter wrong or right the answer is. She noted that a caring environment will encourage participation among students and between students and teachers.

Ultimately, the total calculated mean of low participation is 3.69 which described as high. It is interpreted that the Problems in Speaking Performance in terms of low participation is manifested in about 7 to 8 out of 10 occasions. This denotes that the respondents have high level of problems in speech apprehension in low participation.

With this, based on the result of the study, the researchers find low participation as one of the leading in speech apprehension. Hence, low participation is a threat to achieve optimal performance of the students.

In conclusion, student's confidence, and the instructor him/herself all have a significant impact on student participation. A supportive classroom climate is critical to higher levels of participation.

Furthermore, teachers, certainly contributes to students' levels of participation, and those students believe that their teachers influence their participation based on the ways in which the teachers communicate with them. The actions of the teacher are indeed most crucial in promoting classroom interaction and that a primary reason student do not participate may be because of the instructor. Specifically, they are less likely to participate if their teachers do not pay attention to them, make fun of them, put them down, or are overly critical of them. Thus, for the students to participate to the discussion, a healthy and friendly environment is a must. A student-centered rather than teacher-centered classroom is more likely to have students with higher levels of participation.

Speech Apprehension of First-year Engineering students in terms of Mother-tongue use

Mother-tongue Use. Table 1.4 shows the Speech Apprehension of First-year Engineering students in terms of Mother-tongue use. Among the five sub-indicators of mother-tongue use, I dislike using English whenever I speak in front of the class got the highest rank with a mean of 3.36 described as moderate. This result shows that learners use their mother-tongue comfortably than the target language. Hence, the students are difficult to be drawn into using the English language effectively to communicate.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In support to the above-findings, Oluwole's study (2008) revealed that frequent use of mother-tongue influences students' low speaking performance in English Language. This however may cause drastic decline in the standard of education.

Moreover, Atetwe's study (2013) [3] on public day secondary schools of Gatundu District, with students' and teachers' dominant use of mother-tongue inside the virtual classroom, lead to a conclusion that the prevalent use of mother-tongue has negative effects on students' performance in English. Both teachers and students have even observed the factual scenario.

Next to the first-mentioned sub-indicator are the following: *I am not comfortable to speak to my classmates in English; I refrain answering my teacher's question using English; and I cannot convey information properly to my classmates using English.* These sub-indicators have a mean of 2.84, 2.78, and 2.74 respectively which are described as moderate. The result shows that students have experienced difficulties with regard to the use of English during virtual classroom conversations and switch to the use of their mother-tongue.

TABLE 1.4 SPEECH APPREHENSION OF FIRST-YEAR ENGINEERING STUDENTS IN TERMS OF MOTHER-TONGUE USE

MOTHER-TONGUE USE	N	Mean	Description
I dislike using English whenever I speak in front of the class.	120	3.36	Moderate
I refrain answering my teacher's question using English.	120	2.78	Moderate
I cannot convey information properly to my classmates using English.	120	2.74	Moderate
I do not prefer using English language alone in our English class.	120	2.69	Moderate
I am not comfortable to speak to my classmates in English.	120	2.84	Moderate
Overall	120	2.88	Moderate

In support to these results, Harmer (1991) stresses that students find it easier to express their ideas in their mother-tongue because they are familiar with the language. When the students are asked to have a discussion about a topic that they are incapable of, if they want to say anything about the topic, they will use their own language.

The least determined problem among all the sub-indicators of mother-tongue use, *I do not prefer using English language alone in our English class*, with a mean of 2.69 and is described as moderate. The result suggests that students, though aware with the medium of instruction in English class should be the English language, they still chose to use their mother-tongue for communication. This however seemed a natural case because the learners use a certain language in their society for communication other than the language that is taught in class. As defined by UNESCO (2010), mother-tongue is the language that a learner knows best and is mostly used.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Above all, the five sub-indicators of the problem on the use of mother-tongue in speaking performance scored a mean of 2.88 and described as moderate. It is interpreted that the Problems in Speech Apprehension in terms of mother-tongue use manifested in about 5 to 6 out of 10 occasions. This denotes that the respondents have moderate level of problems in speech apprehension in mother-tongue use.

With this, Community Language Learning developed by Curran (1970) emphasizes the practice of bilingual education, particularly the set of using mother tongue and the target language procedures referred to as code switching in which the teacher continues to promote the use of both languages in giving instruction to an English class. Thus, allows learners to talk about whatever they want to be by saying it first in their own language and then repeating after the teacher in the target language. In other words, learners create their own materials in speaking.

Summary of the Speech Apprehension of First-year Engineering students

Table 1.5 presents the summary of the Speech Apprehension of First-year Engineering students in the pandemic era.

Speech Apprehension. The level of Speech Apprehension of First-year Engineering students in terms of Anxiety, Lack of Topical Knowledge, Low Participation, and Mother-Tongue Used is indicated in Table 3.1. Results show in Table 1.5 a moderate level of speaking performance as indicated in the mean of score of each indicator. The highest among the problems in speech apprehension is Anxiety, with 3.85 (high), followed by Low Participation, with 3.69 (high), then Mother-tongue use, with 2.88 (moderate) and, the lowest is Lack of topical knowledge with 2.43 which is equivalent to moderate level. All in all, the overall mean of score is 3.21 which is described as moderate. Result further implies that the speech apprehension is rarely manifested about 5-6 out of 10 occasions.

Apparently, the results show that the prevailing problem in speech apprehension is the anxiety, followed by low participation, mother-tongue used and lack of topical knowledge. The proceeding section tackles the results of the tabulation with corresponding supports about the four indicators of problems raised.

Anxiety. The results revealed that among the indicators of the problems in speech apprehension, anxiety ranks the highest with a mean score of 3.85 (high). This indicates that the selected statement indicators in the variable are always experienced about 7-8 out of 10 occasions. Thus, this simply means that anxiety is the leading problem why students are facing difficulty in speaking in an English language class.

TABLE 1.5 PROBLEMS IN SPEECH APPREHENSION OF FIRST-YEAR ENGINEERING STUDENTS

Speech Apprehension	N	Mean	Description
Anxiety	120	3.85	High
Lack of Topical Knowledge	120	2.43	Low
Low Participation	120	3.69	High
Mother-tongue Use	120	2.88	Moderate

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3.21	Moderate
	3.21

The same results revealed by the study of Fitriani, Apriliaswati and Wardah (2015) on A Study on Student's English-Speaking Problems in Speaking Performance that the most dominant problem in students' speaking performance is the psychological problems which pertain to the students' problems regarding their lack of self-confidence and anxiety in speaking the language. They were confronted with feelings such as lack of confidence, shyness, anxiousness, nervousness, and worry. This emphasized that anxiety plays an important role to ones' speaking performance, whether they have so many ideas in their minds and they seem to be ready to deliver it, if they feel anxious, they cannot deliver their ideas and opinion as flawless and as natural as they want.

Besides, it is further confirmed by Burns and Thornbury (2005) that psychological factors such as anxiety or shyness, lack of confidence, lack of motivation, and fear of making mistakes are the factors that hinder students from speaking. With this, students tend to be silent in their seats while a classroom discussion or activity is going on.

Likewise, Lim (2002) also indicated that students have a fear of making mistakes when speaking English. Thus, students tend not to speak much in class, appear reserved, rarely ask questions, and do not express opinions since they may have low English language proficiency and self-efficacy. With this, students tend to be quiet and just wait for the knowledge from the teacher to be transmitted to them.

Students who experience anxiety in the classroom often base their fear on an inaccurate assessment of its causes. They imagine danger where it does not necessarily exist and do not have an effective plan of action to cope with their anxiety. Over time and in different learning situations people develop expectations concerning the likely outcomes of various behaviors within and across situations, but when they engage in communicative behaviors that seem to work, they develop positive expectations for those behaviors, and these can become a regular part of learners' communicative repertoire (Dayhoff, 2000).

Park & Lee (2005) also noted that learners' anxiety level was positively related to their oral performance. The higher *anxious* the students were about speaking English, the lower scores they gained on their speaking oral performance.

Additionally, Tanveer (2007) [8] also stated that the higher the anxiety, the lower the performance. As a result, the students' feeling of stress, anxiety or nervousness may impede their language learning and performance abilities.

However, if experiences are negative, language anxiety begins to develop and if these negatively perceived experiences continue, foreign language anxiety may become a regular occurrence and the learner begins to routinely expect to be nervous and perform poorly. Anxiety can be associated with a variety of physiological and emotional states, embodied in feelings of tension even in situations where the immediate cause of such tension is not readily apparent. MacIntyre (1995) concludes that language learning is a cognitive activity that relies on encoding, storage, and retrieval processes, and anxiety can interfere with each of these by creating a divided attention scenario for anxious students. Anxious students are focused on both the task and their reactions to it. Thus, anxiety is related to self-focused, negative, and anxious cognition during

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

interaction. Highly anxious students often have relatively negative self-concepts, underestimating the quality of their speaking ability when compared with others.

In conclusion, MacIntyre and Gardner (1991), describing language anxiety emphasized that the anxious student may be characterized as an individual who perceives the L2 as an uncomfortable experience. This is in addition to: withdrawing from voluntary participation, feeling social pressures not to make mistakes and who is less willing to try uncertain or novel linguistic forms.

Low Participation. As the table reveals, the respondents' problems in speech apprehension in terms of low participation ranks second with a mean score of 3.69 (high). This also indicates that the selected statement indicators in the variable are always experienced about 7-8 out of 10 occasions. This implies that the students got low oral performance due to the fact that they did not, or they are not willing to participate in a classroom discussion.

It is further supported by Gan (2012) that one of the factors why students did not perform well in speaking English it is because they are not given sufficient opportunities to speak English in lectures and tutorials, and also an input-poor environment for spoken communication in English outside class. Apparently, it contributed to a range of problems that closely related to the sociocultural, institutional, and interpersonal contexts in which individual ESL students found themselves difficult to deal with.

In the context of English as a Foreign/Second Language (EF/SL) teaching and learning, students' verbal participation or engagement is essentially important in the classrooms. This claim complies with the conceptualization of the Communicative Language Teaching (CLT) approach of teaching English, which sees language being taught as a system for expressing meaning (Nunan, 1999). It is believed that when students engage in the classrooms with their teachers or among peers, they are compelled to be involved in the 'negotiation of meaning', that is to express and clarify their intentions, thoughts, and opinions

Generally speaking, with teachers' encouragement and efforts, students are always expected to be able to fully contribute to the classroom discourse. Nonetheless, the EF/SL classroom may be a frustrating place when most students remain silent in class, and only a small proportion of them actually participate. Despite the students being aware of the importance of spoken English, and knowing the fact that participation is encouraged, many teachers still experience a great deal of quietness in the EF/SL classroom. The students are said to remain non-participatory, quiet or behave passively. In the field of second language acquisition, this is a situation typically termed as 'reticence'. For EF/SL instructors, this is a kind of uncomfortable feeling as it reflects negatively on their instructional practice (Fritschner, 2000).

The importance of learner participation is also stressed by Jackson (2002) who contends that participation provides the setting in which students can construct and shape identities as members of the classroom. Moreover, students' participation in classroom activities is important in order for effective learning to take place.

Similarly, the linkage between classroom participation and students' academic achievement is undeniable. A study by Liu (2005) finds that students who participate actively tend to have better academic achievement compared to students who do not participate. Students' oral participation can help students fill the gap between what they want to say and whether they are able to say it. Furthermore, it is a common belief that participation in verbal interaction offers language

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

learners the opportunity to follow up on new words and structures to which they have been exposed during language lessons and to practice them in context.

Mother-tongue Use. The table shows that mother-tongue used ranks third with a mean score of 2.88 (moderate). This denotes that the selected statement indicators in the variable are always experienced about 5-6 out of 10 occasions.

This indicates that students often used mother-tongue because it is easier for them to express their thoughts and it is natural thing to do to use their own language. This statement is noted and supported by Hoang Tuan & Ngoc Mai (2015) [10] that using mother-tongue to explain something to another is a natural and easy way process of expressing their thoughts and that student feel comfortable to do speaking activities. But if there is no encouragement from the teachers and if the teachers frequently use the students' language, the students will feel comfortable to do it.

According to Manara (2007), mother-tongue is a resource for the learners' linguistic schemata. The mother-tongue is a resource for the learners to draw their existing knowledge from and perceive the new language. Second Language Learners refer to their knowledge of L1 in order to help them learn the L2. And that their L1 is the resource in understanding the target language.

In contrast, in the Philippines as what Quijano (2010) noted that the English proficiency has been affected due to the learners' lack of exposure to English. And since many educational materials available in schools and libraries are written in English, there is a decline in language aptitude, comprehension problems, discouragement, and demoralization.

Also, it is further supported by Oluwole (2008) that the mother-tongue use influences the student's poor performance in English language. And that the oral performance of the students in English language is poor and if the discovered factors are not tackled on time, it will cause a drastic decline in the standard of education.

Furthermore, Atkinson (2001) cautioned the danger of the overuse of the mother-tongue in the English language classroom. He suggested that the mother-tongue should be used to make meaningful communication and should also be used as a technique to encourage learners to be able to find a way of expressing their meaning in the target language.

Lack of Topical Knowledge. The results show that the lack of topical knowledge ranks the lowest among the indicators of the speech apprehension with a mean score of 2.43 (low). This indicates that the selected statement indicators in the variable are always experienced about 3-4 out of 10 occasions. As the table reveals, it is left behind for it does not necessarily being an issue in the oral performance for it is the least problem among the indicators presented in the study. This denotes that even though students may know little or have lack of knowledge about the topic, it doesn't mean that they are not capable of expending ideas.

According to He (2010), topical knowledge is a fundamental schema to elicit a speaker's performance. Without such knowledge, and ESL speaker, even with a high English proficiency, cannot achieve his or her optimal performance.

Besides, Vidal (2011) supported the idea of He (2010) that those with schema on the subject are better speakers of English in the classroom compared to those without such knowledge. Thus, it should be addressed in order to help those students who performed poorly to expand their speaking performance in the classroom setting.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In addition, Tuan & Mai (2015) [10] stated that topical knowledge was found to be the leading problem that affects students speaking performance. It was based on their study, "Factors Affecting Students' Speaking Performance at Le Thanh Hien High School". Result stated that 81% of the students chose topical knowledge as the most affecting factor in their speaking performance.

Nonetheless, in contrast to the above statement, the result of this study clearly confirmed that lack of topical knowledge is least problem in speaking performance. Therefore, the study of the researchers clearly debunks the idea and the result of the above-mentioned for the most occurring problem nowadays based on the result of this study is *anxiety*.

All in all, the overall mean of score of the four indicators is 3.21 which is described as moderate. Result further implies that the problem in speech apprehension is rarely manifested about 5-6 out of 10 occasions. This indicates that the four indicators presented in this study were experienced by the respondents in an English language class and it doesn't mean that it should be neglected and to be taken for granted but instead those problems are still occurring and need to be remediated and actions should be taken.

Speaking seems to be the most important skills of all the four skills (listening, speaking, reading, and writing) because people who know a language are usually referred to as speakers of that language. Thus, the speaker needs communicative competence which includes not only linguistic competence but also a range of other sociolinguistic and conversational skills which help him/her know how to say what to whom and when. Second language students need communicative competence to participate in and learn from their classroom experience (Ur, 1996).

With that, Tuan & Mai (2015) [10] suggested that teachers should be a guide to the students who are learning the language. Teachers should first improve the performance conditions by giving their students time to prepare for a speaking task, teaching the students how to use mind map to generate ideas and giving students enough time to perform their tasks.

In addition, Kumaravadivelu (2006) proposed that teachers should help their students overcome those problems in speaking by having friendly, helpful, and cooperative behaviors to make students feel comfortable when speaking in the class; reminding students not to worry about making mistakes and giving them clear instructions and sufficient guidance. They should also personalize and simplify the topics in the textbook to make them easier, more interesting, and relevant to their lives. Moreover, speaking skills should be included in tests and exams because the students will be more motivated to learn speaking skills because they are tested.

Another thing is teachers should give students more opportunities to speak English in class by using some speaking activities that require students to speak. Furthermore, the teachers should decide carefully when and how to correct the students' mistakes so that the students are not fearful of making mistakes and the flow of the students' conversation is not destroyed. In addition, the teacher should encourage students to participate in speaking activities. And most of all, teachers should create an English-speaking environment by encouraging the students to use English in the classroom to make it a habit, letting them watch films or videos in English and the teachers should also use English in the classroom frequently so that the students have more exposure to the language (Celce-Murcia & Olshtain, 2000).

As for the students, Nation & Newton, (2009) suggested that they should first understand the importance of speaking skills. Secondly, they should practice speaking English outside the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

classroom more often by doing the speaking tasks in the textbook at home with their classmates, joining speaking club where they can use English to communicate and speaking on their own in front of a mirror. Finally, they should use English in the class instead of their L1 to make it a habit.

Most students want and expect their teachers to give them feedback on their performance. But, however, all speaking production should not be dealt with in the same way. The decisions that the teachers make about how to react to students' performance will depend upon the stages of the lesson, the activities, the types of mistakes made and the particular student who is making that mistake. If the teachers correct whenever there is a problem, the conversational flow as well as the purpose of the speaking activity will be destroyed. If the students are corrected all the time, they can find this very demotivating and become afraid to speak. Therefore, teachers should always correct the students' mistakes positively and with encouragement (Harmer, 1991). As what Davies & Pearse (1998) said, the major goal of all English language teaching should be to give learners the ability to use English effectively and use it meaningfully in communication.

INTERVENTION PROGRAM

The First-year Engineering students at University of Mindanao Tagum College have aprevailing problem in speech apprehension which is anxiety. To assist the students and teachers, the researchers planned and proposed the following actions and undertakings. This intervention program is divided into two: Seminar-Workshop for Teachers and Speaking Enhancement Activities for Students.

These activities will help teachers in delivering the lesson to the students to encourage and support the ability of how the students learn. The said undertakings are to be done by the English instructors with the engagement of the students. More so, this implies that the students will be equipped in speaking the language through applying the proposed speaking enhancement activities designed by the researcher.

Summary

This study was conducted to determine the speech apprehension of First-year Engineering Students in the pandemic era. It utilized the descriptive survey method. Additionally, this study used a researcher-made survey questionnaire to identify the prevailing speech apprehension of the respondents in terms of anxiety, lack of topical knowledge, low participation, and mother-tongue use. The respondents of this study were chosen based on total enumeration sampling. Particularly, the result was determined:

1. The speech apprehension in terms of anxiety has a mean of 3.84 with the highest rank in the descriptive equivalent among the four indicators. The prevailing sub-indicator is *I worry about making mistakes in speaking English* with a mean of 3.93 (high). This is followed by the sub-indicators: *I keep thinking that my classmates are better English speakers than I am* and *I am not confident when I participate orally in class* bothwith a mean of 3.89; *I am afraid that my classmates will laugh at me when I speak English* with a mean of 3.86; and *I tremble whenever I speak without preparation in our English class* with a mean of 3.64. Thus, all sub-indicators of anxiety was interpreted as high. Additionally, it was followed by low participation with a mean of 3.69 and has reached a high descriptive equivalent. On the other hand, mother-tongue use with a mean of 2.87 has moderate descriptive equivalent while lack of topical knowledge with a mean of 2.42 has low descriptive equivalent. In totality, the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

speech apprehension of the respondents has obtained 3.20 with a moderate descriptive equivalent. Furthermore, this result means that the respondents experienced the indicators in about 5-6 out of 10 occasions.

CONCLUSIONS

Below are the findings of the study:

- **a.** The speech apprehension of First-year Engineering students as indicated by anxiety, lack of topical knowledge, low participation and mother-tongue use is moderate.
- **b.** The dominant/prevailing problem in speech apprehension of the respondents is anxiety.
- **c.** The proposed designed intervention programs by the researchers are Seminar- Workshop for teachers and Speaking Enhancement Activities for students.

Recommendations

The result of this study shows that the overall problem speech apprehension is moderate. Hence, the following recommendations are offered to address the respondents' problem in this study.

School. The school must integrate in the curriculum a designed intervention program. It will heighten and develop the speaking performance of First-year Engineering students during their synchronous class every Monday, Wednesday, and Friday. Moreover, these intervention activities can be conducted one hour per week, allotted for the students to engage in the designed program.

Teachers. The teachers need to attend seminar workshops on how to effectively facilitate the communicative activities that will measure the speaking performance of the students. They may also conduct consultations together with the students every after the communicative activities to inform them of their problems in speech apprehension. In addition, they must also assess the students for further improvements.

Students. The students must actively engage themselves in the communicative activities designed for them to enhance their speaking performance because they are using the English Language in the class. They are also encouraged to use English language in other subject areas.

Future Researchers. The future researchers are encouraged to further conduct additional research in speaking performance and speech apprehension of the students in the different year levels of the institution as well as to design other possible activities and interventions that will cater the problems regarding this study.

Acknowledgment

The researcher would like to extend his sincere appreciation to the individuals who offered his valuable assistance in the accomplishment of this research.

First and foremost, to the Almighty God, for answering his prayers, and for giving him strength and wisdom throughout the whole period of doing this study;

To his beloved families, for the unconditional love, and for financial and moral support;

And to all who are not mentioned, thank you so much!

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- 1. Aftat K. Anxiety in the college japanese language classroom: its relationship to self-perceived ability, fear of negative evaluation, and other characteristics of individual, 2008. Retrieved, November 10, 2021.
- **2.** Anderson J, Pearson J. Schema theory and its instructional applications on EFL. Heze College, Heze, China 2010. Retrieved, November 10, 2021, from www.davidpublishing.com
- **3.** Atetwe JA. Analysis of the Influence of Mother Tongue on Students' Performance in English in KCSE in Public Day Secondary Schools in Gatundu District, Kiambu County, Kenya 2013. Retrieved, November 9, 2021, from ir.cuea.edu/jspui/bitstream/1/95/1/Julius%20Angoli%20Atetwe.pdf
- **4.** Burke L. *Inside* higher. 2021. Available at: https://www.insidehighered.com/news/2021/01/22/survey-outlines-student-concerns-10-months-pandemic (Accessed November 22, 2021).
- **5.** Gersha S. Yes, virtual presenting is weird. *Harvard Business Review*. 2020. Availableat: https://hbr.org/2020/11/yes-virtual-presenting-is-weird?utm_medium=em (Accessed November 4, 2021).
- **6.** Mukoroli J. Effective vocabulary teaching strategies for the english for academic purposes ESL classroom. 2011. Retrieved, November 10, 2021, from http://digitalcollections.sit.edu/cgi/viewcontent.cgi?article=1503&context=ipp_collection.
- 7. Orbeta D, San Jose A. Language learning anxiety and oral performance in english of college freshmen, 2013. Retrieved, November 10, 2021, from https://www.academia.edu/7200180/LANGUAGE_LEARNING_ANXIETY
- **8.** Tanveer M. Investigation of the factors that cause language anxiety for esl efl learners in learning speaking skills 2007. Retrieved, November 13, 2021 from https://www.academia.edu/4051629/Investigation_of_the_Factors_that_Cause_Language_A nxiety_for_ESL_EFL_Learners_in_Learning_Speaking_Skills
- **9.** Tran A. Foreign language anxiety and the advanced language learner. 2012. Retrieved, November09, 2021, from http://www.amazon.com/Foreign-Language-Anxiety-Advanced-Learner/dp/1443823775.
- **10.** Tuan NH, Mai TN. Factors affecting students' speaking performance at Le Thanh Hien high school. Asian Journal of Educational Research, 2015;3(2):8-23. Retrieved, November10, 2021, from http://www.multidisciplinaryjournals.com/ajer-vol-3-no-2-2015.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

EXAMINING THE EFFICIENCY OF DIFFERENT KINDS OF SOLAR STILLS

Ravindra K Jain*

*Professor,

Department of Civil Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: ravi.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02643.4

ABSTRACT

In the area of desalination, solar is still the best technique. The solar still is a device that uses energy that is freely and abundantly accessible on our planet to turn wastewater into fresh distillate water. Fresh water is required and demanded by people all around the globe. Solar stills are used to address this issue by increasing the production of drinking water. Solar stills may be constructed even by untrained workers, using easily accessible local materials and no complicated design. The purpose of this essay is to compare the different variables that affect the solar still's output. This in-depth analysis will also shed light on the need for further study and suggestions in the field of desalination. Aristotle proposed a technique for evaporating polluted water and then condensing it for drinkable use as early as the fourth century. The first recorded work on solar distillation, however, was done by Arab alchemists in the fifteenth century.

KEYWORDS: Basin, Desalination, Fin, Reservoir, Solar, Vapor.

1. INTRODUCTION

A system established at Las Salinas, Chile, in 1872 was the first water distillation factory. Every day, individuals living in distant regions or islands, where transporting fresh water is costly, confront the issue of water scarcity[1]. Due to its ease of construction using locally accessible materials, low operating and maintenance needs, and environmental friendliness, solar still has some distinct benefits for usage in these isolated regions or islands. It is really fortunate that solar radiation is also strong during times of high water demand. As a result, it is advantageous to use solar energy directly by installing solar stills. Solar stills have two main advantages: clean and free electricity and environmental friendliness[2].

In a small solar pond, the ideal salinity level is 80 g/kg of water. The average daily output of distilled water using the still in conjunction with the small solar pond and sponge cubes has been found to be rising. The theoretical analysis' maximum deviation is less than 10% of the experimental analysis' maximum deviation. For this common design of the Solar Still Pondactive solar still, the optimal values of flowing water thickness and mass flow rate were 0.03m and 0.0009 kg/s, respectively[3]. The yearly average values of the daily productivity and efficiency of the still with the shallow sun pond were found to be 52.36 and 43.80 percent higher, respectively, then those obtained without the shallow solar pond.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Single-basin solar stills combined with a shallow sun pond increased production throughout the night, with lowest values of 3.0 and 1.570 (kg/m2 d) in December with and without the shallow solar pond, respectively[4]. In July, the highest daily production values were 6.68 and 5.29 (kg/m2 d) with and without the shallow solar pond. Drinking water scarcity is a growing issue in many parts of the globe. To provide sufficient drinkable water, which is currently a challenge in many developing nations. Fresh water scarcity is becoming an increasingly pressing problem in many parts of the globe. Potable water is rare in dry regions, and the development of a human habitat in these areas is highly dependent on how such water can be made accessible. The significance of providing safe drinking water cannot be overstated.

Fresh water is fast becoming the world's most valuable human resource[5]. According to the United Nations, by 2025, 63 percent of the world's population, or five billion people, would live in water-scarce regions. According to a study, approximately 2% of the earth's water supply is locked up in glaciers and ice caps, mostly in the north and south poles, and 3% is fresh water. The polar ice caps will melt, causing sea levels to increase and inundating most of the world's current land surfaces. The remainder of the world's freshwater supply (less than 1%), which is found in rivers, streams, lakes, and ponds, also includes a lot of pollutants. In developing countries, 90% of urban sewage is dumped into rivers and other bodies of water[6].

There is a massive amount of garbage produced, with just a portion of it getting handled. Untreated sewage and effluents are dumped into rivers, converting them into sewers or poisonous water sources. In the small solar pond, the ideal salinity is 80 g/kg of water. The average daily output of distilled water has been observed to be rising after combining a small solar pond and sponge cubes with the still. The theoretical analysis' maximum deviation is less than 10% of the experimental analysis'. For this common design of the Solar Still Pond-active solar still, the optimal values of flowing water thickness and mass flow rate were 0.03 m and 0.0009 kg/s, respectively. The yearly average values of the daily productivity and efficiency of the still with the shallow sun pond were found to be 52.36 and 43.80 percent higher than those obtained without the shallow solar pond. Single-basin solar stills are combined with a small solar pond to increase production at night. In December, the monthly average of daily production with and without the shallow solar pond had lowest values of 3.0 and 1.570 (kg/m2 d), respectively.

In July, the highest daily production was 6.68 and 5.29 (kg/m2 d) with and without the small solar pond, respectively. To warm the salty water, a small sun pond was utilized; therefore, a mini solar pond was combined with these stills[7]. These stills were tested separately while using the small solar pond. Sponge were utilized to expand the water exposure area, and production rose by 66%. When all of the changes were combined, the stepped solar's production improved by 100%. The schematic design of the solar still experimental set-up with the small solar pond[8]. A series connection is made between a small solar pond, a stepped solar still, and a wick type solar still.

The stepped solar still uses pebbles, baffle plates, fins, and sponges to boost production even further. It is estimated how productive people are during the day and at night. When fins and sponges were employed in the stepped solar still, the maximum production of 78 percent was discovered. More thermal energy is stored in pebbles, which is released when the sun sets[9]. When pebbles are utilized in the solar stills, greater night production is achieved. We built traditional stills as well as stepped active solar stills with a solar air heater collector. Due to the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

increased thermal energy provided by hot air to the active stepped solar still compared to the passive solar still, a higher saline water temperature was obtained[10].

2. DISCUSSION

The productivity of the stepped still is 30.4 percent greater than that of the conventional still at a tray depth of 5mm and without any modifications. When compared to a conventional still, the productivity of the stepped still is improved by around 85 percent in this instance. The glass cover cooling method has shown to be an effective and easy instrument for increasing the productivity of stepped solar stills (65 percent greater than traditional stills). The productivity of the stepped still is increased by using aluminum filler under the absorber plate as a simple solar energy storage device (53 percent greater than the traditional still). When both hot air and glass cover cooling were utilized, the water production of the stepped still rose by 112 percent over the traditional still. The traditional single-sloped solar still and a modified stepped solar still, both using salt water, are two kinds of solar stills.

The impact of tray depth and breadth on the stepped solar still's performance is investigated. The stepped still's maximum productivity is reached at a tray depth of 5mm and a tray width of 120mm, which is 57.3 percent greater than the traditional still. The traditional still has a water depth of 5mm and a tray width of 100mm; the glass temperature and basin water temperature of the stepped solar still are approximately 0–2°C and 0–10°C higher than those of the conventional still, respectively. This is due to two factors: (1) a smaller air volume is trapped inside the still chamber than in a conventional still, resulting in a much faster heating of the trapped air; and (2) the step-wise basin has a larger heat and mass transfer surface area than the flat basin, resulting in an increase in the stepped solar still's basin water temperature.

The glass temperature and basin water temperature of the stepped solar still are approximately 0–4°C and 0–3°C higher than those of the traditional still, respectively, with a tray depth of 5mm and a tray width of 120mm. For stepped and traditional solar stills, the daily efficiency and projected cost of 1 Lof distillate are about 53 percent –0.039 \$ and 33.5 percent –0.049 \$, respectively. Table 2 shows a comparison of the percentage increase in output by different writers. In an effluent settling tank, the textile effluent is cleaned. The tiny solid particles are settled and cleared in the big textile effluent settling tank. In the stepped solar still, the settled effluents are utilized as raw water.

The tiered solar still is made up of 50 trays of varying depths. The first 25 trays with a 10mm height are utilized, followed by 25 trays with a 5mm height. Fins, sponges, pebbles, and combinations of the aforementioned are used to boost the stepped solar still's output. When fins are employed in the stepped solar still, the output rate increases by 53.3 percent. The output of sponges and pebbles rose by 68 and 65 percent, respectively, when they were utilized. When fins, sponges, and pebbles are employed in this basin instead of the typical stepped solar still, a maximum increase in production of 98 percent occurs. Theoretical analysis and experimental findings are in good agreement. The theoretical and experimental analyses have a maximum variance of less than 10%.

Internal reflectors keep the stepping solar steady. The impact of reflecting mirrors on the vertical sides of the stepped still's steps on distillate yield rate and performance was studied. Fins, sponges, and wicks were incorporated into the basin of the single basin solar still to increase its production. Analytical solutions to the governing energy balance equations were compared to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

experimental findings. The experimental findings were extremely close to those predicted by the theory. The theoretical and experimental findings were separated by 10.1 percent on average. The still's average evaporation rate was just 2 L/m2. When the wick type solar still was utilized, production improved by 29.6%. The difference between theoretical and experimental findings was 10.8%. The productivity of the basin solar still integrated with a sponge increased owing to the sponge's capillary action, which produces an increase in evaporation.

The theoretical and experimental analyses had a maximum divergence of less than 6.2 percent. The sponge volume to basin water ratio was kept constant at 20%. A cross-sectional image of the basin types solar, which still has fins to enhance the absorber plate's surface. As a result, the temperature of the absorber plate and the saline water rose. Productivity rose as the temperature differential between the water and the glass grew. Five fins were utilized in this study, with heights, lengths, and widths of 35, 900, and 1 mm, respectively. When fins were employed, yield rose by 45.5 percent. The theoretical findings were found to be in excellent accord. The difference between theoretical and experimental findings was 10.8%. In the fin type single basin solar still, sponges, stones, black rubber, and sand are utilized; fins serve as an expanded surface, and the temperature of the water rises, increasing the output.

When the sun intensity varies from 740 to 760W/m2, the productivity rises from 0.34 to 0.36 L/m2 with the Fin, with sand and without sand in the solar still. Obviously, this is due to the sand increasing the heat capacity of the basin plate; productivity increases from 0.2 to 0.19 L/m2 when the wind velocity increases from 0.6 to 0.7 m/s. Increased wind velocity reduces productivity and increases convective heat losses at the glass's top surface. When fin, sand, and sponges are employed in a single-basin solar still, the output increases by up to 75%. The findings indicate that this change has a significant impact on productivity. According to the economic study, the estimated payback time for such stills is one year. In comparison to the fins integrated basin plate, the average evaporation rate in the traditional solar still is 1.66 L/8 h lower, i.e., evaporation rate 53 percent.

A horizontal evaporation surface and a condensing surface inclined 14 degrees to the horizontal plane were used in an ethanol solar still. A solar still's performance is improved by the fin incorporated into the basin plate. The solar still was fed with a 10% ethanol solution as a feedstock. When the number of fins that raised an effective absorptance was increased, the model projected yet efficiency might rise to 46 percent. The suggested improved still with porous fins performed better in winter and summer trial studies, with reduced base heat loss owing to the basin water being cooler. In February, the day time distillate was 56 percent higher and the 24hour duration was 48 percent higher than the traditional still, while in May, the day time distillate was 23 percent higher and the 24hour duration was 15 percent higher.

In the month of May, the modified still constructed of expanded polystyrene foam with excellent insulating properties produced the greatest production of 7.5 kg/m2. With the assistance of thermocol insulation, the experimental and theoretical analyses of a single-sloped basin type solar still, consisting of numerous low thermal inertia floating porous absorbers floating next to each other on the basin water, are confirmed. The modified produces a 68 percent increase in production on a clear day and a 35 percent increase on a partly clear day. The dual reflector booster had to be maintained with the larger mirror facing south and the smaller mirror facing east during the first part of the day, until 12:00 noon, when it had to be reoriented with the smaller mirror facing west and the longer mirror facing south again.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The dual reflector booster increases gain by 79 percent over the modified still without it. Because of the lower depths, the water depth has no impact on the modified still. The performance of the finned and corrugated solar stills is tested and compared to that of the conventional still under the same Egyptian climate conditions in order to improve the productivity of the basin solar stills by increasing the surface area of the absorber and rate of heat transfer between the saline water and absorber. When fins were employed, daily production rose by around 20%, and with the corrugated still, it increased by about 17%. Finned, corrugated, and traditional solar stills had daily efficiency of around 41, 40, and 34 percent, respectively. When fins are utilized, daily productivity increases by about 21%. In this instance, the finned, corrugated, and conventional solar stills had daily efficiencies of 47.5, 41, and 35 percent, respectively.

The findings show that the finned and corrugated solar stills have better production than the traditional still. When finned and corrugated solar stills were employed, production rose by 40 and 21 percent, respectively, with a reduced depth amount of salty water 30 L. For finned, corrugated, and traditional solar stills, the daily efficiency and projected cost of 1 L of distillate are about 47.5 percent -0.041 \$, 41 percent -0.047 \$, and 35 percent -0.049 \$, respectively. Under the basin liner, a sandy heat reservoir is created, which is useless in traditional basin solar stills. During low-intensity solar radiation and at night, the sandy heat reservoir serves as a heat source for the basin water.

During this period, more than 12% of total water production occurs. Adding a heat reservoir to a traditional basin solar system costs approximately 10% of the overall building cost. As a result, the expense of having an integrated heat reservoir is offset by the improvement in nighttime production. The heat reservoir is integrated with the solar still in the basin, so pumping systems and operators do not need to switch to night mode. The distilled water produced is tested and found to be safe for drinking and household use. Other kinds of solar stills may easily include an integrated heat reservoir due to the simplicity and cost-effective design. The basin was connected to a vapor adsorbent pipe network made up of an activated carbon methanol pair. Because of the sensible heat absorption by the activated carbon and the latent heat of vaporization by the methanol, losses from the bottom of the still are minimized.

When sponges, gravels, sand, black rubbers, and some of their combinations were utilized, a new solar still integrated with a vapor adsorption bed at the basin was developed, constructed, and evaluated to improve the still's productivity. The innovative still's performance was compared to that of a traditional solar still. The distillate production rate in the vapor adsorption was between 3.1 and 4.3 kg/m2, while the distillate production rate in the traditional still was between 1.9 and 2.3 kg/m2. The greatest difference between theoretical and experimental results was less than 6%. The modified stepped solar still with trays (5mm depth 120mm width) and the standard solar still were investigated experimentally and theoretically. The experimental distillate yield rate of the modified stepped solar still with and without internal reflectors is about 75 and 57 percent greater than that of the traditional still, respectively.

3. CONCLUSION

The following conclusion may be made as a consequence of the foregoing review of the different kinds of solar stills: Comparative examinations of the different types of solar stills and their output are shown. A solar still with floating porous absorbers, extended porous fins, effluent using fin type, fin plate, sponges, pebbles, black rubber, sand, wick, depth of water, latent heat,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

concentrator internal and external reflectors, concave wick evaporation surface, and reciprocating spray feeding, individually or in combination, can increase the solar still's productivity. The review, which includes precise conclusions derived from different authors' analyses of various types of solar stills, will help the average individual understand past designs and performance, as well as manufacture an ultra-new design with optimal design parameters for increased productivity.

REFERENCES:

- 1. V. Velmurugan and K. Srithar, "Performance analysis of solar stills based on various factors affecting the productivity A review," Renewable and Sustainable Energy Reviews. 2011.
- **2.** V. Velmurugan and K. Srithar, "Solar stills integrated with a mini solar pond analytical simulation and experimental validation," Desalination, 2007.
- **3.** A. A. El-Sebaii, M. R. I. Ramadan, S. Aboul-Enein, and N. Salem, "Thermal performance of a single-basin solar still integrated with a shallow solar pond," Energy Convers. Manag., 2008.
- **4.** Z. M. Omara, A. E. Kabeel, and A. S. Abdullah, "A review of solar still performance with reflectors," Renewable and Sustainable Energy Reviews. 2017.
- **5.** A. K. Kaviti, A. Yadav, and A. Shukla, "Inclined solar still designs: A review," Renewable and Sustainable Energy Reviews. 2016.
- **6.** Z. M. Omara, A. S. Abdullah, A. E. Kabeel, and F. A. Essa, "The cooling techniques of the solar stills' glass covers A review," Renewable and Sustainable Energy Reviews. 2017.
- 7. K. Selvaraj and A. Natarajan, "Factors influencing the performance and productivity of solar stills A review," Desalination. 2018.
- **8.** A. E. Kabeel, Z. M. Omara, and M. M. Younes, "Techniques used to improve the performance of the stepped solar still-A review," Renewable and Sustainable Energy Reviews. 2015.
- **9.** A. E. Kabeel, Z. M. Omara, F. A. Essa, A. S. Abdullah, T. Arunkumar, and R. Sathyamurthy, "Augmentation of a solar still distillate yield via absorber plate coated with black nanoparticles," Alexandria Eng. J., 2017.
- **10.** A. E. Kabeel and S. A. El-Agouz, "Review of researches and developments on solar stills," Desalination, 2011.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CRITIQUE OF THE INDIAN BHAKTI MOVEMENT

Poonam Chauhan*

*Lecturer,
Department of Education,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: poonamc.education@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02644.6

ABSTRACT

The pieces in this collection offer a sense of what such a readiness entails, even if, in terms of my personal preoccupations, some show more willingness to listen than to suspect, and others to suspect than to listen. In contrast, most Indian intellectuals and their Western counterparts have, by and large, lost any capacity to listen. Where they offer any opposite signal, it is only by separating the small tradition from the Great. To the Indian people, on the other hand, that little tradition with which bhakti is linked is a way of life. It is a continuing tradition. They simply listen to it while the intelligentsia just suspect it. I hope that this critical introduction and the articles from which it draws its argument will be regarded as a beginning towards bridging that gap. If a genuine, conscious rising towards the achievement of community goals is to include the people, it is unlikely to emerge through the transplanting of symbols of foreign or dead traditions. Symbols of freedom will have to be found from inside, by people who will bear the weight of revolutionary activity. These symbols, although similar to both sterilised intellectual abstractions and ritualised daily behaviour, cannot be rediscovered in any of these isolated contexts. That has always been the message of bhakti and therein lies its modernity.

KEYWORDS: Bhakti, Intellectuals, Indian, Social, Tradition.

1. INTRODUCTION

The article has two aims: to comprehend the contemporary significance of bhakti literature and to evaluate the present relevance of bhakti practice. These goals arise out of a larger concern about the future and relevance of tradition in a world undergoing rapid change, particularly the countries of the Third World. Specifically, the authors are at least tacitly concerned with the role of bhakti in the process of modernization (Fig. 1).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Fig. 1: Bhakti Saints Shared Many Ideas And Practices In Common. Their Fundamental Conviction Was At The Moment Of Need To Connect With God. They Placed Emphasis On Love Or Devotion As The Foundation Of The Connection With God.

The viewpoint of modernity and of tradition which emerges from these works is substantially different from those common in both the East and the West. In the Western literature on the subject, the two words tradition and modernity are regarded as a contradiction or a continuum. A more realistic observer may try to identify some particular features of a certain culture as modern proposing thus that they could be put to use to reduce and remove the other components which are seen as obstacles. These ideas derive from the experience of the West with its unique tradition. The rise of capitalism and scientific technology saw the whole of the old order come down. Elements of tradition, or world concepts and beliefs, were reinterpreted and transformed into a new system with which also developed a new institutional framework. Thinkers who saw and understood this fundamental break from the past were overwhelmed by it. Modern sociology has inherited these. It has gone further and universalized them as abstract concepts applicable to all civilizations, like in the case of Talcott Parsons Pattern Variables. Men like Max Weber have to view the break from tradition as a distinct and particular process, as a rationalization of the past inside an artificially bisected concept of reason. Struck by its inevitability, they anticipated its development with grave misgivings. With the subsequent prevalence of intentional rationality and of a technocratic awareness, the sorrow of passing has been forgotten. With the fall of the colonial powers, interest in the modernization of Third World cultures has grown. For most Western academics it simply means a complete plan for a break from tradition similar to that experienced by the West. The most prevalent Western viewpoint nowadays advocates an instrumental exploitation of tradition for its own destruction. Technocratic plans include such issues in policies and attempt to use tradition to push people towards modernity. In India, for example, the West-oriented intellectuals share this desire for modernization. At the same time, they also have a somewhat different view on their tradition[1].

Western academics, many of them missionaries or colonial officials had begun studies of Indian culture long before the post-colonial technocratic viewpoint had emerged. They were intrigued by the intellectual abstractions of Hinduism and appalled by the social reality. They rejected the practice of rituals, superstition and social order and could not understand its relation to the philosophy they studied. These ideas, as well as those of post-colonial social science, had a particular impact on Indian intellectuals. First, as workers of the raj, they had to act as mediators of a foreign authority and explain it to the people and to themselves. Since the government was determined to bring about major changes in the social order, to make it compatible with the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

interests of the metropolis, the subaltern intellectuals had to provide explanations for them, to explain and justify them.

To accomplish this and to suit the ruler's viewpoint on their tradition, they developed a theory of history. It depicted the social life of Vedic Aryans as pure, innocent and joyful and claimed for it a tolerant, all-inclusive, universalistic world-view. Such a world-view was provided as the cause of the subsequent widespread absorption of barbaric conduct which was attributed to the tribal people that were kidnapped and enslaved by the roaming Aryans. These practices included, human sacrifice, statecraft, icon worship and magic. The defeated tribes, it was said, were not murdered nor enslaved, but were humanely absorbed as lower castes. This concept allowed the subaltern intellectuals to be proud of their history and to propose major societal reforms at the same time. In the subsequent struggle for national independence and in the formation of the post-independence political system, this concept proved equally helpful[2].

These perspectives on tradition have had an impact on the understanding of bhakti movements. Indian and Western scholars have for a long time ignored bhakti. To them it is not a fundamental concept of Indian philosophy. They see bhakti as a form of devotion, especially intended and perfectly suited for practice by the lower classes. Only an elite capable of comprehending the complexities of Vedic philosophy can see the universalism of its message. That message, that the world is an illusion and that truth lies in the oneness of the particular or the individual (atman) with the totality of all things is worthy of attention. It is debated, contested and evaluated in intellectually dry discussions. It refuses to identify any link with devotion, with the worship of humanized god[3].

Ironically, bhakti was explicitly a revolt against this dualistic viewpoint which had perpetuated the duality of existence of those involved in debating empty abstractions and others doing mindless rituals. Unaware of this, current intellectuals are prone to dismiss it as an aspect of the latter, just as some of them declare the irrelevance of abstract Indian philosophy as well for the goals of modernization. No longer stuck in the middle of foreign rulers and their own people, contemporary intellectuals in India may be proud or contemptuous of their history at whim and still claim the right to stand above the masses, to control them and to try to change what is to the average man still a living tradition[4].

Their goal is to demonstrate that Basavanna's critical revolutionary impulse should not be viewed as an accidental, isolated eruption of an extraordinary critical skill. It was, in reality, a unique moment in the ongoing dynamics of Indian culture. Only as an isolated event can it be compared to bhakti. The claims that they have a similar desire may be rejected and thus it alone can be shown to qualify as a revolutionary movement. Ishwaran focuses on its organized practice and on its concept of society. He believes that such structure alone generates significant advantages. It leads to lasting changes in the social order. From this he makes the conclusion that bhakti movements merely preserved the old system and made it acceptable while Basava's organized revolt established a permanent paradigm for worldwide replication. This is a great, functionalist argument. It travels from a result to the source and discovers it on criteria specified by the outcome itself.

It generates questions which are unanswerable within the limits of such a framework; questions of which I gave an example in the previous paragraph. As Nemade argues in his article, the choice of organization and its effectiveness in a social revolt may itself be conditioned by the prior social position of the participants. Ishwaran does not tell us what impact the prior

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

socioeconomic position of the adherents of Lingayatism had on its practice. Perhaps we could find some proof of this in the later revival of Lingayatism. James Manor writes, for example, that by 1945, Lingayats-the biggest landed group in Bombay Karnataka-had ousted the numerically and economically weak Brahmans from virtually all positions in the Congress which was the only major political organization there. If this is accurate, then the revival of Lingayatism would seem to fit the pattern of a nation-wide reassertion of hegemony by historically strong rural middle classes on the brink of independence[5].

The creative, critical impulse underpinning Virasaivism is not in dispute. Its functionalist isolation as a model of modernization presents problems. To try to seek direct practical direction from Basavanna or Nanak for contemporary revolutionary action would be as fruitless as the unthinking copying of the quietist retreat and political apathy of the Warkaris. Ishwaran's insight into the universal principles advocated by Basavanna is, for us, a crucial starting point-provided we are willing to set aside externally imposed, empiricist classificatory frameworks of social movements. Instead, we should attempt a rational reconstruction of the dynamics of these values in the Indian tradition as a whole. Their specific theoretical and practical manifestations should be placed in that context. Some recent scholarship may be helpful. It examines the origin of the ideas of bhagavan, bhakta and bhakti in the material basis of the communal, tribal life. Such life predated and coexisted with the ancient civilizations and with the later Vedic-Aryan transition. In the transition from communal-tribal life to kingdoms and civilizations arose the first real authority and hierarchy in society. The shift from bhagavan as the custodian-owner of a community's wealth and bhakta as his co-producer, sharer and consumer, to bhagavan as the divine universality, as god, and bhakta as his supplicant devotee, was likewise a similar metamorphosis. During this transition, probably, there arose not only the legal kingships, but also a class of conductors of a community's symbolic sacrifices and their defenders. The logic and dynamics of the integration of Vedic intellectual abstractions and of associated and emerging hierarchical social practice was not disrupted during this transition. It shattered only later, and supplied the basis for the legitimation of a repressive social system. The institution of yajna, apparently, sits at the cross-roads of the transition from a classless, naturalistic tribal group to a class society[6].

These and similar theoretical theories about the origin of bhakti should not be viewed as an exercise in romanticism. The fundamental constraints of the tribal society were so overwhelming that the subsequent journey through a continuous and brutal intra-communal killing for dynasties, property and racial dominance, seems to have been essential for the survival of that same group. The paradox of human development begins with this primal state. The human civilization moved away from natural repression only by replacing it with social repression. This in itself was a creative act. Social repression and hierarchy were, in the first phase, necessary and thus acceptable. At the same time, the creative, productive activity of man within this altered society must have rendered the specific forms of repression more unnecessary. Those who were to benefit from continuing repression sought to legitimate it and had to do so in the name of that community. No longer the legitimate leaders of the society, they became its rulers. I speak of this paradox in my article on Jnanesvar as the tension between projected and actual community.

To me, the notion of the development of Indian tradition as a naturalistic, continuous process, absorbing and amalgamating any and all practices and beliefs, does not make sense. It fails to address certain basic problems about the relationship between theory and practice. I see tradition

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

as emerging out of a struggle between the creative potential of man in his nascent society and its sometimes necessary repressive denial in everyday social life. In that very social life which is artistically productive even under a counterfactual community, the potential for actualizing such a society is inevitably encouraged. This occurs in social work as man's constructive social activity in relation to nature. As the action of that body-mind unity of human social beings, it is also a reflexive activity. Through it, man in society creates commodities and meanings at the same time. In this activity of active producers, oppression is reflected upon continuously as a contradictory living experience[7].

Gadamer relies largely on the concepts of Romantic hermeneuticists such as Friedrich Schleiermacher and the work of subsequent hermeneuticists such as Wilhelm Dilthey. He dismisses as unattainable the aim of objectivity, and instead argues that meaning is produced via intersubjective dialogue. Gadamer's philosophical goal, as stated in Truth and Method, was to expand on the idea of philosophical hermeneutics, which Heidegger in his being and Time began but never dealt with at length. Gadamer's aim was to discover the essence of human knowledge. In the book Gadamer claimed that "truth" and "technique" were at conflict with one another. He was critical of two approaches to the human sciences. On the one hand, he was sceptical of contemporary approaches to humanities that based themselves on the natural sciences and therefore on rigorous scientific procedures.

On the other hand, he took issue with the traditional German approach to the humanities, exemplified for instance by Dilthey and Schleiermacher, which thought that properly understanding a book required retrieving the original purpose of the person who authored it. In contrast to both of these views, Gadamer claimed that individuals have a historically affected consciousness and that they are entrenched in the specific history and culture that created them. Thus understanding a text requires a fusion of perspectives where the researcher discovers the ways that the book's past articulates with their own background. Truth and Technique is not intended to be a systematic declaration about a new hermeneutic method of reading texts. Gadamer wanted Truth and Method to be a description of what we constantly do when we interpret things even if we do not realize it: My main interest was and is philosophic: not what we do or what we ought to do, but what occurs to us above and beyond our desiring and doing[8].

2. DISCUSSION

The criteria for such reflexion is that same premise on which the legitimization of tyranny also depends. The values of reason, freedom and equality are fundamental in the notion of a future community. They emerge in an unmediated way in the essentially social and natural condition of the human species. The way to comprehend the dynamics of tradition is to unravel the paradoxical unity of its symbolic forms. What appear as contradictions of theory and practice, of the sacred and the profane, of this world and the other world, all contain the basic paradox of potentiality. Man's logical knowledge for what is generally possible-but cannot be-in the particularity of a certain situation-specific life practice (actuality), expresses itself through his symbolic ordering of the world. His desire for the potential is rational rather than Utopian because it derives from a knowing, an awareness, of the rootedness of his unique particularity in the universal human predicament. Hospital sees this in his article as a conflict between the limitedness of human imagination and the particularity of human existence. This contradiction at

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

times congeals into-and at other times explodes out of-the same symbolic universe. These are the dominant and liberating moments of tradition[9].

Valued symbols, myths, beliefs and rituals of a tradition embody in them, as meanings, the actuality of everyday experience and the imaginative or creative potentiality of its transition. Symbols have various meanings which allow an understanding of particular individual experience, as well as its re-interpretation within the universality of a living tradition. This universality is, at another level, a conflict of freedom and hegemonic appropriation, of the legitimacy of a social order and its legitimation, of the periods of necessary and needless tyranny. In this perspective of tradition, the classificatory dichotomies of revolutionary and reformist movements, of radical and system supportive sampradaya, and of traditional and modern civilizations, are brought into doubt. Polar concepts capture the basic contradiction of symbolic existence only statically. In fact, they are dialectical moments in the ongoing progressive logic of tradition[10].

3. CONCLUSION

The works in this collection give a sense of what such a preparedness implies, even though, in terms of my own preoccupations, some show more willingness to listen than to suspect, and others to suspect than to listen. In contrast, most Indian intellectuals and their Western counterparts have, by and large, lost any ability to listen. Where they provide any contrary signal, it is only through dividing the little tradition from the Great. To the Indian people, on the other hand, that small tradition with which bhakti is connected is a way of life. It is an ongoing tradition. They just listen to it whereas the intellectuals only suspect it. I hope that this critical introduction and the articles from which it derives its argument will be seen as a beginning towards bridging that gap. If a real, conscious rising towards the accomplishment of communal objectives is to encompass the people, it is unlikely to develop via the transplanting of symbols of foreign or defunct traditions. Symbols of liberation will have to be found from within, by individuals who will carry the weight of revolutionary action. These symbols, while identical to both sterilised intellectual abstractions and ritualised everyday activity, cannot be rediscovered in either of these isolated settings. That has always been the message of bhakti and therein is its modernity.

REFERENCES

- **1.** W. Halbfass and M. Dhavamony, "Love of God According to Śaiva Siddhānta. A Study in the Mysticism and Theology of Śaivism," J. Am. Orient. Soc., 1972, doi: 10.2307/599962.
- **2.** M. Godelier, "On Infrastructures, Societies, and History: Reply," Curr. Anthropol., 1979, doi: 10.1086/202209.
- **3.** D. B. Rosenthal and J. Lele, "Elite Pluralism and Class Rule. Political Development in Maharashtra, India.," Pac. Aff., 1984, doi: 10.2307/2759095.
- **4.** H. Marcuse, Eros and Civilization. 2012.
- **5.** J. Habermas, "Toward a rational society," in Social Theory Re-Wired: New Connections to Classical and Contemporary Perspectives: Second Edition, 2016.
- **6.** G. R. Welbon and S. Jaiswal, "The Origin and Development of Vaiṣṇavism," J. Am. Orient. Soc., 1969, doi: 10.2307/596632.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **7.** R. M. Smith and D. D. Kosambi, "Ancient India. A History of Its Culture and Civilization," J. Am. Orient. Soc., 1967, doi: 10.2307/597745.
- 8. H.-G. Gadamer, "Truth and method (Second, Revised Edition)," 感染症誌, 2006.
- **9.** L. A. Coser, K. Marx, and D. McLellan, "The Grundrisse.," Soc. Forces, 1971, doi: 10.2307/2576947.
- **10.** P. Ricoeur, P. Homans, and D. S. Browning, "Freud And Philosophy: An Essay On Interpretation; Theology After Freud: An Interpretive Inquiry; Generative Man: Psychoanalytic Perspectives," Religious Studies Review. 1978, doi: 10.1111/j.1748-0922.1978.tb00023.x.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IMPACT OF WASTES OF "NAVOIAZOT" OPEN JOINT STOCK COMPANY ON LIVING ORGANISMS AND THEIR MITIGATING WAYS

Saydullayeva Aziza Akbar kizi*; Qalandarova Dilobar Davronovna**

*3rd year Student of the direction of Geography, Bukhara State University, UZBEKISTAN Email id: saydullayevaaziza@gmai.com

** Lecturer,

Department of Ecology and Geography, Bukhara State University, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02688.4

ABSTRACT

The article deals with the issues of the toxic compounds emitted by "Navoiazot" OJSC and their negative impact on the environment, including living organisms, the geographical basis for their mitigation. In a large city, the territorial urban location of a number of large, environmentally "dangerous" industrial enterprises and the environment have a significant impact on air and water. The density of industrial enterprises in the cities of the country has a negative impact on the lives of living beings, including humans.

KEYWORDS: Nitrogen Dioxide, Nitrates, Thiourea, Modernization, Utilization, Blood Cancer, Anemia, Typhoid, Plague, Carboxyhemoglobin

INTRODUCTION

In the new century, our country has joined the ranks of many developed countries with a number of global problems of socio-economic, demographic and environmental nature. Accelerated use of natural resources, production that is not part of the natural cycle of substances, the release of unusable waste into the environment, the use of environmentally hazardous biotechnology has led to a violation of the balance between energy sources and other human activities.

In the 90s of the last century, many industrial enterprises were built in Uzbekistan. For example, Muborak Gas Condensate Plant, Navoiazot Node, Navoi Mining and Metallurgical Combine and others. They emit toxic substances into the environment, and industrial waste. Among the manufactured changes in the environment in which organisms live, its pollution with industrial and domestic wastes leads to complications that are more tragic. Toxic substances of various natures pose a much higher risk. [1]

One of such enterprises is "Navoiazot" JSC, which today has a significant impact on the environment and living organisms.

"Navoiazot" JSC is a chemical enterprise based on the production of ammonium nitrate and nitric acid, which are needed in agriculture.

Currently, the main products of the company include mineral fertilizers, nitron fiber, acetic acid, thiourea $\{CH_4N_2S\}$, chlorine and chlorine products, caustic soda. In addition, more than 70 chlorine and chlorine products, organic and inorganic chemicals are produced. It was built as an

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

enterprise specializing in the processing of natural gas for the production of mineral fertilizers, various organic synthesis products and acrylic fiber (nitron). Natural gas, air, caustic soda, salt, etc. are the main raw materials for the enterprise. [2]

Organic synthesis chemistry is also one of the emerging branches of the chemical industry of the republic. Growth in the gas industry has a positive impact on its development. Currently, the largest enterprise in the industry is the Navoi Chemical Plant. It has the capacity to produce acetylene, acetic acid, acetyl-cellulose, and nitron fiber. [3]

Of course, the environmental problems caused by the plant should not be ignored. Environmental problems are especially acute for the city of Navoi and its environment. In a large city, the territorial urban location of a number of large, environmentally "dangerous" industrial enterprises and the environment have a significant impact on air and water. From this point of view, the modernization of industrial production, waste disposal, and recycling should be one of the priorities in the development of such a large industrial center. In this regard, it should be noted that the city of Navoi, first, is the administrative and political center of the region.

One of the main environmental problems in Uzbekistan is air pollution in major cities and industrial centers and its impact on human health. Of the total emissions, 51.9% are carbon monoxide, 16% sulfur dioxide, 17.9% hydrocarbons, 8.9% nitrogen oxides, 6.1% solids and 0.2% other substances. In 2000, the city of Navoi was the most polluted area in the country, with the highest level of air pollution in 2000. [4]

As a result of the "Navoiazot" chemical plant, the emissions of nitrogen oxides, chlorine and hydrochloric acid, ammonia into the atmosphere have been repeatedly exceeded. For example, if we look at the results of laboratory tests in 2019, the content of ammonium nitrogen in the wastewater of the Zarafshan River was 4.6 times, nitrogen nitrite - 1.5 times, nitrogen nitrate - 2.5 times, chlorides - 1.3 times, copper ions - 1.2 times, sulfates - 2.4 times. Two years later, according to the results of 2021, ammonium nitrogen was discharged 2.1 times, nitrogen nitrate 2.6 times, nitrogen nitrite 60 times, chlorides 1.3 times, copper ions 2.1 times more than normal. [5]

It is obvious that the amount of toxic waste in wastewater increases, but does not decrease.

In addition, due to the production processes at the plant, various toxic wastes are added not only to the atmosphere, but also to water. Salt and sulfuric acid are common in water mixed with industrial effluents. They give the water a salty and bitter taste. Consumption of such water disrupts gastrointestinal function. 350 mg of chlorides and more than 500 mg of sulfates in 1 liter of water is considered dangerous to health.

The density of industrial enterprises in the cities of the country has a negative impact on the lives of living beings, including humans. The cities of Almalyk, Angren, Navoi, Andijan, Fergana, Tashkent, Bekabad, Chirchik and Sariosiya district continue to be polluted with sulfur, nitrogen, phenol, ammonia, hydrogen fluoride, lead, hydrocarbons and other harmful compounds. Atmospheric pollution has a major negative impact on water, soil, plants and animals, as well as humans, leading to the emergence and proliferation of various diseases. At one time, the American meteorologist Louise J. Button wrote in his book "Atmospheric Pollution" (1967), "People realize that the air is polluted, or air pollution leads to a shortage of people on earth". [6]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As a result of air and water pollution in Navoi, there is an increase in blood cancer, anemia, typhoid, plague, severe jaundice, tuberculosis, various severe intestinal diseases, bronchial asthma among people. In addition, one and joint diseases in the population are transmitted primarily to humans from contaminated water sources. According to statistics, the hardness of the Zarafshan River, which currently supplies water to Navoi, has doubled comparing to 1965, its salinity has tripled, the amount of chlorides has increased 2.1 times, sulfates 2-3 times, and salinity 3 times.

Excessive consumption of hard water can lead to the formation of stones in the body, especially in the gallbladder and urinary bladder, urinary tract, as well as in the kidneys. Nitrogen girbides and nitrogen nitrates in drinking water play an important role in the occurrence of waterborne and communicable diseases in the population. Symptoms such as weakness, discoloration are observed in people poisoned by these substances. [7]

Today there are many cases of poisoning not only from water but also from the air under the influence of industrial enterprises. Toxins in the air enter the body of humans, animals and plants through inhalation and lead to respiratory poisoning, slow heart rate, bronchitis, asthma, pneumonia, emphysema in the lungs, eye diseases, tooth loss, It causes diseases such as deformity of the bones of the legs (under the influence of fluoride).

Combined particles of sulfur dioxide (SO2) and sulfur dioxide (SO3) in the air have the strongest toxic effects on all living organisms that breathe, including humans. Sulfur dioxide is a colorless and non-flammable gas, it smells, irritates the respiratory tract, makes breathing difficult, and causes lung disease. If the amount of this gas increases, the number of patients will increase and deaths will increase. Too much carbon monoxide in the air is very dangerous for humans. After entering the body, this gas combines with red blood cells (hemoglobin) to form carboxyhemoglobin. Because of an increase in blood pressure, his eyesight deteriorates, his ability to recognize time decreases, psychomotor function of the brain is impaired and changes in heart and lung function, headaches, drowsiness, spasms, respiratory disorders occur. [8]

What is the maximum level of air and water pollution caused by toxic gases produced by industrial enterprises such as JSC "Navoiyazot" near the city of Navoi, "Kyzylkum" cement plant, Navoi Mining and Metallurgical Combine and the state of living organisms through them?

For example, in the poultry factory in Karmana district, the feathers of chickens are sparse, the eggs are small, and even the top and inner layers of the eggs are blue. Productivity has also declined compared to the previous situation due to poor environmental conditions. In the area of the Zarafshan River near "Navoiazot", mass poisoning occurred, fish died, and the color of the water flowing through the Karmana district changed slightly. This was due to the fact that the waste from the enterprise was released in excess and dumped into the water. Under the influence of toxic substances released into the water, the water delivered to the population around the enterprise is sometimes blue, sometimes it looks like oil or kerosene has been spilled. As a result, crops in the surrounding fields have dried up and fruit trees have become less productive. Plants other than cotton, corn, and mulberry have become unbearable.

In conclusion, it should be noted that the industrial enterprises of Navoi and the enterprises of JSC "Navoiyazot" bring significant material benefits to the economy of the republic and Navoi region, but in turn are environmentally toxic. JSC "Navoiyazot" suffers from various diseases

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

due to toxic gases emitted into the atmosphere, as well as discharges and sewage, and suffers from various diseases. Plants are drying up and fruit trees are producing less harvest.

To prevent this, it is necessary to build a green city, that is, to surround the industrial enterprises with various fences (mulberry, saxophone, sugar). Then the trees will absorb the toxic gases from these enterprises, produce oxygen and reduce the damage to the environment. It is also advisable to build filtration devices that trap as much toxic gases from the company's pipes as possible. Regular water treatment should be carried out to reduce the environmental impact of polluted water bodies. To do this, when pistachios were planted in wastewater, the oxygen content of the water increased to 8.0-10.0 mg / l, and the biochemical oxygen consumption and oxidation levels decreased to 14.4 and 21.0 mg / l. Nitrogen compounds in wastewater have been used to grow pistachios. The level of organic and mineral pollution of wastewater was 95.0-99.0%.

In addition to the measures listed above, it is necessary to increase the level of environmental literacy of the population. Although these measures do not completely stop the level of environmental pollution, they do have an effective impact on the pollution of geosystems and the health of living organisms.

REFERENCES:

- 1. Shirinboyev ShA, Safin MG. Atrof-muhitni muhofaza qilish. (Environmental protection). Samarkand, SamSFLI, 2003. pp.77-80
- **2.** Saidmurodova Z, Rajabov A. Environmental risks posed by industrial enterprises and prospects for the rational use of their waste. O'zME, the first volume Tashkent, 2000.
- **3.** Abirkulov Q. Economic Geography. Tashkent, Writers' Union of Uzbekistan Literary Fund, 2004. p.264
- **4.** Kosimova ST, Shojalilov Sh, Bader OA. Environmental Protection and Urban Climate. Part II. Tashkent, "Istiqlol" publishing, 2005. pp.31-35
- **5.** Ergashev A, Ergashev T. Ecology, biosphere and nature protection. Tashkent, "Yangi asr avlodi" publishing, 2005. pp.326-327.
- **6.** Yuldosheva N. Navai's scream or chemical disaster. 1989.
- 7. Sultonov P. Ekologiya va atrof muhitni muhofaza qilish. Toshkent, Musiqa, 2007, 110p.
- **8.** Ergashev A, Ergashev T. Ecology, Biosphere and Nature Protection. –Tashkent, "Yangi asr avlodi" publishing, 2005. p.322

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

WAYS AND FUNCTIONS OF STUDENTS SPEECH DEVELOPMENT

Rano Khayrullayeva Lokman kizi*

* Master's Degree, Tashkent region Chirchiq State Pedagogical Institute, Tashkent, UZBEKISTAN Email id: rano.h@cspi.uz

DOI: 10.5958/2249-7137.2021.02616.1

ABSTRACT

This article provides information on the ways and functions of students' speech cultivation, as well as on the methodological terms of speech cultivation. The lesson of reading and the observation carried out in connection with it, the exorcism gives the reader knowledge about natural phenomena, about the life and work of people, about the rules of morality, about dealing with other people. Oral speech differs from written speech as follows: oral speech is a sound speech, and written speech is a graphical speech. In oral speech, hearing is sensory, while in written speech, sight and motor-movement (hand movement) are sensory.

KEYWORDS: Improving The Culture Of Speech, Communication And Message, Expressing One's Own Thoughts With Emotion, Working On Words, Working On Vocabulary And Sentence, Working On Connected Speech.

INTRODUCTION

Speech is the act of thinking on the basis of the type of activity of a person, language tools (word, word combination, sentence). Speech acts as interaction and message, expressing one's own thoughts with emotion and influencing others.

Well-developed speech serves as one of the important tools of a person's activity in society. And for the pupil, speech is a weapon of successful education in school. [1]

What is speech reproduction? If the reader and his / her works are considered from the language, then the active practical mastering of speech development is comprehended in every way (pronunciation, dictionary, syntactic construction, connecting speech). If the teacher provides for, say, speech cultivation, it is understood that the use of methods and methods that will help students to actively master the pronunciation, vocabulary, syntactic construction and connecting speech of the language. Therefore, the program of spelling and spelling included such parts as sounds and letters, words, sentences, connecting speech. Sections of the native language program are called "teaching letter-literacy and speech cultivation", "reading and speech cultivation", "Grammatics, spelling and speech cultivation". [2]

For speech activity, as well as for the growth of students ' speech, it is necessary to adhere to several conditions:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 1. There must be a demand for the appearance of a person's speech. The methodical motivation for the growth of students ' speech is the creation of a situation in which the reader wants to express his opinion, something verbally or in writing, and the need for it.
- 2. The content, material of any speech should be. The more complete, rich, valuable this material is, the more meaningful its description will be. Therefore, the second condition for the growth of the students 'speech is about the material of the exercises for speech, and the reader's speech is considered to be of care in order to be meaningful.
- 3. The idea is understandable only if the listener is expressed with the help of understandable words, word combinations, sentence, speech objects. Therefore, the third condition for successful cultivation of speech is the armament of speech with language tools. It is necessary to give language samples to students, to create good speaking conditions for them. As a result of hearing speech and its use in its own experience, conscious "tilni perception" is formed, which is based on the methodology of education in children. [3]

The methodical condition for speech cultivation is the creation of a wide system of speech activity, that is, first, the perception of a good example of speech, and secondly, the creation of conditions for expressing one's own opinion using the language tools learned.

The child tilni assimilates in the process of speech activity. This is not enough, because it superficially absorbs speech. There are a number of aspects of speech acquisition.

These are:

- 1. Mastering of literary language standards. The school teaches students to distinguish literature from simple colloquial, dialect and jargon, introduces them to the artistic, scientific, colloquial variants of the literary language.
- 2. Mastering the essential speech skills necessary for each member of our society, namely, reading and writing skills. With this, students will learn the features of written speech, its difference from oral-colloquial speech.
- 3. Improving students 'speech culture. Language is the most important means of communication in society. Due to this social significance of the language, special attention is paid to the speech culture of students in the school.

To perform these tasks, the teacher must carry out a planned work with the students. To do this, it is important to find out what students will gain access to the concept of working on the cultivation of their speech.

In speech cultivation, three directions are clearly distinguished: 1) work on the word; 2) work on the word combination and sentence; 3) work on the paired speech.

To work on the word, vocabulary and sentence, the linguistic base is served by lexicology (in combination with phraseology and Stylistics), morphology, syntax; and the connecting speech is based on logic, literary criticism and complex syntactic integrity linguistics.

The three directions shown are parallel: the dictionary work provides material for the sentence; work on the word, word combination and sentence prepares for connecting speech. In turn, the connected story and essay will serve as a means of enrichment of the dictionary.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Students have their own methodical means of cultivation of speech, there are their own types of exercises. Of these, the most important are the exercises of connecting speech.

In speech cultivation, consistency is provided by the implementation of four conditions, that is, the ability to subordinate exercises to a common goal-the consistency, the prospect, the Variety, the variety of types of exercises. Each new exercise connects with the previous one and prepares students for the next, adds some kind of innovation again, subject to the general goal.

The cultivation of students 'speech at school is regarded as the main task of teaching the native language. Speech development is not only the task of the native language and reading classes, but also of all disciplines (Natural Science, Mathematics, labor, fine arts, singing classes)in the curriculum, as well as activities that are conducted outside the classroom.

Types of speech.

People use language as a weapon of reasoning. They will be able to think about it before they can voice their opinion. This is an internal speech. Internal speech is an unpaired and unwritten," thought-out " (thought-out) speech, in which the speech is directed by the thinking person himself. External speech is a speech directed to others, being heard with the help of sounds or written with graphic signs. The physiological nature of internal and external speech is the same; the difference — in External speech the sound is pronounced or recorded as a result of the action of the members of speech; in internal speech, the action of the members of speech occurs without a vowel.

Internal speech helps to understand and keep in mind the material, is suddenly an indispensable tool in the cultivation of external speech. Thinking, thinking is based on internal speech. Internal speech teaches the reader to speak out, feeling responsible. Thinking in the process of internal speech is an important tool in the growth of the student's speech and thinking.

At school, not only the external speech of students, but also the internal speech is grown. Children learn to read inside, and in the inner speech they master the material, solve various tasks themselves, the main thing is to prepare their own oral and written thoughts.

According to the method of expression of thought, speech is verbal and written. Oral speech differs from written speech as follows: oral speech is a sound speech, and written speech is a graphical speech. In oral speech, hearing is sensory, while in written speech, sight and motor-movement (hand movement) are sensory. Both oral speech and written speech serve as a means of communication between people, but oral speech occurs in certain life situations, in the process of direct communication; written speech is used both directly, separated from specific conditions, and without the participation of a person.

Oral speech is often in the form of a dialogue, and written speech is in the form of a monologue. Written speech requires a statement with the observance of logic consistency, without dropping some forms of language, without allowing excessive repetition. Therefore, written speech is much more complicated and mavhum.

Speech is not only a kolmay as a means of expressing thought, but also a weapon of its formation. Thought acts as the psychological basis of speech, the condition for its cultivation is the enrichment of thought. On the basis of mastering the system of mental activity, speech can be successfully grown. Therefore, great importance is attached to the types of work that direct the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

students 'speech to material preparation, improvement, selection, placement and logical thinking on the subject matter.

Thinking successfully grows only if the speech is formed and explained with the help of language material. The concept is expressed in words or combinations of words, so that it becomes an important communication material in a word, which is a language tool. If a person knows the concept expressionalaydigan word (word combination), he will have the opportunity to think in an external speech, based on this concept.

In speech, the thought is formed, while the thought creates the speech. "Speech is closely connected with thought. Without speech, there will be no thought, without language material, it will not be able to express the thought.

The speech formation of thought ensures that it is clear, understandable, pure, consistent, logical. Tilni the seizure creates conditions for learning the phonetics of the same language, the composition of the dictionary, the construction of thematikmatics, to improve the mind, to cultivate thinking. Knowledge, evidence, all kinds of information are the material of both thought and speech. Speech serves as an important tool for learning the process of thinking. Speech is used as one of the main dimensions of the reader's intellectual development. When the reader thinks about the assimilation of material from all educational subjects and the development of common sense, it is considered that he or she is able to explain this topic in his or her speech (essay, Information, re-storytelling, answer to questions).

Thus, speech can not be distinguished from contemplation, speech develops on the basis of thought; thought ripens with the help of speech, emerges. On the second hand, the growth of speech contributes to the formation of thought, improves.

The relevance of students 'speech cultivation with other learning subjects:

The cultivation of students 'speech is also inextricably linked with the training conducted from other educational subjects. In the lessons of mother tongue, students learn about nature and people's lives with the help of language; they learn to observe, think and make the right statement about what they see, hear, read. Mother tongue lessons effectively help to enrich the children's dictionary, teach how to correctly compose a speech.

The lesson of reading and the observation carried out in connection with it, the exorcism gives the reader knowledge about natural phenomena, about the life and work of people, about the rules of morality, about dealing with other people. In these lessons there is a wide range of options for children's speech, its formation and growth. The poem, reading of articles, recounting what has been read, the story that they saw during the Exodus, the observation of the phenomena of the subject and nature, is the means by which the readers cultivate their oral speech. And in the lessons of mother tongue there is a wide range of opportunities for the cultivation of written speech. Gram a variety of exercises for vocabulary, sentence structure, statement, essay, which students perform in the lessons of studying and reading mathematics, will help them in mastering the skills of speech.

Gram with a special study of the language in the lessons of mathematics and correct writing, children learn to hear and say sounds, syllables, words and sentences separately. They learn a lot of new terms, such as many words that denote something, action, character, as well as sound, letter, syllable, word, core, suffix, Word Series, noun, adjective, verb, number, pronoun,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

connecting, sentence, sentence fragment, Derek sentence, interrogative sentence, exclamation sentence.

In other lessons in the elementary classes, the students 'speech is enriched with a variety of words. Observation and various visual weapons are also a means of forming concepts, acquiring knowledge in these tutorials.

LITERATURE:

- 1. Askarova M. and others grow a speech of small children. T., 2001.
- 2. Safarova R. and others. Literacy teaching classes. T.: Spirituality, 2003.
- **3.** Mirjalilova S, Paid R. Pedagogical technologies in the educational process. Methodical recommendation. T., 2008.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IMPORTANT COMPONENTS OF MODERN ENTREPRENEURIAL FEMALE PSYCHOLOGY

Rakhmonova Mavluda Khasanovna*

*Teacher,
Department of Psychology of Termez State University,
Surkhandarya Region, UZBEKISTAN
Email id: mraxmonova033@gmail.com

DOI: 10.5958/2249-7137.2021.02617.3

ABSTRACT

This article provides information on modern female psychology. The responsibility of the first type is such that a person recognizes himself only as a motivator, responsibility of all events that occur in his life. In children who are taught to take responsibility for their own neck, there are fewer cases of anxiety, neurotism, conformism. In particular, the opportunities created for women entrepreneurs laid the foundation for the formation of the modern image of women entrepreneurs in Uzbekistan. A responsible entrepreneur woman will always go over her vow, do what she planned. When the promise is fulfilled, he not only receives benefits, but also experiences a deep satisfaction, a sense of joy, feels light, cheerfulness.

KEYWORDS: Entrepreneur, Fast, Hardworking, Modern, Experience, Success.

INTRODUCTION

The terms business or business are derived from the English word "Business", which means" employment", and any legitimate commercial activity is understood. A person engaged in entrepreneurship is an entrepreneur. One of the main psychological features of the personality of the 21st century is to engage in labor, entrepreneurial activity, which is the main essence of life, relying on news, innovations. The creative person living in this era of production uses more communicative, Social, Social Psychological and legal opportunities in his entrepreneurship.

At present, in our country, the wide opening of the way for the activity of individual's Tabernacle, the creation of a system of support for entrepreneurial subjects, further increases the motivation of people for entrepreneurship. In particular, the opportunities created for women entrepreneurs laid the foundation for the formation of the modern image of women entrepreneurs in Uzbekistan. An important factor in entrepreneurship is the individual characteristics of this entrepreneur. In order to be an entrepreneur, in addition to the external situation, there are only aspects of self-attachment, without which he can not become a real entrepreneur, even if there is a full capital and legal environment. [1]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Like any entrepreneur, there are a lot of qualities that are important to entrepreneurial women. The most important of them are intelligence, communicativeness, willpower, business, commercial and of course the ability to trust. In the World, Employment plays an important role in the social policy of any state, because the more people who are engaged in profitable Labor, the less opportunities for economic growth in society, the less the unemployed and the less the arable.

The spiritual and inner experiences inherent in entrepreneurial women develop in them in a way related to entrepreneurial skills. In this regard, it is important that they contain the following characteristics:

- ✓ tankidiy assessment of his behavior-sarcasm;
- ✓ performance taking into account their capabilities;
- ✓ the fact that others have analyzed the good and bad assessments that others have given to his activities is a misdemeanor;
- ✓ logical analysis of multi-threading in entrepreneurial activity-tavakal analysis;
- ✓ express the idea in a concise, understandable way in oral and written form-to speak clearly;
- ✓ ability to be thoughtful, a sense of humor-persuasion even in difficult situations;
- ✓ striving for action and protecting it, sincerity, honesty.

A modern entrepreneur must have the ability to keep all factors, measures, events in the sphere of women's business in the same way and be able to keep them in the center of their attention. For this it is necessary to be knowledgeable in all respects. Only then can a woman become a businesswoman by content. In it, without the level of modern technology, technology, organization, knowledge, will remain behind, will not be able to withstand competition and will not be able to achieve a high level as a market participant.

The formation of the psychological image of a modern entrepreneur woman is influenced by a number of factors - information, character, family influence, previous work and life experience, attitude to her work, plans, etc.k. It is formed on the basis of personality traits, such as Initiative in work, aspiration for innovation, risk, independent thinking, which have the ability to make and implement quick decisions in a systematic way, even in conditions where the results of entrepreneurial activity are uncertain.

It is known that responsibility is considered one of the important indicators that determines the maturity of a person. American Scientist Dj.Rotter believes that in each person there are two types of responsibilities. The responsibility of the first type is such that a person recognizes himself only as a motivator, responsibility of all events that occur in his life. In children who are taught to take responsibility for their own neck, there are fewer cases of anxiety, neurotism, conformism. They are ready for life, active, independent thinkers. The feeling of self-esteem in them is also high, and this does not prevent the series to live to be reckoned with even with others. The second type of responsibility is different from it, all that has happened and will happen, the causative external factors of events, other people (parents, teachers, colleagues, superiors, acquaintances, etc.).).

Responsibility or responsibility this is the ability of a person to accurately predict in advance the content of each of the actions performed, the work done, the words spoken, to fully feel

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

responsibility for them in themselves. A responsible person feels deeply that everyone is responsible for his actions before the surrounding people, parents and acquaintances know. He will speak a sentence, think about the consequences of it before performing an action, try not to overdo it in front of others.

A responsible entrepreneur woman will always go over her vow, do what she planned. When the promise is fulfilled, he not only receives benefits, but also experiences a deep satisfaction, a sense of joy, feels light, cheerfulness. On the contrary, irresponsible entrepreneurial women become beburd, beandisha, light nature, give a lot of promises to their partners in the conduct of entrepreneurial activities, but do not get out of the habit of what they say. Therefore, business people do not believe in such things, do not respect them.

Qualities that should be present in women who choose the path of entrepreneurship: - diligence, friendship towards people, humanism, sincerity, honesty, conscience, perseverance, honesty; regularity and discipline, assertiveness to oneself and others, understanding and taking into account the opinion of others; - aspiration; - good knowledge of the secrets of the sphere and profession, high education and Qualification, Knowledge and experience corresponding to the requirements of new technology, knowledge of skills training, knowledge exchange; - Attention to appearance-clean Freedom, Order, intellectuality, elegance in clothes, behavior, order and so on [2].

Entrepreneurial women, who demonstrate these characteristics in their activities, will be ready to successfully conduct entrepreneurial activities in the conditions of a market economy.

The formation of women as entrepreneurs is influenced by a number of factors - information, character, family influence, previous work and life experience, attitude to their work, plans. It is formed on the basis of individual characteristics, such as Initiative in work, aspiration for innovation, risk, independent thinking, even in conditions where the result of entrepreneurial activity is uncertain, having the ability to make and implement quick decisions on a regular basis.

Adjectives that should be in women who choose the path of entrepreneurship:

- 1. Labor, friendship with respect to people, humanity, sincerity, honesty, conscience, patience, honesty.
- 2. Regularity and discipleship, assertiveness to oneself and others, understanding and taking into account other people's opinions.
- 3. Propensity to
- 4. Good knowledge of the secrets of the sphere and profession, high education and Qualifications, Knowledge and experience corresponding to the requirements of new technology, in-depth knowledge of the techniques and technology of production, well mastered the methods of management, improve their knowledge, skills of training, knowledge of information exchange and hoc.
- 5. Attention to appearance is pure freedom, order, intellectuality, elegance in clothes, behavior, competence in order, etc.

Attributes inherent in the entrepreneurial female personality include:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- \triangleright First of all, the intellectual potential in entrepreneurial women should be developed \square (to be able to set the right goals in front of oneself)
- > Secondly, in entrepreneurial women, communicative qualities are necessary, that is, since entrepreneurship is often a joint action of the majority in practice, it is also necessary for entrepreneurial women to have the skill to bypass and appropriate dealing with people.
- ➤ Since an entrepreneur, a woman, is often forced to rely on a fly, it is necessary to give her specific qualities of willpower to them first of all, the ability to rely on them, to be able to control her actions, desires and needs, to struggle, to win by showing the qualities of her "me", to be able to attract the attention of many,
- > Self-confidence in oneself and in the future is necessary if a woman from four, an entrepreneur, does not strive for Health, Health, Strength.
- The main motivation of the woman of the event, that is, the purpose of the activity is to find it, to earn money and to spend it for profit, and also to be in circulation with the money for them [3].

The above characteristics serve for the success of entrepreneurial women in their activities.

USED LITERATURE:

- **1.** Kirchler E. Psychological theories of organization. E. Kirchler, K. Mayer-Pesti, E. Hofmann; trans. from German. Labor psychology and organizational psychology; Vol. 5. Kharkiv: Publishing house "Humanitarian Center", 2005. 312 p.
- 2. Ruttinger R. Culture of entrepreneurship. R. Ruttinger. M.: ECOM, 1992. 240 p.
- **3.** Romazan IV. Psychology of entrepreneurial activity. Practical psychology: textbook for universities; edited by M. K. Tutushkina. St. Petersburg: Didactics Plus, 1997. Part 3. Chapter IV. pp.219-239.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PREVENTION OF DIVORCE BY PREPARING YOUNG PEOPLE FOR FAMILY LIFE

Gafforova Dilfuza Juraevna*

*Teacher,
Department of Psychology of Termez State University,
Surkhandarya Region, UZBEKISTAN
Email id: dilfuza_gafforova@mail.ru

DOI: 10.5958/2249-7137.2021.02618.5

ABSTRACT

This article describes the psychological characteristics of young people, the problem of preventing divorce through their preparation for family life. "To further strengthen the foundations of the family, which are indispensable to us. Peace and tranquility of the apartment. create a climate of morality and mutual respect. Due to the fact that he built a family in his youth years or at the end of it, he also wanted to have a high level of spiritual-moral and socio-psychological preparation, a culture of living in a family-matrimonial relationship, communication with family members.

KEYWORDS: Family, Youth, Marriage Readiness, Family Consistency, Divorce.

INTRODUCTION

Today we are increasingly aware that the root of any shortcomings and shortcomings in society is the foundation of a strong, stable and prosperous state, as in most cases, the lack of a socio-spiritual environment in the families justifies itself, and above all, the establishment of strong families. It is not surprising that the president of our country, Shavkat Mirziyoyev, has set up urgent tasks for relevant state bodies and public organizations on the development of the Family Institute, the solution of gaps and problems that have remained unnoticed for years in this area, proceeding from our national and spiritual values.

The fact that early marriages, which cause a lot of social pain, are observed in our society, the number of divorces increases by 10-11 percent every year, women's crime, uncontrolled and abusive behaviour of minors, unfortunately, is the same. To put an end to such unpleasant scenes and prevent them, of course, the introduction of vital, effective measures into the system of working with families has become a modern requirement. President Of The Republic Of UzbekistanIn accordance with the decree of Mirziyoyev "on measures to radically improve the activity in the field of supporting women and strengthening the Family Institute" on February 2, 2018, the same goals were expressed. [1]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The consistency of the family, the continuity of family traditions are ensured by the harmony of national and universal values. Each of the family members has a certain spiritual world as a person, as a result of close relations, communication between them, a specific family spirituality arises in the family. "To further strengthen the foundations of the family, which are indispensable to us. Peace and tranquility of the apartment. create a climate of morality and mutual respect, it is necessary to fill spiritual and educational work with thematic content. The spiritual qualities of the parents in the family determine the degree of high humanity and morality of the Sharka of the couple's relationship. The spiritual world of the family should include such spiritual values as mutual respect, dignity, cooperation, reconciliation, kindness, nobility. The respect and observance of such values in the family creates such a spiritual atmosphere and climate in the family that in these young people the national feeling plays an extremely important role in the formation of the national character. The continuation of such an environment in the family will undoubtedly have a positive impact on the preparation of young people for the family.

The youth period is 18-25 years old - this is the process of achieving civil and psychological maturity. In this period, young people occupy a whole system of social rights and duties inherent in maturity. In youth, on the basis of the development of self-awareness, a personal way of life and views about the family on the chosen profession and its appropriation are formed. Although the age of GERD is the most basic period in the chapter on preparation for family life, today the preparation of young people for family life ceases with the end of the adolescent and Gerd period. As the fur becomes larger, it will not be important to teach them a lesson in this regard.

Due to the fact that he built a family in his youth years or at the end of it, he also wanted to have a high level of spiritual-moral and socio-psychological preparation, a culture of living in a family-matrimonial relationship, communication with family members. According to observations, most students-young people are not sufficiently prepared to enter into family relationships, to live an independent life. As a result, it is observed that the young man-girl, who went to study abroad from her family, initially appeared at a young age, complicated situations, fervor in front of independent life. [2]

In the initial Pallas of youth, the mood is elevated, the sense of pleasure is elevated, if the soul gives, the attempts of everyday life, certain laws in the process of reading, difficultchiliklar influences, which can sometimes cause depression in the psyche. This can lead to the fact that under the influence of internal and external factors, feelings such as insecurity, frustration in the student psyche appear, and sometimes be given to the influence of foreign ideas, go the wrong way.

Young people make mistakes in many matters due to lack of adequate management of their behavior and behavior and lack of vital experience. They make mistakes in the analysis, control, evaluation, criticism of their activities. As a result, conflicts arise in their activities and relationships. Later, on the basis of their creative thinking, feelings, moral qualities, self-assessment, the personality also begins to form.

The introduction into marriage requires a certain degree of preparation from the future bride-groom. Because the bride-to-be must be ready for family life not only from the physical, but also from the social and spiritual side before the marriage. In this case, if the physical maturity of young people is the age of physiologic maturity, mental maturity is the level of mental development, emotional development, parental and also the ability to fulfill the responsibility of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the couple. The family will also depend on the level of mental development of stable young people. The mental development of young men and girls, the ability to contemplate and intellektual, the essence of entering into marriage and the sense of responsibility in front of their family in the future.

The mind of modern youth is negatively influenced by the family way of life, which today comes through various sources of information. Therefore, the problem of the preparation of the younger generation for family life today has been comprehensively addressed, this has been emphasized by the responsibility of the family as well as schools, neighborhoods, educational institutions, public organizations, every citizen, and the problem of family has been raised to the level of Public Policy.

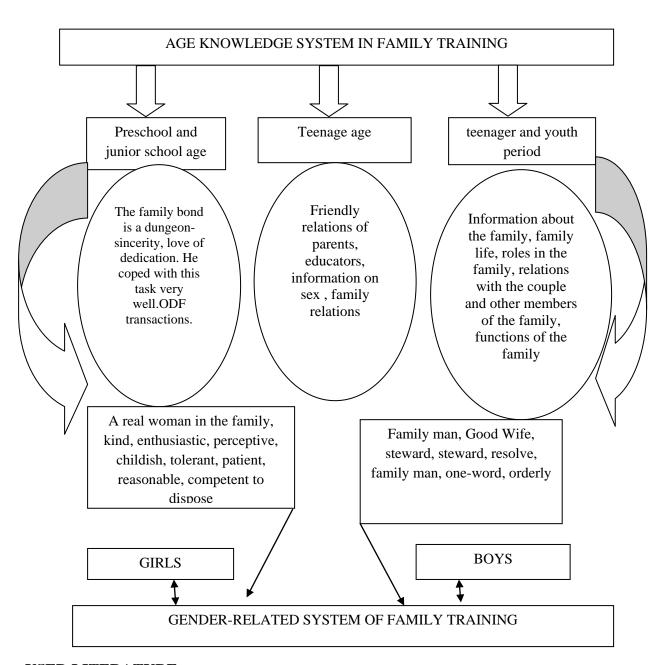
Physical, spiritual, spiritual, sexual unpreparedness of young people in family life leads to the following negative consequences in family life: - increased divorce rates; - shortening of intermediate time in the adoption of women's children; - deterioration of mental and physical health; - decrease in the chances of marriage; - early marriage or late marriage, etc.

In our people, there is a transplant that the marriage is most read first in arshi a'la, and then read There. According to the age-old concepts of our fathers, marriage is a divine covenant, a family union. The main goal of building a family after marriage is the continuity of the human generation. Failure to be mistaken in entering into a marriage leads to the establishment of a strong family. A harmonious coexistence, honest work, a family based on correspondence play an important role in the upbringing of a person loyal to the work of a decent generation, a morally clean society, our progress, independence. Therefore, the main goal of preparing young people for the family is to ensure family peace, to bring up children in the family and to educate them as perfect people for the future, and to prevent divorce in the family.

And for this, the preparation of young people for family life they need to begin with the first years of their life, and when preparing for family life, it is necessary first of all to form a picture of young people's family life. Studies have shown that the perception of family life in adolescent girls has a negative impact on their readiness for real life due to lack of information in this area.

In the preparation of young people for family life, it is possible to offer a model "innovative preparation of young people for the family" in the formation of the correct imagination of the family before their division.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



USED LITERATURE

- **1.** Akramova FA practical psychologist in Uzbekistan improving the system of Personnel Training: problems and solutions Termez Republican scientific-practical conference collection of scientific articles 2020, p.27
- 2. Fitret E. Family. T.: "Spirituality", 2000. 112p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PERCEPTION OF SCHOOL COMMUNITY ON INTRODUCING ACTIVITY-BASED ORAL ENGLISH FOR STUDENTS IN GOVERNMENT SCHOOL SYSTEM

Dona Malini Wijayalatha Munasinghe*

*Senior Lecturer, Dept. of Early Childhood & Primary Education, Open University of SRI LANKA Email id: dmmun@ou.ac.lk

DOI: 10.5958/2249-7137.2021.02696.3

ABSTRACT

The last Primary education reforms in Sri Lanka attempted to introduce communicative English in Activity Based Oral English (A.B.O.E) as a part of Environment Related Activities (E.R.A) in grades 1 and 2 (Key Stage 1) from 1998. Most of the teachers, as well as parents, are not familiar with this concept at the beginning and, they are facing problems with how ABOE should be incorporated with the day-to-day activities for students. This study tried to understand to find out what are the reasons to introduce this concept on the Island. The survey method was used in this research and different samples were selected from the school community. Most of the sample positively agreed with introducing ABOE at grade one. The theoretical base of ABOE is for strengthening the natural language skills, of a person. Therefore, it needs to introduce the English language in a more meaningful and practical way has been pointed out.

KEYWORDS: Primary Education; Primary Education Reforms; Activity Based Oral English; Key Stage 1; Environment Related Activities, School Community

1.0 INTRODUCTION

Language is the key to communication among the humanities. This language, which facilitates communication, expresses ideas that are embedded in a person's thinking experiences. In this way, they have created a language that is unique to their nation among the world community. It is used from the birth of a person to fulfill his/her needs. People living in many countries today are not limited to one language but have expanded relationships using another language or several languages. Today there is a need to learn another language in addition to one's mother tongue. Accordingly, many parents are more interested in giving their children the opportunity to learn several languages. Many countries have recognized this need and in Sri Lanka has also provided the opportunity to study English in addition to native languages Sinhala or Tamil. [1]

In the context of this research study, the term school community is defined as consisting of teachers and other staff, children, and their families. The role of the school community is to support the development of children in their language, social, intellectual, physical, and spiritual

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

development. As the child grows, he/she needs the development of their language ability. The more developed and complex the child's thinking becomes; the more creative will the language be.

Many educators believe that developing a partnership, with parents and other members of the family, regarding their child's language development can strengthen the child's ability to learn and explore creative ideas through language. Therefore, it is necessary for parents to support children. Accordingly, through a creative awareness program, parents are encouraged to understand the philosophy behind teaching methods, how children learn, why social skills are important and how social skills can be an important part of the child's learning process. Therefore, the school community has a crucial role in supporting the child in the development of language.

National Education commission report (1992) [9] has mentioned years one to five constituting the primary stage of education is a formative period in the life of the child when the foundation is laid for physical, mental, emotional, and social development. These beginning years of a child's schooling will be made pleasant and memorable. The freedom for pupils to discover things for themselves, to discuss things among themselves, when necessary, freedom to move about and express their thoughts and ideas is conducive to the development of a growing child's individuality, creativity, and cooperative ability. The child should also be disciplined to the extent that he can concentrate his/her attention for a significant period on a task at hand.

In the context of the average of Sri Lankan primary schools, preliminary observations have shown that the teachers, in a majority of the instances, do not use ABOE inprimary classes. Most of parents also cannot give support to their children. A review of available Sri Lankan research has shown that a smaller number of previous research has been carried out on Activity-Based Oral English. The broad aim of this study is to investigate the perception of the school community on introducing Activity-Based Oral English for students in grade one.

GLOSSARY OF EDUCATION REFORM is a

2.0 Literature Review

In 1943, The **Kannangara report** [5] suggested making a variety of languages the medium of instruction, introduced a new subject, English as a second language in the Sri Lankan education system. However, there is a problematic issue about which age level should be introduced English as a Second National Language. After the independence in Sri Lanka, English has been tried to be introduced at different levels in the formal education system. "**Transforming school Education** [14] in Sri Lanka", 2011 mentioned that there was strong demand from parents and students. First, the primary education reforms programs introduced Activity Based Oral English (ABOE) from grade one and teaching of English as a second language from grade three as an integral component of the primary school curriculum" (**The World Bank, 2011, p. 71**) [15]

It is an accepted fact that from grade 1, students begin to show their individual differences and according to their socio-cultural society. The study is concerned in line with introducing ABOE and how it affects to students in grade one classrooms. The research pays attention on how teachers can make use of ABOE in grade one classes and its effects on learning-teaching process. ABOE is included as a part of the subject's environmental-related activities and mathematics. Given below are the objectives of ABOE.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Provide opportunities for students to get familiarized with simple words in English that are necessary for day-to-day activities.
- Provide an environment that is conducive for the use of simple English both in and out of the classroom.
- Diminish the reluctance in students to use English
- Create an environment of enthusiasm to learn English

In 1991, the National Education Commission in view of formulating a national policy on education carried out a field study that identified the improvement of English language teaching (ELT) in schools as one of the priority areas. Hence the 1998 educational reforms proposed the following to be implemented to update the standard of English Language Teaching in Sri Lanka. [8,9,10,11]

- Introduction of Activity Based Oral English (ABOE): It is a spoken English program specifically designed for students in Grades One and to use simple English for communication. Children are taught oral English while they are engaged in guided plays and activities
- Training adequate numbers of teachers for English
- Teaching of formal English from Grade Three
- Bilingual teaching for selected subjects from Grades Six to Nine: In order to provide an opportunity to all students to acquire proficiency of both first language (Sinhala or Tamil) and English, students are given options to follow certain subjects in English and the rest in their respective first languages
- Alternative English syllabuses at Grades Ten and Eleven
- General English for comprehension and communication at GCE (A/L) as an optional subject (General Education Reforms, 1997). [2]

Though various educational Reforms have sought to make English a means of communication among the different ethnic communities and to make its instrumental advantages available to all Sri Lankans, the objectives were not fully achieved in relation to the whole student populace in the country. English remains a marker of the higher social classes rather than a language of everyone (Karunaratne, 2009). [6]

This was a great opportunity to learn other languages for communication in the formal education system.

2.1 Significance of the Study

The development of oral language is one of the child's most natural and remarkable accomplishments. This study focused on Activity-Based Oral English is an essential component of language development at the beginning of a persons' life. "Once the leaner learns a language, he or she uses it throughout life as a life skill, it transfers to career and work settings fully to perform all tasks where writing, reading, listening and speaking is needed" (Sedara, 2019, p.170). The richer the child's language, the better is their prospect of fitting into and progressing effectively in the early primary school years.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Language is an effective strategy in developing children's communication skills that enhances positive family encounters and experiences that in turn promotes through language. Language development in primary education is discussed in the field of education. Much of the endeavor of primary education is focused on the language development of the child. Adults should help children to become aware of their own goals, make plans, and to review their own progress and successes. Also, the facilitator should be able to describe what he/she grasps them trying to do and encourage students to talk about their own processes and successes.

The importance of oral communication, (2015).has presented that the goal of learning a language is to communicate. Oral communication skills are fundamental to the development of literacy and essential for thinking and learning. It is the glue that puts all the components of a language together. Through talk, students not only communicate information but also explore and come to understand ideas and concepts; identify and solve problems; organize their experience and knowledge; express and clarify their thoughts, feelings, and opinions. Listening and speaking skills are essential for interaction at home, at school, and in the community. [14]

Kersts, (1989) [7] has pointed out that language exists as a part of an individual's intelligence. Children develop quickly in the early years, and early years' practitioners aim to do all they can to help students have the best possible start in life. Children have a right, spelled out in the United Nations Convention on the Rights of the Child, to a provision that enables them to develop their personalities, talents, and abilities irrespective of ethnicity, culture or religion, home language, family background, learning difficulties, disabilities, or gender. This guidance helps adults to understand and support each individual child's development pathway.

Primary children are curious and want to learn more about their world and to get experiences. They are driven to communicate—first about their needs, and then about their desires, interests, knowledge, and competencies. Family, community, and cultural practices all shape and influence children's verbal and non-verbal communication, their patterns of interaction, and their preferred modes of communication. In the present society, a wide range of media and platforms are used in communication. However, it is critically important that humans should pay attention to the development of basic language skills of children that can be further developed. It is a language that helps the child to identify and interact with the world and to perform actively.

In addition, it is a language that helps the children to acclimatize to their environment, to identify the environment, and involve themselves in the day-to-day activities for communication. The richer the environment and uses more languages the more extensive a child's language will become. Similarly, a child who has a limited environment will have a limited vocabulary. According to **Wasik** (2014) [16] at four years of age, children's language development is exploding. Their vocabulary consists of about 4,000 to 6,000 words, and they are typically speaking in five- to six-word sentences. They use language to communicate their thoughts, needs, and demands.

The development of the speech abilities of primary children is heavily influenced by their background and learning environment. It is therefore important that a student has enough opportunities to develop his/her language skills in the school environment that supports this learning. The opportunity should be provided especially for the student to talk with friends and to have a cordial relationship with the teacher. The teacher should know how to get close to the student. They talk while they are playing, frequently describing what they are doing while playing (Howard, Shaughnessy, Sanger, & Hux, 1998) [4]. Children can share their daily

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

experiences. Taking turns in conversation is difficult. They want to talk and be heard but have difficulty in listening to others talking. At this age, some children talk incessantly, and teachers need to help these children tolearn to regulate their talking to provide opportunities for others to speak.

There is much evidence that the language is used freely when the child associates with relatives and friends, e.g., when playing at festivals, and at religious worship especially with respect to the tone of use. The student should be provided many opportunities to develop their abilities across the range of speech. In this regard it is important that the child's questions regarding the environment should be encouraged for him/her to explore the environment. The child's speech abilities are developed to the extent that he/she is given an opportunity to talk, relate short stories, describe what happens in the environment daily etc....These kinds of activities help to develop the child' experiences in this regard and develop acquisition of new words and provide experience in pronunciation. The child's language can be developed by making use of every opportunity to involve the child in conversation.

The Early Years Foundation Stage (EYFS) Statutory Framework (2014) [3] states that "Speaking children express themselves effectively, showing awareness of listeners" needs. They use past, present, and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events.

Mohammed (2015) [12] has pointed out the use of the language of learning for effectiveness. According to his research, there are many ways to think, know, remember, forget, ideas that make sense, plan, learn, find out, confuse, figure out, and try, as well as to model being a thinker, showing being curious and sometimes being puzzled, and how to think and find out new ideas.

To achieve this, teachers need to encourage open-ended thinking by not settling on the first ideas, and always respect students' efforts and ideas, so they feel safe to take a risk with a new idea. A teacher should encourage the students to talk aloud as this helps them to think anmodeling what they do - modelling self-talk, describing whatever actions in play are key strategies. Similarly giving students time to talk and think and value their questions, talking and eliciting as many as possible responses, without rushing towards answers too quickly. Supporting students' interests over time, reminding them of previous approaches and encouraging them to make connections between their experiences are critical.

3.0Research Questions

- 1. What were the reasons for introducing Activity-Based Oral English for students in Grade one?
- 2. Do teachers understandActivity Based Oral English?
- 3. Do teachers have enough experience to use the Activity-Based Oral English in practice?
- 4. Are you satisfied with teaching Activity-Based Oral Englishin your classroom?
- 5. Are you satisfied with the parental support of the Activity-Based Oral English?
- 6. What kind of support do parents give you forActivity Based Oral English?
- 7. What is the teachers' view of the importance of Activity-Based Oral English?

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

8. What is the experts' view of the importance of Activity Based Oral English?

4.0 Methodology

The survey method design approach was used in this research. A survey is a type of research to obtain information by gathering data from a particular sample of a given population, through personal or impersonal means, to study its characteristics. The mixed method(both Qualitative and Quantitative) helps to analyses data in all possible ways. It provides a broader perspective of the study and helps the researcher to accumulate a deeper understanding of the facts of interest.

4.1 Sample of the study

The target population of the study was selected from grade one teachers in the Western province in Sri Lanka. According to the **school census report** (2017) [13], the following school numbers were considered as the population in this research.

Table 4.0 - Functioning Government Schools by Functional Grade and District

District	1AB	1C	Type 2	Type3	Total
Colombo	76	80	127	121	404

Source: School censes report (2017)

Sample

A representative sample was selected from Colombo District. The sample consists of sixty-one primary schools concerning of all school categories. (1 AB, 1 C type 2 and type 3) purposive sample method used in this study and indicated in table 4.1

TABLE 4.1 - TYPE OF SCHOOLS

		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
School Type	Frequency	Percent
1AB	3	4.9
1C	12	19.7
Type 2	15	24.6
Type 3	31	50.8
Total	61	100.0

Mail questionnaire

Ten experts in primary education have been contacted to get information. It is presented in table 4.2.

TABLE 4.2 `EXPERTS SAMPLE`

Institutions	Resources	Years of Experience
Ministry of Education	01	<20
National Institute of Education	03	<15
Zonal Education Office - Homagama	02	<20
School Principal	02	<15
Open University of Sri Lanka	01	<20
UNICEF	01	<25
Total	10	

Four schools were observed to get real experience in this study. It has consisted of one school

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

from type 3, one school from type 2 and one school from type 1C, and one from 1AB school.

4.2 Data Collection Instruments

Data collection was done from the selected sample during the first term in 2021. A Questionnaire was used to collect data from the grade one teachers and an interviews schedule was used for selected expertise in the field of education to gather data.

Ouestionnaire

In this study, the Questionnaire consisted of both close and open-ended questions. It was mailed to a selected sample and the following aspects were probed through the mail questionnaire from the grade one schoolteachers.

- Background Information
- ABOE syllabus uses at present
- Teacher training programs
- Understanding of the concept of introducing ABOE
- Teaching-learning methods
- Teaching-learning material

Interviews

Interviews are particularly useful for getting the story behind a participant's experiences opinions or impressions. The interviewer can pursue in-depth information around the topic. Therefore, the researcher interviewed ten expertise in the field of primary education and ten persons from the public the following main aspects were discussed.

- Background information
- Importance of introducing the ABOE
- Level of using ABOE in the classroom
- Contributed develop or implementing ABOE for last primary education reforms
- Positive or negative points of ABOE in implementing grade one classes

Observation

Observation is a systematic data collection approach. In this study, the researcher observed the whole classroom setting consists of more than thirty -five students being a non- participant observer. The researcher noted whatever happened on ABOE in teaching-learning process in the classroom. The following main aspects were observed in each school of the sample.

- Teacher preparedness for teaching ABOE
- Teaching-learning processes
- Teacher behaviour and student behaviour in the teaching-learning process

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Teaching aids

4.3 Data Collection and Procedure

In this study for the survey, 100 questionnaires were sent to the selected schoolteachers and responses received were sixty-one. All type of school categories was representative in this sample.

A semi-structured interview schedule was used half an hours' time with each resource person to gather information. Interviews were notes also taken where necessary.

The researcher observed four classrooms out of sixty-one schools in the sample. Field notes were carried out while observing classrooms.

Mail questionnaires and semi-structured interview schedules were pre-tested in a small sample of schoolteachers who did not participate in the study. Some changes were made in the structure of the words in the interview schedule and focus group discussions. Some questions were eliminated.

Data obtained through questionnaires were triangulated with data obtained from qualitative instruments such as from interviews and observations were triangulated.

4.4 Methods of Data Analysis

Descriptive statistical methods were used to analyze data. (Qualitative and quantitative) Questionnaire data were analyzed using SPSS statistically. Statistical analysis was done on the basis of the responses to the survey using frequencies and percentages and presented them using tables and graphs. The responses of the experts' interviews were analyzed descriptively using verbatim quotes.

In observation, the researcher read field notes several times and identified important key concepts throughout the observations and informal discussions with the classroom teachers.

5.0 Results and Discussion

The analysis of the above-mentioned data has been done under the following six themes in line with the research questions of the study.

- Background Information of schools
- Reasons for introducing Activity-Based Oral English
- Understanding of the teachers on Activity-Based Oral English
- Experience to use Activity-Based Oral English in practice.
- Teachers' view of the introduction of Activity-Based Oral English
- Experts' view of the importance of Activity Based Oral English
- Satisfied with the parental support of the Activity-Based Oral English

Background Information of schools

Selected sixty-one schools had approximately more than twenty students in every classroom. All the teachers were qualified teachers, but their qualifications varied. Table 5. 2indicates their

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

basic qualifications, professional qualifications, and experience of teaching. All the schoolteachers had more than five years of experience in teaching. All schoolteachers had participated in training workshops organized by the local authorities, which ranged from one to four days. School teachers were trained only on subject-based knowledge through these training programs.

Teacher readiness

Teachers were asked for basic information and identified their teaching competence. Accordingl

y, the following points were emphasized

TABLE 5.1 AGE VARIATION OF THE PARTICIPANTS

	Frequency	Percent
18-25 years	2	3.3
26-35 years	16	26.2
36-45 years	22	36.1
46-50 years	17	27.9
Above 50 years	4	6.6
Total	61	100.0

Participants out of total number 61 are within the age category of 26-50 years. They are mostly senior teachers in those schools.

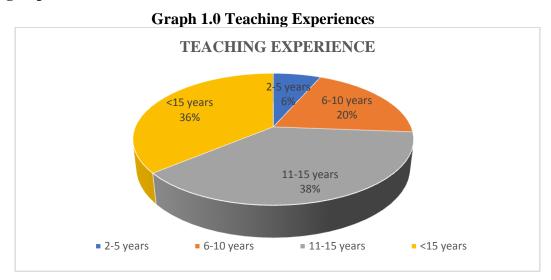
TABLE. 5.2 PROFESSIONAL QUALIFICATIONS

	Frequency	Percent
PGDE	08	13.1
Primary training	53	86.9
Total	61	100.0

Eight teachers are graduates with Post Graduate Diploma qualifications. Most of the teachers are primary training teachers. Therefore, all teachers have professional training for teaching subjects in primary schools.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Teaching Experience



Graph 1.0 shows that 73.3 percent have more than ten years of teaching experience.36 percent have more than fifteen years of experience.

Reasons for introducing Activity-Based Oral English

The following reasons were identified for introducing Activity-Based Oral English.

Teaching a language is easy at a very young age of a child. Also, language learning facilitates by listening therefore, if young children frequently hear new words and also those words are used to communicate something, they can learn easily. So, it is good to introduce ABOE, but teachers need to be given good orientation and support.

Other experts mentioned that English being the global language for communication we should teach English from the beginning.

Another point of view was young children can grace new things quickly and therefore, shouldgive them the opportunity.

Another expert mentioned that children are not reluctant to speak openly and there not assume of any mistake they make. Other experts also had the same opinion.

Only one expert had a negative point of view saying that it's difficult to learn another language when they are not competent even of the mothertongue.

The majority of the experts positively agreed on introducing ABOE at grade one. However, only one person had the idea of ABOE is not suitable to introduce grade one.

Understanding of the teachers on Activity-Based Oral English

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

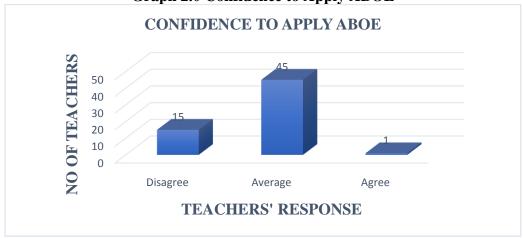
The following table shows that except four teachers others have a very high level of understanding of the concept of A.B.O.E.

TABLE 5.4 UNDERSTANDING THE CONCEPT OF ABOE

	Frequency	Percent
Disagree	04	6.6
Average	21	34.4
Agree	36	59.0
Total	61	100.0

The above table shows that fifty nine percent of teachers are understanding about this concept. However, sixpercent do not understand this concept properly.

Graph 2.0 Confidence to Apply ABOE



According to the above graph, fifteen teachers disagree with the above statement. Because they do not have the confidence to teach students in the classrooms. However, forty-five teachers have an average level.

TABLE 5.3 AGREEMENT OF INTRODUCING ABOE

	Frequency	Percent
Disagree	2	3.3

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

Average	30	49.2
Agree	29	47.5
Total	61	100.0

According to the above, two teachers disagreed with introducing this concept, however, twentynine and thirty agreed or the average to introduce A.B.O.E to primary students.

Experience to use Activity-Based Oral English in practice

Responses to the use of the Activity Based Oral English are indicated as follows. Teachers have to use oral English when teaching Mathematics and Environment-related activities in the primary curriculum.

Integrate ABOE when teaching Mathematics and

TABLE 5.5 ENVIRONMENT-RELATED ACTIVITIES

THE OW ELLY THOU WHEN THE HEAD TO TENTED		
	Frequency	Percent
Disagree	22	36.1
Average	37	60.7
Agree	2	3.3
Total	61	100.0

The agreed percentage in the use of oral English in the above two subjects areas is 3.3. The disagree percentage is 36.1 percent. Average percentage is 60.7 percent.

Oral Communication through Day-to-Day Activities

Provide opportunities to students for oral communication through day-to-day activities. The teacher has the opportunity to use it in class with students. How to use it in class is presented in the table below.

TABLE 5.6 ORAL COMMUNICATION THROUGH DAY-TO-DAY **ACTIVITIES**

· ·	Frequency	Percent
Disagree	30	49.2
Average	26	42.6
Agree	5	8.2
Total	61	100.0

According to this table above the agreed percentage is 8.2 and the disagreed percentage is 49.2.

Use of materials in teaching situations

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

When asked about the agreement of the use of materials in teaching, the following responses were received.

TABLE 5.7 USE MATERIALS WHEN DO TEACH

-	Frequency	Percent
Disagree	26	42.6
Average	27	44.3
Agree	8	13.1
Total	61	100.0

The table 5.7 indicates that the agreed percentage is 13.1 and the average agreed percentage is 44.3. However, the percentage of disagreements is also high. That is, forty-two percent.

TABLE 5.8METHODS OF IMPLEMENTING ACTIVITY BASED ORAL ENGLISH

Method	Response	Frequency	Percent
Roleplay	Yes	40	65.6
	No	21	34.4
Creative Storytelling	Yes	51	83.6
	No	10	16.4
Discussion of	Yes	02	3.3
picture/sceneries	No	59	96.7
Creative games	Yes	14	23.0
	No	47	77.0

According to the information in the table aboveteachers are using different kind of methods toteach ABOE in their classrooms, such as role play, creative storytelling, discussion of picture/sceneries and creative games. Creative story telling is the most popular method in all types of schools. Role-playmethod is practicing forty teachers out of sixty-one teachers in those schools.

Teachers' view of the introduction of Activity-Based Oral English

The following table indicates that fiftyone out of sixty-one teachers are willing to continue this connect; however, ten teachers are not willing to continue.

TABLE 5.9WILLING TO CONTINUE IN FUTURE

		Frequency	Percent
Valid	yes	51	83.6
	no	10	16.4
	Total	61	100.0

Following are the obstacles identified by the teachers.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Lack of usage of English words by students
- Home background
- Lack of attendance of the students
- Lack of speech practice
- Variations of mental conditions
- Lack of parental backing
- Lack of enthusiasm of the students
- Students being distanced from parents
- Tuition classes
- Lack of attention

Problems of students

- Students are afraid to use the language
- Clever students use language freely
- Weaker students are satisfied with basic achievements
- Clever students like the challenge
- Carelessness of students
- Weaker students take more time to learn
- Differences in intelligence
- The lifestyle of parents.

Satisfied with the parental support of the Activity-Based Oral English

Different level of supporting parents was identified according to the school classification.

Parents of all types of schools are of the opinion that English should be introduced at this level. Every teacher is of the opinion that most parents are unable to help their children. Especially type three and type two schools' parents. The level of education of primary school parents has contributed to this. However, the teachers said that the parents of the students studying in the National Schools have the potential to help in this.

About fifty percent of parents in all types of schools stated that they support the teacher in various ways, such as preparation of storybooks Purchase of storybooks Assistance in preparation of learning material Preparation of illustrations for classroom exhibitions. This level was very high in National Schools.

Teachers said that students studying in National level schools have the ability to use English languages. Some teachers said there were also parents who could not do anything to help.Many educators claim that children of this age can easily learn several languages.

CONCLUSION

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The following reasons were identified throughout the process.

- The majority of the experts positively agreed with introducing ABOE at grade one.
- English being the global language for communication we should teach English from the beginning.
- Young children frequently hear new words, and those words are used to communicate something in some learning situations, they can learn easily.
- Children can grasp new things quickly, especially languages.
- The importance of ABOE is developing their English vocabulary and then transitioning them to formal English learning.
- The theoretical base of ABOE is for strengthening natural language skills (listening and speaking) before matured language skills (reading and writing) ABOE should be introduced at this level
- Through Activity Based Oral English students are taught some simple words and simple sentences that can be used in day-to-day activities.
- Through this, it is expected to provide the foundation for learning English at later stages
- Most of the school sample agreed to continue this program further.
- It can be stated that this needs to be presented in a more meaningful and robust manner in the coming primary education reform in Sri Lanka in the coming years.
- Everyone recognizes the need to introduce the English language.
- It is also clear that every parent has a strong desire to teach their children English.

The following conclusions can be drawn regarding the problems presented

- Some teachers are not competent to use.
- Some teachers do not have adequate knowledge to teach.
- Some teachers are not facilitating students to practice in the classrooms.
- Even though most of the parents were requested to introduce English to their children and they did not have a clear understanding of what is ABOE.

Suggestions

- Teachers need to be trained to teach English properly as a language.
- Efforts need to be made to improve their communication skills.
- Use of multi-media for the training of teachers making effective use of a limited number of resource persons.
- Recruitment rules for primary teachers need to be reviewed as the teacher has to teach all the subjects.
- Languages should be set up to improve teaching-learning of languages at various levels.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Short term well organize training programs, should be introduced and content-specific training program modules need to be developed
- Training programs should be conducted every year for teachers.

For teachers

- Teachers should develop class libraries/ library corners to promote the habit of reading amongst children. They should create an input rich environment
- The teachers need to read books in English for professional development,
- Teachers need to be more creative in the use of textbooks and develop activities for students.
- Poetry needs to be taught for appreciation, enjoyment, and pleasure with proper feelings and recitation with proper rhythm, music, and sound.
- Students need practice in asking a wide variety of questions and provide facilities them freedom to talk with peer groups
- At the very young age of a child. language learning facilitates by listening, therefore, it needs to provide a conducive learning environment
- Policy planners need to re-think the introduction of English as a medium of instruction from grade I and it should be separated program in the primary timetable.

REFERENCES

- **1.** Creswell JW. Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th ed ed.). CA: Thousand Oaks. 2014.
- **2.** Educational Reforms and Restructure. Primary Education -Guidelines to Principalsand Primary School Heads, The National Education Commission, Ministry of Education and Higher Education, National Institute of Education, Maharagama. 1998.
- 3. Early years foundation stage (EYFS) statutory framework. Department for Education. 2014.
- **4.** Howard S, Shaughnessy A, Sanger D, Hux KA. Let's Talk! Facilitating Language in Early Elementary Classrooms. Young Children, 1998.
- **5.** Kannangara C. Report of the Special Committee on education. Colombo: Ceylon Government Press, 1943.
- **6.** Karunaratne IM. The teaching of English, New Delhi: A.P.H. Publishing Corporation. 2009.
- **7.** Kerst CH. Enlightenment, fellowship, and Celebration at the Danebod Folk. George Washington University. 1989.
- **8.** National Education Commission (NEC). Proposals for a National policy Framework on GeneralEducation in Sri Lanka. 2003.
- **9.** National Education Commission (NEC). Sri Lanka, National Education Commission, 126, Nawala Road, Nugegoda, Sri Lanka. 1992. nec.gov.lk
- **10.** National Education Commission (NEC), Reforms in General Education. Sri Lanka, National Education Commission, 126, Nawala Road, Nugegoda, Sri Lanka. 1997. nec.gov.lk

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **11.** National Education Commission (NEC). Sri Lanka, National Education Commission, 126, Nawala Road, Nugegoda, Sri Lanka. 2003. nec.gov.lk
- **12.** Mohammed A. EFL effective factors: Anxiety and motivation and their effect on Saudi college students' achievement. Arab World English Journal, 2015;6(2):201-218.
- 13. School Census Report. Ministry of Education, Sri Lanka, Issrupaya, Battaramulla. 2017.
- **14.** Sedara UM. Education, Meeting Knowledge-Economy, 21st Century Expectation, White Falcon Publishing. 2019.
- **15.** The World Bank. Transforming School Education in Sri Lanka. From Cut Stones to Polish Jewels, The World Bank, Human Development Unit, South Asia region, 2011.
- **16.** Wasik BA, Hindman, Annemarie H. Understanding the Active Ingredients in an Effective Preschool Vocabulary Intervention. An Exploratory Study of Teacher and Child Talk during Book Reading Journal Articles, 2014;1035-1056.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

SMART DUBAI – A CITY THAT LEADS TO HAPPINESS AND PROSPERITY

Shamsieva Iroda Makhmudovna*

*Associate Professor,
Tashkent State University of Oriental Studies,
UZBEKISTAN
Email id: dmmun@ou.ac.lk

DOI: 10.5958/2249-7137.2021.02697.5

ABSTRACT

This article provides information on the smart city and digitalization policy of the Emirate of Dubai, the adopted programs, laws and various projects to make Dubai a smart city. Achievements and its significance are analyzed.

KEYWORDS: Smart Dubai, Minister of Happiness, Happiness Street, National Program of Happiness and Prosperity.

INTRODUCTION

Formulation of the problem

Today, the Smart City projects, implemented in the developed countries of the world, are used by almost all countries as an effective way to solve socio-economic problems at different levels. If we take the fact that 56.2% (4.4 billion people) [1] percent of the world's population live in urban areas, the issue of introduction and development of the system of "smart city" is becoming increasingly important.

Population growth poses challenges to the management of urban infrastructure, specifically water, energy, transportation. Therefore, local governments are trying to solve urbanization problems using digital technologies. This action has led to the emergence of the concept of "Smart City" in recent years and the implementation of "Smart City Initiatives" in many cities around the world.

The need to build and develop "smart cities" is associated with the need to improve the level of scientific and technological development of the productive forces, the cultural and socio-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

economic life of society. The purpose of creating a "smart city" is to increase the efficiency of services and welfare, aimed at meeting the needs of the population through digital technologies.

Any government that is building the cities of the future today has the potential to improve the condition of its people. With the help of intelligent technology and analytics, a smart city can create new services to meet people's needs: a convenient parking search app, a health services portal, a smart traffic management system to help drivers avoid congestion, and more.

According to experts [2] from the McKinsey Global Institute (MGI), once cities become smarter, they will be more throng either. **The report,[3]** prepared by the institute, analyzes how dozens of digital applications solve people's problems. It turns out that cities can improve some vital indicators of quality of life by 10 to 30 percent with the help of smart technologies: that is, save lives, reduce crime, reduce travel to the workplace, reduce the health burden and prevent carbon emissions.

Statement of basic materials

Smart Dubai philosophy: smart city for universal values. So, what makes a city smarter in the digital age? How can a complex urban structure develop an intellect that can improve the lives of citizens?

The answer to these questions lies in Dubai's goal to become not only the smartest city in the world by 2021 but also one of the happiest places to live and work. A smart city needs to improve people's well-being and raise the level of "happiness." When the Emir of Dubai, Muhammad ibn Rashid Al Maktoum, launched the Smart Dubai strategy in 2018, he wrote on Twitter: "Our goal is to make all of the city's services and capabilities available on smartphones." Dubai has seen unprecedented growth in the last two decades and has been able to turn a city that was once a small town into one of the world's largest megacities.

Dubai's Annual Strategic Plans (DSP) clearly articulate the city's ambitions. As part of the 2021 plan, Dubai has developed a city strategy [4] for 2021. This plan aims to see the future of Dubai through holistic and complementary criteria, starting with the people and society that have always been the backbone of the city. That is, to realize the aspirations of the city in all areas, its population must be happy, creative, and strong, and society must be open and united. In addition, the plan focuses on the economy, which drives urban development and allows it to move forward. Finally, the government is to be a sponsor of the city's comprehensive development. These prospects are divided into 6 sectors, each of which is divided into groups of strategic goals for the development of Dubai, and together form the Vision of the city for 2021.

- 1. People: "City of happy, creative and strong people".
- 2. Society: "Inclusive and united society"
- **3. Experience**: "Convenient place to live, work and visit".
- 4. Address: "Smart and sustainable city".
- **5. Economy**: "The basis of the world economy".
- **6. Government**: "Innovative and brilliant government"

Dubai's concept of making a smart city happy is a simple but unique philosophy compared to other smart city projects in the world. Thus, the philosophy of raising happiness has become the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

main driving force of the government's new major initiatives in Dubai, and the government has officially included this goal in Dubai's development program.

Happiness as a national idea. The Government of the United Arab Emirates has put forward the initiative to achieve happiness, which has made the happiness of its citizens one of its top priorities and an important aspect of the country's national strategy to achieve it. The initiative aims to make the country one of the happiest five in the world by 2021. In order to encourage optimism and positivity among UAE citizens, even the **Minister of Happiness** [5] (Ehud Al-Rumi) was appointed a few years ago. (Below is a special mention of this ministry)

Today, all sectors in Dubai work together to become a happy city. There are 47 happiness strategy champions (experts) in more than 40 sectors of the city. Their mission is to implement the Happiness Program.

Social analysis and the study of data, as well as the quantitative study of happiness, have allowed authorities to consider its economic importance. According to research, happy people are 50% more [6] successful. It has been found that if they are happy and satisfied with their work, they can be more than 50% productive, and more than 88% of employees are loyal to their work.

Recognized as the best place to work in the world in recent years, the United Arab Emirates ranked 9th in its economic growth rankings, according to HSBC's Expat Explorer [7] report. The main reasons for entering this ranking were the increase in wages, the opportunities created for career growth, and the improvement of living standards.

Another interesting fact. There is also Happiness Street [8] in Dubai (Figure 2). It has everything you need to make locals and tourists happy: the many restaurants and shops in the City Walk complex, the cinemas for a fun holiday, and the Coca-Cola Arena stadium. The name of the street reminds me that Dubai is the home of the happiest people on earth.

Ministry of Happiness of the UAE. What kind of organization is the Ministry of Happiness in Dubai? What do the officials of the innovative organization do? What is the National Program for Happiness and Prosperity?

Dubai is a strange city that has emerged in the desert over the years. The rich oil fields were discovered here in the second half of the last century laid the foundation for the well-being of the local population. In Dubai, less than 20% of the population are immigrants and service workers. However, the city government is doing its best for a small number of locals. In particular, the local population will be paid a share of the proceeds from the sale of oil; tuition fees will be reimbursed for higher education at any university in the world, and when a child is born, the land will be allocated and a "surcharge" of \$ 60,000.[9]

However, these efforts were not enough for the city authorities, and in 2016 established an innovative body in Dubai – the Ministry of Happiness, whose main task was to mobilize all forces for the well-being of the local population and a life free from worries and worries.

In 2016, the Minister of Happiness was appointed in Dubai to be responsible for "creating social well-being and happiness" and preserving the fundamental values of the emirate's society. Interestingly, it was decided to nominate a woman under the age of 22 for the post of the new minister. The government explained the decision by the fact that the UAE is a young country and Dubai is a young city with a young population. And that's why it was emphasized that a young

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

leader with a modern outlook and non-standard approaches is needed to improve people's well-being. As a result, Ehud bint Khalfan ar-Rumi was elected Minister of Happiness.

The daily tasks of the Minister of Happiness include constant monitoring of the level of satisfaction with the life of the population. Although Dubai is currently ranked 39th in the world in terms of life satisfaction, [10] the government aims to achieve more and enter the TOP-5 on this criterion. Therefore, the main task of Ms. Ehud bint Khalfan ar-Rumi today is to create an environment of tolerance where every citizen feels comfortable. At the same time, to create equal conditions for men and women to live in the city (this is unnatural for Muslim countries) and to discredit visitors, to combat religious bigotry and cultural oppression of other nationalities.

The minister uses various methods to achieve these lofty goals. For example, on March 7, 2016, Ehud bint Khalfan ar-Rumi presented the **National Program of Happiness and Prosperity [11]** to the government.

The program covers three areas:

- 1. Introduce happiness into politics and programs and services of all government agencies;
- 2. To promote the idea of happiness and prosperity as a way of life in society;
- 3. Develop tests and gauges to measure happiness.

In March, the National Charter of Happiness [12] was adopted, which committed to creating effective and comfortable working conditions for federal government employees. Launched in April 2017, the Friends of Happiness platform [13] has become an electronic portal designed to engage the general public in the National Program for Happiness and Prosperity initiatives.

One of the unique initiatives of Ehud bint Khalfan ar-Rumi was the Customer Happiness Formula. The formula is designed to provide government officials with an effective means of achieving the goals of happiness under the National Program for Happiness and Prosperity. The formula consists of three main components: employees who provide excellent public services; Government agencies that strive to please customers; Entrepreneurial customers who are willing to contribute and develop innovative services that serve to create happiness.

In 2017, for the first time in the UAE and the Middle East, the Emirate Happiness Research Center [14] was established to study happiness and well-being scientifically. The Center conducts research on happiness and well-being, assesses happiness indicators in the UAE, builds capacity, and develops professional consulting programs to achieve the goals of the National Program for Happiness and Prosperity. The Center's activities are also aimed at enhancing the UAE's contribution to enriching the scientific nature of happiness on a global scale.

Happiness can be measured in Dubai. The smart happiness meter is another unique phenomenon of Dubai. It is the first software in the world that measures well-being. The program currently runs in more than 40 government offices and has garnered more than two million votes since its launch. Today, the average happiness rate in the city is 89%. The plan is to increase this figure to 95% by 2021.

All data through the centralized control panel "City Happiness Map" allows private sector and government agencies with happy counters to interconnect and sort customer experiences across industries and geographic regions, as well as directly differentiate.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The Dubai government has launched the Happiness Portal to measure the happiness of the city's visitors and residents. It collects data from different parts of the city and instantly displays the impressions of the city's residents and visitors. The overall mood is presented in the form of faces (smiles or emojis): happy, neutral, and unhappy.

CONCLUSION

The concept of happiness is not just a slogan in Dubai. The National Program for Happiness and Prosperity is a unique concept aimed at improving the living standards of the population.

Happiness Minister Ehud al-Rumi is dissatisfied with the progress made and takes happiness as a serious matter, believing that the main task of the government is to create happiness. The new reforms are having a positive impact on the lives of Dubai's citizens and residents. According to experts, the reforms also have a significant impact on productivity and creativity. The reforms are to achieve a high level of happiness among the people of Dubai by improving education, medicine, working conditions, and other aspects of life.

Happiness, prosperity, and quality of life are relatively new goals in government policy in the digital age. Understanding the Happiness Program will help you understand the ethics of the Dubai government. This concept focuses not only on the well-being of society but also to set an example to the whole world in its pursuit of happiness.

REFERENCES

- 1. https://www.iied.org/urbanising-world
- **2.** https://www.mckinsey.com/business-functions/operations/our-insights/smart-cities-digital-solutions-for-a-more-livable-future#part1
- **3.** https://www.mckinsey.com/~/media/McKinsey/Business
- 4. https://www.dubaiplan2021.ae/dubai-plan-2021
- **5.** https://ru.investing.com/news/economy/article-1905267
- **6.** https://ru.investing.com/news/economy/article-1905267
- **7.** https://www.expatexplorer.hsbc.com/survey/
- **8.** https://gulfnews.com/uae/rta-renames-dubais-al-mustaqbal-happiness-streets-1.69321193
- **9.** https://e-w-e.ru/ministerstvo-schastja-v-oaje-chem-zanimajutsja-chinovniki-innovacionnogo-vedomstva/
- 10. https://happiness-report.s3.amazonaws.com/2020/WHR20.pdf
- **11.** https://www.emirates247.com/news/government/mohammed-reviews-uae-programme-for-happiness-and-positivity-2016-03-07-1.623503
- **12.** https://gulfnews.com/uae/environment/uae-cabinet-approves-national-charter-for-happiness-1.1694177
- **13.** https://www.moca.gov.ae/en/media/news/the-national-happiness-and-positivity-programme-launches-the-friends-of-happiness-platform
- **14.** https://happinessportal.dubai.ae/en/Pages/default.aspx

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

POWER AND COST REVIEW OF TRANSCEIVER DESIGN

Prashant Kumar*

*Assistant Professor,

Department of Electronics & Communication Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: prashant.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02645.8

ABSTRACT

This article analyzes trends for ultra-low-performance wireless transceiver systems and built-in circuit design in order to utilize cheap CMOS technology nodes. These efficient transceiver designs are usually utilized in goods like fitness monitors and other wearable healthcare devices, IoT devices and general sensor nodes. A brief overview of ultra-low power transmitters and receivers is given of the state-of-the-art (SoA) designs, techniques and performance metrics. An example case study of the transceiver for the medical sensor nodes is given and analyzes the often conflicting requirements of communication range, data rates, reliability and energy consumption. The results of this study will serve as a starting point for a challenging implementation using the power reduction technology provided for the future development of the SoA and for applications where energy generation from the environment is envisioned.

KEYWORDS: Business, Leadership, Management, Organizational Behavior, Psychology.

1. INTRODUCTION

The demand for these sensor nodes generally will grow significantly. Tens of billion devices, due of apparent ecological and economic reasons, frequently fail to utilize batteries. As a result, the need for the nodes to collect their ambient operational energy arises. Because of the limited amount of power available in these nodes, a wireless communication system design must combine power efficiency and, at the same time, provide low product prices to even specialty applications with tiny quantities (e.g. medical applications). This research aims to provide a comprehensive overview of transceiver design to assist to build a complete communications architecture tailored to ultra-low power and cost-effective design, taking into consideration all

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

elements of systems performance and low power engineering state-of-the-art (SoA). The following sections therefore provide an overview of these variables and SoA releases[1].

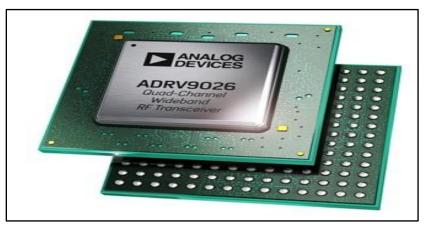


Fig. 1: Analog Devices (ADI) Has Launched a New Wideband Transceiver Inside Its Radio Verse Design and Technology Ecosystem.

Since CMOS Technology is well suited for such integrated businesses, since the suggested communications architecture combines analogue and digital circuit realizations. As has been demonstrated, scaled technology nodes have already been utilized to reduce power consumption in various applications. This does not necessarily lead to an economic and inexpensive design, however. It offers insight into the costs of intellectual property creation and verification (IPs) in the different technologies as indicated. By decreasing functionality, total costs begin to increase, thus reducing the overall costs per unit by requiring a larger lot size. The potential volume for certain low-power transceivers, i.e. for medical applications, is small compared to that for mobile communications, such that the necessary low cost scaled technologies are not realized. Given the fact that the working frequency often stands nearly 1 GHz, which is less than one-tenth of the transit frequency, developments are presented and summarized in typical 130 and 180 nm technologies, as these are the right options for low-cost applications even if their power consumption is slightly increased[2].

For low-power communication and for high utility, standardized data transmission protocols such as ZigBee, WPAN, WBAN, Bluetooth and ANT+ were developed. This often leads in unnecessary overhead and higher energy consumption in ultra-low power applications. As the published standardized transceivers in cost-effective technologies use more than 10 mW of power when they are in active communication. Changing to smaller technologies reduces energy consumption overall, but the above-mentioned low-cost requirements do not achieve in return[3].

A new protocol must be developed to remove these disadvantages. The wireless radio criteria of the local authorities must therefore be fulfilled that limit available bandwidth and transmit power. Internationally restricted bands as defined by the International Telecommunications Union (ITU) radio rules are the industrial, scientific and medical bands (ISM). In license-free ITU bands and Short-Range-Devices (SRD) bands are discussed in Europe. In theory, it may be found at approximately 433 MHz, 868/915 MHz, and 2.4 GHz at suitable frequencies[4].

However, the geometric dimension of the antennas, the channel characteristics, as well as the power level of transmission and reception need be addressed for practical implementation of a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

transceiver design as described in the introduction. The ISM band at 433 MHz would be the best option for a maximum communication range. As still, the antenna size is about 35 cm wavelength, for network nodes, with integrated antennas and circuits, the antenna size is too big, which is not practical for many body-work applications. As a consequence, the frequency band of approximately 900MHz is selected as a compromise of antenna size and communication range for these issues because it is focused on the unique energy efficient implementation of the multiapplication transceiver[5].

2. LITERATURE SURVEY

D. C. Daly et al. presented in the article that the 2.5 mW wireless flight control system is presented for cyborg moths. It comprises of a non-coherent, 3-to-5 GHz ultra-broadband system-on-chip, and pulse-width, constructed onto an integrated, 1.5- cm circuit board with a pulse-width, and integrated 4-channels pulse-modulation stimulator. The cyclical, high-duty energy detecting receptor needs a sensitivity rate of 0.5 to 1.4 nJ/bit of 76 dBm at 16 Mb/s (10-3 BER). A multi-stage, resonant and differential signal chains inverter RF front end enables robust, low electric operation. In the baseband amplifier, ADC and DLL digital calibration is used to eliminate tension and timing inconsistencies. The total weight of the electronics is kept at 1g, within the capacity of an adult sixth moth through the use of flexible PCB and 3-D die Stacking. Preliminary control of wireless moth flying in a wind tunnel is demonstrated[6].

M. Zgarenet al. presented in the article that in biomedical transceivers, energy-efficient and rapid data rates are required. An industrial, scientific, and medical (ISM) frequency band high-performance transmitter (Tx) and an ultra-low-power receiver (Rx) are provided. The innovative FSK modulation technique is utilized in Tx, enabling up to 20 mb/s of data-rate and requiring only 0.084 nJ/b confirmed by manufacturing. Tx is also utilized in the manufacturing process. The receiver comprises a recipient based on FSK-to-ASK conversion with a passive OOK wake up device. This gadget is an energy-saving battery which plays a key role in energy efficiency of the RF transceiver. The Rx features a compact hardware architecture that does not have an accurate local oscillator, external high-Q induction, and a signal channel. The Rx has an 8 Mbps data rate of -78 dBm sensitivity with a 639 μW usage. IBM 0.13 μm CMOS technology with 1.2 V supply voltage is the foundation of the proposed circuits[7].

A. C. W. Wonget al. presented that this article offers a 1V RF transceiver for Wireless Body Area Sensor Network (WBASN) applications as part of an ultra-low power system on chip (SoC). The transceiver employs digital, two-level FSK modulation at a data rate of 50 Kbit/s, enabling wireless communication between the objective sensor nodes and a central base-station node in an 862-870MHz European Short Range Device (SRD) or 902-928MHz North American Industrial, Science and Medicine (ISM) band. The wireless transceiver operates on half-duplex and achieves an input sensitivity of -102dBM (for 1E-3 bit raw error rate) and an output power of -7dBm via a single antenna interface. During receiving and transmission of 1.0 to 1.5V, it uses 2.1 mA and up to 2.6mA. In terms of performance and energy consumption this goes beyond state-of-the-art. It is manufactured using a CMOS technology of 0.13 μm and covers an area of approx. 7mm² in a SoC of 4 to4mm²[8].

3. TECHNIQUES FOR ENERGY REDUCTION

A transmitter should have extremely low power consumption and yet offer adequate output power and data speed. Consequently, many architectures were suggested. Lists include a variety

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

of comparable designs, manufactured at operating frequencies in 130 nm and 180 nm CMOS in the 868/915 MHz band. Their power consumption statistics and the associated standardized energy per bit Eb,P. The use of IQ-mixing is the conventional method of building a transmitter. These provide the potential for efficient, coherent modulation programs but, owing to their highly complex design compared to conventional low-energy systems, suffer from higher power consumption[9].

A Phase Locked Loop (PLL) based solution is proposed to reduce complexity and power consumption. The transmitters use an oscillator controlled by PLL, which is radio frequency-resonant. They may be used either with or without a power amplifier to change output power. Low phase noise and persistent frequency drifts are given by PLL-based transmitters.

A free-run oscillator may be utilized with a high power amplifier or directly on the antenna in order to further reduce its complexity. As free-running oscillators suffer from drifts, it is essential to maintain a consistent supply/reference voltage and operating temperature. In addition, errors in processing lead to an incorrect oscillation frequency. Therefore, freely running oscillators are used in non-coherent modulation systems only when there is no implicit requirement for frequency and phase stability. It is important keeping in mind that for all the drift range it must be fulfilled with the required spectrum masks mentioned in the standard specifications and local government radio regulations. The antenna may be utilized as high-Q off-chip inductance as demonstrated in order to improve frequency stability, especially in power oscillators[10].

The compared receivers may be divided into three major kinds depending on their architecture:

- As shown, the first group uses the conventional IQ-mix. Even though they benefit from the less technology used, they both have pretty substantial power consumption. Their major drawback with respect to power consumption is the local oscillation generation, as it is with the IQ-mixing transmitters. Spectral efficient modulation methods may be achieved via the use of complex demodulation.
- The second group includes designs that are super-regenerative, infused and enhanced with Q. All of them are based on an LC tank with a frequency resonance to amplify the signal received. The signal is demodulated using envelope detection following amplification and conversion. These designs allow one demodulation track to be utilized, but avoid consistent demodulation techniques. Since a consequence, power consumption is reduced as an LC-tank does not always generate a Local Oscillator (LO).
- The final group does not expand the envelope by the LC tank and decodes the envelope directly. This method restricts the modulation to amplitude-based systems, but less energy is required to demodulate the received signal, since all steps that increase the power consumption are eliminated.

4. DISCUSSION

Several generically technologies to decrease the power consumption of the transceiver circuit can be discovered in the light of the transmitter and receiver architectures:

• Range of communication and data reduction: The recipient power consumption indirectly correlates with sensitivity. The decrease of the maximum communication range thus leads to reduced power consumption. The same applies for the transmitter, which increases energy

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

consumption with the output power. In addition, all digital components need less power by reducing the data rate and therefore the clock rate.

• Decrease Complexity: Radio frequency (RF) components typically consume most of the power in the transceiver. Therefore, less complex designs and less RF components are possible to use. In Fig. 1, a Zero-IF IQ transceiver consists of a number of radio frequency-functioning components in contrast to typical ultra-low power systems. This structure has the advantage of producing phase stable signals in order to apply consistent modulation methods such as PSK. Reducing the transceiver's complexity will also lead to a less difficult modulation. Non-coherent modulation methods such as ON OFFK or Frequency Shift Keys (FSK) are therefore frequently employed in low-power applications. IQ demodulation is not needed for these systems, as stated above. One of the demodulation paths illustrated in Fig. 2 may therefore be removed. The reduced design complexity leads in circuits requiring fewer components, such as PLL free-flow oscillator and injector locking designs as well as envelope detection structures. These designs produce a decrease in energy consumption as shown in the previous section.

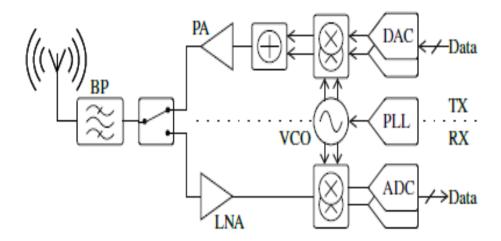


Fig. 2: Simplified Block Diagram of a Zero-IF Transceiver.

- Replace PLL: Stability of the phase is not required for the use of non-coherent modulation techniques. Thus, a free-run oscillator may replace the PLL. A steady supply voltage and a constant temperature are required, however, to prevent large frequency drifts. Generally, in energy harvesting applications, this cannot always be guaranteed. Some systems use injection locking to tune the LO to a high-Q external oscillator to stabilize the frequency. The use of a Frequency Locked Loop (FLL), adjusted using a control circuit with preset parameter values, e.g. during a production test, is also regarded an alternate approach.
- Component-Sharing: transceiver components, e.g. LO when operating in semi-duplex mode may then be shared between transmitter and receiver. The high quantity oscillator may also be shared by either using it as a LO for the transmitter or as a Q-enhanced amplifier for the receiver. The two initiatives result in decreased size and complexity, and therefore a low cost circuit design that is energy efficient.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- *Duty cycling:* transceivers operate partially in active and inactive mode with the use of duty cycling. As no data is transmitted or received during departure times, a duty-cycling ratio lowers the maximum data rate. The data rate may thus be altered in order to minimize energy consumption. However, it should be noted that intense riding requires short start-up components. This requirement is related to higher energy consumption and therefore decreases duty cycling efficiency.
- Wake-up receiver: Adding extra wake-up components to the design is another simple method
 of decreasing power consumption. The main recipient is thus turned off until a specific wakeup signal is detected. A dedicated, constantly active, lowest complexity and lowest power
 receiver compared to the main receiver often gets the wake-up signal. Since a specific wakeup sequence is only required, correlations may be used to enhance sensitivity even with the
 least energy consumption envelope detection receivers.

5. CONCLUSION

This research provides a brief overview of the current SoA ultralow power architectures and potential methods to enhance them in cost-effective CMOS technologies of 130/180 nm. Suitable characteristics and common properties of the transceiver system must be addressed and suggestions for the implementation of low-power RFIC are given. An excellent example is given for typical medical applications. In addition, the entire transmission system is assessed and a link budget with antenna characteristics and channel profiles are created. In order to evaluate theoretically feasible performance utilizing SOA, the results of the link budget are compared to published projects. The results of this study will serve as a starting point for a challenging implementation using the power reduction technology provided for the future development of the SoA and for applications where energy generation from the environment is envisioned.

REFERENCES

- **1.** F. W. Kuo et al., "A Bluetooth low-energy (BLE) transceiver with TX/RX switchable on-chip matching network, 2.75mW high-IF discrete-time receiver, and 3.6mW all-digital transmitter," 2016, doi: 10.1109/VLSIC.2016.7573480.
- **2.** S. Chakraborty et al., "An ultra-low power, low-cost, multi-standard transceiver," 2015, doi: 10.1109/WMCaS.2015.7233220.
- **3.** M. Vidojkovic et al., "A 2.4 GHz ULP OOK single-chip transceiver for healthcare applications," 2011, doi: 10.1109/TBCAS.2011.2173340.
- **4.** D. C. Daly and A. P. Chandrakasan, "An energy-efficient OOK transceiver for wireless sensor networks," 2007, doi: 10.1109/JSSC.2007.894323.
- **5.** N. E. Roberts and D. D. Wentzloff, "A 98nW wake-up radio for wireless body area networks," 2012, doi: 10.1109/RFIC.2012.6242302.
- **6.** D. C. Daly et al., "A pulsed UWB receiver SoC for insect motion control," 2010, doi: 10.1109/JSSC.2009.2034433.
- **7.** M. Zgaren, A. Moradi, and M. Sawan, "Ultra low-power transceiver with novel FSK modulation technique and efficient FSK-to-ASK demodulation," 2015, doi: 10.1109/EMBC.2015.7320032.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **8.** A. C. W. Wong, G. Kathiresan, C. K. T. Chan, O. Eljamaly, and A. J. Burdett, "A 1V wireless transceiver for an ultra low power SoC for biotelemetry applications," 2007, doi: 10.1109/ESSCIRC.2007.4430262.
- **9.** P. P. Mercier and A. P. Chandrakasan, "Ultra-Low-Power Short-Range Radios," Springer Int. Publ., 2015.
- **10.** Y. C. Shih and B. Otis, "An on-chip tunable frequency generator for crystal-less low-power WBAN radio," IEEE Trans. Circuits Syst. II Express Briefs, 2013, doi: 10.1109/TCSII.2013.2251938.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

BASED UPON BLOCK CHAIN AND ITS CONTEXT

Dr. Vipin Jain*

*Professor,

Department of Finance & Marketing, Faculty of Commerce, Management & law,
Teerthanker Mahaveer Institute of Management and Technology,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: vipin555@rediffmail.com

DOI: 10.5958/2249-7137.2021.02646.X

ABSTRACT

Blockchain is the technology that can lead in the next few decades to major commercial advances. It may change our business knowledge and reshape our economy. Blockchain is a decentralized and distributed ledger system to offer transparency, data security and integrity, since it is not tampered with or counterfeited. The bulk of this Blockchain study focuses on the use of cryptocurrencies, like bitcoin, and very little research has been done in other settings or industries to utilize Blockchain technology. It may be used for many reasons in government, banking and finance, accounting and management of business operations. It is more than just cryptocurrencies. Therefore this study focuses at evaluating and investigating Blockchain Technology's potential and challenges and their future applications. A broad variety of published researches have therefore been carefully evaluated with their addition to the knowledge corpus of the Blockchain. Therefore, this study is a good foundation on which practitioners and academics will improve their usage in Blockchain in future.

KEYWORDS: Blockchain Technology, Financial, Network, Smart Contracts, Security, Transactions.

1. INTRODUCTION

Blockchain technology is a new technique for the gathering and storing of information that is used on many devices and numerous nodes. One of the most important aspects of Blockchain is the so-called Ledger that resembles a relation database. A block list of encrypted digital documents is Blockchain. In a linear chronological sequence, each block is then connected to the next block using a cryptographic signature. The final block includes a replica of the previous transactions. In order to validate or authenticate transactions by removing a need for a third party, all participants using the network computer have to be connected to the shared block or head (Fig. 1)[1].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

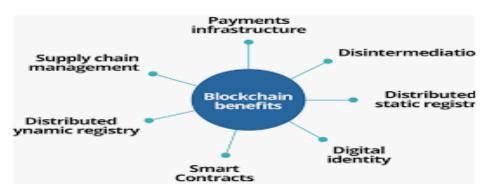


Fig. 1: Context Setting On Blockchain.

Blockchain is used to protect and share data in a new and unique manner. The removal from the dispersed network of a central facility showed that non-intermediaries or intermediary services progress significantly towards a direct transaction. Blockchain can thus never be changed or removed alone amongst system members by agreement. The distributed database cannot be hacked, changed or damaged in the same manner as the conventional central database with a user controlled access mechanism[2], [3].

That is, the data remains unaltered and after being recorded on the blockchain, no one, no system administrator can modify or delete it. Each block of data is temporally labeled with a digital signature. Blockchain Technology, including value for money, goods, property ownership, and medical data or voting, may be utilized in virtually any kind of transaction. Blockchain does not require transmission of data, stores all transaction data and calculates the state from the project's directory. Since Blockchain is a distributed system, it does not operate via a single control center with a central control or authority, it has no single failure point. Consequently, with a blockchain database, a business does not have to monitor security for an expert in information technology[4].

It is worth emphasizing that Blockchain is a relatively new technology, despite these possibilities. As a consequence, only a tiny proportion of cases use the technique. Bitcoins' most efficient application of Blockchain technology may be a demonstrated example and proved to be a viable option to build an ecosystem without trust and central authority. This article was focused mainly on the theory and gathering of facts. Data and soil theories were gathered in various methods. For example, there have been thorough scans of published works, books, academic journals, conferences, technical reports and the searches of a variety of databases employing keywords. The goal of this research is to provide an overview of the current or future practical applications of the Blockchain technology[5]. Thus author provide a thorough literature research in the following section, to identify existing Blockchain applications and explore future practices.

Blockchain Technology is an ever-expanding, cryptographically connected and secure collection of data known as blocks. In general, a previous block hash code of encryption, a time stamp and transaction data are provided in each block in order to preserve such transactions. Nakamoto has developed and distributed transaction or event information recording methods. Blockchain or Distributed Ledger Technology (DLT). Open, secure, decentralized, efficient and cost-effective transactions are recorded[6].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Therefore Blockchain Technology offers: distributed leader, information management decentralization, data security, transparency and integrity, forgery control, efficiency, low cost, flexibility, programmable features and no danger of centralized failure in the database. The most significant ones are: Blockchain; Public Blockchain; Private Blockchain; (hybrid Blockchain). Each type has its benefits and limitations to suit the needs of different applications[7].

In particular,

- Public Blockchain allows everyone to handle a transaction that is transparent and anonymous. A fully decentralized Public Blockchain, like bitcoin. There being no primary failure point, the system works on the basis of a user consensus. Nevertheless, without finding the participants, public blockchain is susceptible to system attack, for example, and an attacker could rebuild and properly chain the blocks modified;
- Private blockchain, privacy in transactions, publicly inaccessible data, but Members known.
 Without an invitation or authorization to a participant, the member may not read or write the
 blockchain on a private network. Big companies with authorizations issued by numerous
 Blockchain users usually employ private Blockchain. For example, a Blockchain private
 network, such as customers, workers and providers and a hybrid Blockchain Consortium,
 may be utilized for this Bank;
- The consortium Blockchain is a hybrid concept for Blockchain. The use of that architecture allows companies or organizations to transfer data using their own Blockchain networks between consortium members such as banks, institutions and other enterprises.

2. LITERATURE SURVEY

F. Glaser et al. highlighted in the paper that the introduction of Bitcoin in 2009 brought not only Cryptocurrencies and new financial digitization, especially in the payments sector, but also a new generation of creative and digital currencies-built technology. In general, decentralized contracting systems may alter the nature of how businesses, organizations and people are formed and interact with each other. Decentralized consensus systems, decentralized applications and intelligent contracts provide the conceptual and technical foundation for the creation of predetermined, incorruptible protocols and agreements for human behavior and connection. But the methods and implementation are extremely complicated and practitioners and researchers from other disciplines are challenging to identify and access these ideas, not acquainted with encryption, networking or decentralized networking. Crypto 2.0 defines and evaluates new technologies to overcome this breach by creating a wide taxonomy of decentralized consensual systems, allowing researchers and practitioners to take up a further degree of innovation beyond cryptocurrencies[8].

T. Ahram et al. presented in the article that Efficiency, innovative goods and intimate relationships between consumers globally have been created through proper use of the mobile Internet of Things (IoT), social media, analytic and cloud technologies and the digital world to give models for improved decision making. Blockchain has lately launched and changed a fresh viewpoint on digital systems safety, resilience and efficiency. Bitcoin, although initially popular, is more than a basis of cryptocurrency. It provides a secure method to exchange any type of products, services or transactions. Increasingly, industrial growth relies on dependable connections, but increasing regulation, cybercrime and fraud have hampered development. In

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

order to address such issues, Blockchain will enable more flexible value chains, quicker product developments, better customer interactions and faster integration into IoT and cloud technologies. Further With a trustworthy contract followed up without the involvement of third parties and that cannot contribute direct value, Blockchain offers decreased trading costs. It allows smart contracts, obligations and agreements with robust, inherent cyber security protections. This article aims at breaking down the ground in many industrial situations where the usage of Blockchain technology is demonstrated and verified. Using International Business Machines (IBM) Corporation Blockchain a healthcare chain application is defined and built. The concepts may then be applied to a variety of businesses including banking, government and manufacturing[9].

3. BLOCKCHAIN TECHNOLOGIES APPLICATIONS

This section covers numerous practical uses of Blockchain Technology in a variety of areas. The following categories classified applications in intelligent contracts, the government, the financial sector, the accounting and the management of business operations. A smart contract is a contract-funded electronic protocol. Single but designed to operate in the gates of environment in Blockchain Intelligent contracts are a regular contract. Thus, in the IT sector, such agreements are usually called intelligent contracts. The aim of a smart contract is to guarantee the performance of a party's commitments. The aim is to eliminate Blockchain intermediaries for third-party transactions. This third party maintains and carries out contracts historically and builds confidence amongst all parties concerned. Intelligent contracts can thus avoid moral hazard issues, such as strategic default, and reduce verification and enforcement costs significantly[10].

A significant area in which Blockchain is used in the creation of completely automated, free-of-human intelligent contracts is its application. Smart contracts automatically enable repeated transaction activities or specified relevant transactions. The contractual agreements between the contracting parties should be checked, executed and enforced automatically through Blockchain. These agreements are termed Smart, because they may be implemented or executed partly or completely.

Some of the intelligent contract applications in Blockchain are:

- ➤ Management of contracts Management of contracts for businesses verifying contractual information that may be of considerable value to organizations of every type, particularly in the technical and construction sectors, Blockchain Technology provides a solution. This would enable businesses to improve the performance of their supply chains, evaluate suppliers and achieve better values and shorter periods using Blockchain technology for contract administration.
- ➤ Entertainment Blockchain enables a transparent transfer of royalties in real-time distribution to all those operating in the music and movie industries.
- ➤ Healthcare The health sector has used Blockchain technology previously. Intelligent contracts may be used to keep tabs between medical payers, providers and pharmaceutical companies. Intelligent contracts for each payer and every provider may be created and then maintained in their digital records by healthcare professionals.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Insurance The insurance industry of Blockchain Technology is new and over \$2 billion is anticipated to be spent on fraud and compliance each year. The entire value chain utilizing Blockchain technology has tremendous potential. Certain insurance products may be automated using smart contracts. Capturing the identity and rules for customers may minimize mistake, ignore and detect fraud.
- ➤ Blockhain Internet of Objects (IoT) is a networked Internet system, mechanical or digital computers, things, animals, or people with unique identities that may transmit data from human to human or from human to computer across a network. It enables data to be gathered and transferred, sensors, software and language shared.
- Students anticipate to reach 20.4 trillion of IoT devices by 2020. By using this amount of devices in the future, the System may reveal weaknesses such as network security, performance, and cost. Blockchain Technology deals with the aforementioned issues and improves IoT connection. The device network will allow smart contracts to be executed smoothly, securely and autonomously only if the specified conditions have been satisfied. It promotes greater automation, cheaper transfers that do not need transactions, scalability or security from third parties, because all devices may be controlled by Blockchain with one interface.

4. BLOCKCHAIN TECHNOLOGY FOR IMPLEMENTING E-GOVERNMENT

E-government constructing using blockchain technologies, cryptocurrency instruments and smart contracts is feasible. An intelligent agreement with a variety of ways of interactions and processes between people and the State may create a distributed directory with legally allowed data. The source code minimizes the danger of unauthorized changes and guarantees that the contract algorithm is carried out in all stages and network nodes alone. This will enable the use of Blockchain technology, fraud prevention, confidence-building between public opinion and the state, and the enhancement of public sector performance for state papers, E-voting, public procurement auctions and registrations.

Blockchain's current efforts are being launched in different nations, such as the US, China, the United Kingdom, Sweden, the Netherlands, the United Arab Emirates and Estonia, to explore its potential in the public and government sectors. Researchers have shown that certain potential advantages, such as confidence and openness, are especially important to developing nations because they are more prone to corruption, fraud and lack of trust than wealthy ones.

Finally, e-government using Blockchain technology and intelligent contracts will be made feasible. Bureaucracy by Blockchain Technology will be substantially decreased, the paperwork will be omitted, transaction costs will be cut, officials completely controlled and fraud eliminated, and thus business performance will be improved in the public sector.

5. BLOCKCHAIN TECHNOLOGY FOR FINANCIAL INDUSTRY

Blockchain is a significant technology which may decrease transaction costs and reorganize the economy substantially. Harvard Business Review stated that Blockchain Technology is accomplishing what the Internet has made financial institutions available to the media. Blockchain was originally developed as the backbone of Bitcoin, the most popular digital decentralized money in Nakamoto. Blockchain has the ability to solve a broad range of data, information and money exchange issues, which are especially helpful to financial operations and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

organizations. Blockchain may be used by financial organizations and banks to manage sensitive information and offer safe, low-caste, minimal risk services. Scholars highlighted Blockchain's significance in financial settlements and increased dependability of financial reporting. Similarly, analysts claimed that Blockchain technology is capable of altering economic sectors and many benefits that lead to reduced transaction costs.

The main platforms of Blockchain development in the financial sector are now hyper leaders, the open-source industry consortium that was established by the Linux Foundation. Ethereum has been established in 2013 as a customized platform. By February 2018, there was over \$400 billion in market capitalization for over 1,500 cryptocurrencies, including approximately \$150 billion in value for Bitcoin. Finally, in contrast with current infrastructures and legacy systems of financial institutions, Blockchain Technology has reached promise. Blockchain solves the problems of many financial sectors and significantly improves the performance of its business, for example trade finance, intelligent assets, payments and intelligent contracts.

6. BLOCKCHAIN TECHNOLOGY AND REAL TIME ACCOUNTING

Compared with other businesses, some of whose advancements in Blockchain technology are substantially impacted, the digitization of the accounting system is still at an early level. The use of Blockchain improves the audit efficiency, as the auditors raise the potential of their accounts by lowering maintenance costs, ensuring an exceptionally secure environment and reconciling books. Blockchain provides audit traceability, automated accounting and reconciliation, monitoring of asset ownership and authentication. Blockchain Technology may give a help to accounting by providing an interlocking accounting system in particular by putting the company's transactions directly into a shared register. Since all entries are disseminated and sealed, actions are virtually impossible to alter or delete. Similarly, all entries are electronically and encrypted when authorized by a notary. Furthermore, any accounting information with a time stamp may always be recorded using Blockchain technology to avoid changes. The entire Joint Company Register is then accessible to customers, suppliers, shareholders, bank creditors or any other interested party. Accounts, balance sheets or income statements may therefore constantly be made accessible, and nobody has to depend on the firm's quarterly financial statements that enhance the company's business performance. For security, all transactions with an encrypted hash code are numbered, with a unique 64-digit alphanumeric signature for each transaction. The hash code unaltered and displays the transaction, therefore ensuring greater security. Blockchain would therefore offer extra data security and authenticity in so far as data saved in a Blockchain cannot even be changed by the system administration. Therefore today the core of accounting and auditing is redefined by Blockchain Technology.

7. DISCUSSION

Despite the enormous potential benefits of Blockchain for e-government, accounting, banking and many other technologies, literature offers a variety of problems and limitations that need to be addressed. The difficulties and barriers address technical issues such as usability, interoperability, security, computing efficiency and Blockchain Technology storage capacity. Many research have highlighted cyber security problems and dangers. Experts stated that the blind trust, safety and performance of Blockchain developers are significant difficulties and disadvantages for Blockchain Technology. Blockchain Technology also fails to comply with international laws and norms. Furthermore, because to the increasing need for interoperability across major businesses, like banking, technology has to be compatible with many existing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

systems. The link with current systems is a major issue because existing systems and processes cannot be removed completely and substantial modifications required to adapt to existing conventional systems. Moreover, Blockchain Technology isn't suitable for big transactions because of the complicated verification procedure. All transactions in Blockchain Technology will require a cryptographically hash code, a 64-digit alpha numeric signature, requiring significant computer power and time expenditure digitally to identify each transaction. In addition some academics believe that the value for Blockchain adoption should be examined carefully in public or private services, since the cost of the development, operation and maintenance of Blockchain technology may exceed the benefit. However, the immature nature of the technology itself highlights all current technical difficulties with the usage of Blockchain technology. This may be viewed as something common in all new technology presentations. In conclusion, Blockchain's adoption could lead to organization, including strategic, structural and cultural changes. This transformation requires the involvement and dedication of its members in order for the organization to survive and to improve its performance and efficiency.

8. CONCLUSION

Blockchain Technology offers great value and promise for addressing data integrity issues, increasing transparency, improving safety, avoiding fraud and guaranteeing theoretical confidentiality of assessments. Blockchain Technologies is an area in which Blockchain technology may bring about change in banking, accounting, electronic government, insurance, entertainment, trading platform, healthcare, internet, law firms and others. Blockchain Technology has a great potential, since technological innovation and applications may offer economic and social benefits, to create new solutions in accordance with the industry where it is utilized. However, implementing Blockchain technology in many sectors could be extremely expensive. Company investments must move or migrate old systems. Initially, if organizations embrace Blockchain technology, businesses will have to build a single platform to handle such a hybrid architecture of application, combining Blockchain and conventional systems. They must therefore improve awareness of Blockchain Technology's value, potential and dangers. The technique was thus only applied in a restricted number of circumstances to such systems. Therefore, Blockchain Technology cannot replace outdated systems or old applications quickly. However, Blockchain may definitely be a further application to existing systems and could lead to the creation of new systems in the near future. Finally, more research in this area of Blockchain Technology is required to further improve the maturity of the sector, since it is still on the exploratory stage and many technical and legal problems are still unsolved. Therefore, this study is a good foundation on which practitioners and academics will improve their usage in Blockchain in future.

REFERENCES

- **1.** K. Christidis and M. Devetsikiotis, "Blockchains and Smart Contracts for the Internet of Things," IEEE Access. 2016, doi: 10.1109/ACCESS.2016.2566339.
- **2.** Don Tapscott and Alex Tapscott, "The Impact of the Blockchain Goes Beyond Financial Services," Harvard Business Review. 2016.
- **3.** K. Fanning and D. P. Centers, "Blockchain and Its Coming Impact on Financial Services," J. Corp. Account. Financ., 2016, doi: 10.1002/jcaf.22179.
- 4. PwC et al., "Top Blockchain Use Cases for Supply Chain Management," Deloitte Univ.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Press, 2017.

- **5.** D. Schatsky and C. Muraskin, "Beyond bitcoin: Blockchain is coming to disrupt your industry," 2015.
- **6.** A. Bahga and V. K. Madisetti, "Blockchain Platform for Industrial Internet of Things," J. Softw. Eng. Appl., 2016, doi: 10.4236/jsea.2016.910036.
- **7.** D. He et al., "Virtual Currencies and Beyond: Initial Considerations INTERNATIONAL MONETARY FUND Monetary and Capital Markets, Legal, and Strategy and Policy Review Departments Virtual Currencies and Beyond: Initial Considerations," Staff Discuss. Notes No. 16/3, 2016.
- **8.** F. Glaser and L. Bezzenberger, "Beyond cryptocurrencies A taxonomy of decentralized consensus systems," 2015, doi: 10.18151/7217326.
- **9.** T. Ahram, A. Sargolzaei, S. Sargolzaei, J. Daniels, and B. Amaba, "Blockchain technology innovations," 2017, doi: 10.1109/TEMSCON.2017.7998367.
- **10.** S. Angraal, H. M. Krumholz, and W. L. Schulz, "Blockchain technology: Applications in health care," Circulation: Cardiovascular Quality and Outcomes. 2017, doi: 10.1161/CIRCOUTCOMES.117.003800.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ACMELOLOGICAL APPROACH TO PEDAGOGICAL EDUCATION OF A PHYSICAL EDUCATION TEACHER

Utepbergenov A.K*

*Associate Professor,
Dean of the Faculty of Physical Culture, NDPI named after Ajiniyaz, p.f.n,
Nukus State, UZBEKISTAN
Email if: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02703.8

ABSTRACT

From the first days of Uzbekistan's independence, one of the main tasks was to cover the history of the country and to present all the facts openly. It is known that our country is famous for its great scholars, scientists, commanders and statesmen who have made an invaluable contribution to world culture. In the development of national culture, Uzbekistan has long been one of the leading cultural centers of human history in the world, among the countries of Central Asia, due to its unique features, geographical and natural conveniences.

KEYWORDS: Approaches, Factors, Principles, Form, Method, Tool, Content, Reproductive, Productive, Creative.

INTRODUCTION

At the beginning of the 7th century, the Arab Caliphate was formed, which included the entire Arabian Peninsula, Iran, the Caucasus, Syria, North Africa, and southern Spain. By the middle of the 7th century, the lands of Central Asia had been conquered by Arab invaders. Indigenous peoples have been at war against the Arabs for many years. However, the Arabs conquered the land, established their religion and culture, and subjugated the peoples of Central Asia to Islam. The socio-political reforms carried out by the Arab Caliphate and the formation of a single religion of Islam also affected the cultural and spiritual life. Islamic values, as an integral part of the spiritual life of the people, had a worthy place in their way of life and behavior. In Islam, Muslims are encouraged to keep their bodies clean, to rest, and to teach their children to be polite from an early age. But women were not allowed to be free, to walk with open faces, to work with men on an equal footing, to compete in equestrian sports. [1]

In the VII-VIII centuries, the development of science in the Arab Caliphate, socio-economic development in Movarounnahr and Khorasan in the IX century began a period of spiritual growth - the "Renaissance of the East" - the Renaissance. During the reign of Caliph Harun al-Rashid (786-833) and his son Ma'mun, the BaitulHikma (House of Wisdom) Academy was established in Baghdad. During the reign of Caliph Harun al-Rashid (786-833) and his son Ma'mun, the BaitulHikma (House of Wisdom) Academy was established in Baghdad. In Movarounnahr, as in the whole East, encyclopedic scholars such as Al-Khwarizmi, Abu Nasr Farabi, Ahmad Fergani, Abu RayhanBeruni, Abu Ali ibn Sina, who are world-renowned for their services in the field of science and enlightenment. [2]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Al-Khwarizmi argued that cognition differs from intuition by logical imagination: cognitive cognition is a partial knowledge, a "logical" statement, and cognition is real, an important aspect of cognition. Khorezmi made an important contribution to the theory of knowledge. He was one of the first to develop an algorithmic solution to a mathematical problem based on a table that showed the motion of celestial bodies. He argued that mathematical ideas underlie the vital necessity of human lamentation, and that scientific discoveries are the result of practical human needs. [3]

Farobi's views on the ways, methods and means of education are also valuable. He said that good qualities in a person are created in two ways - through education and upbringing. He said that good qualities in a person are created in two ways - through education and upbringing is formed with fat. If education combines theoretical qualities, then education combines innate qualities - theoretical knowledge and practical professional, moral qualities, education is carried out by word and study, and education is carried out by practical work, experience, yhe training is done through practical work, experience. The interrelationship of both mental and moral education plays an important role in the development of a person. The methods of education and upbringing recommended by Farobi are still relevant today. [4]

In Beruni's works, in educating the reader:

- o'quvchinizeriktirmaslik;
- Not teaching the same thing or the same subject in education;
- Membership, consistency;
- It is taught to pay attention to such aspects as interesting, visual presentation of new topics.

According to Beruni, morality should be the most important quality of a person. This quality does not suddenly take shape. He said that the interaction of people, the social environment - is part of the development of society. Beruni emphasizes the importance of three things in human development: heredity, environment, and upbringing. This is also recognized in modern pedagogy. [5]

In his writings, Ibn Sina's advice that exercise should be performed in different forms and styles, depending on one's age, gender, health, health and illness, is very important. Based on Ibn Sina's activities and experiences, he gave specific instructions on the need for a different approach to physical activity during childhood, adolescence, youth and old age. This heritage of scientific and pedagogical education has made a significant contribution to the development of physical culture of the peoples of the world. Ibn Sina described "physical training as a voluntary action that forces a person to breathe deeply and consistently." According to Ibn Sina, a person who does not engage in physical activity suffers from ingiehka pain (narrowing of the limbs) because his limbs become weak as a result of inactivity [6]. He divided the types of physical education into two main groups:

- 1) Actions of a person in the course of work;
- 2) Special physical training activities.

When the great scholar said physical training, he meant mainly special physical training activities. There are many types of exercise and they are divided into fast, thin, light, strong and weak groups. Ibn Sina included the fastest forms of physical training as shooting, fighting,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

archery, brisk walking, javelin throwing, hanging, one-legged jumping, fencing, javelin throwing, and horseback riding. The light and delicate type of exercise includes jumping rope, standing or lying on a swing, boating and boating, and other movements. A strong form of physical training includes exercises such as shooting with one's own shadow, playing ball with big and small balls, wrestling, lifting stones, and stopping a galloping horse. According to Ibn Sina's advice, during physical training, fast and violent movements are performed, alternating with light ones, and not performing a certain movement for a long time. In the treatment of various ailments, he recommended the use of spiritual nourishment, the means of pleasure, such as various trips, voyages, sailing, enjoying nature. Ibn Sina recommended special exercises for each member to correct the disease. Including massage exercises, the ulamawas divided into the following types: a powerful massage that strengthens the body; weak massage that softens the body; sedative continuous massage; moderate body massage. He also divided the massage into rough or light methods. Rough massage is performed with a coarse cloth. Light massage is done with a light cloth. He said that massages are mainly performed to tighten loose limbs, tighten soft ones, soften roughness and soften hard ones [7].

He also taught about physical massage:

- 1) Massage in preparation for physical training;
- 2) Post-workout massage.

The importance of massage in accelerating the circulatory system, improving respiration, and the proper functioning of the digestive system is fully reflected in the scientific and practical education of the scientist. Ibn Sina considered rest, sleep and proper nutrition to be the most important factors in maintaining good health. [8]

Based on the views of our encyclopedic scholars above, based on the acmeological approach, the approaches, factors, principles, form, method, means, content of the physical education teacher are reflected in the following table (Appendix 1). The acmeological criterion is a measure of a student's professionalism, productivity, and the development of personal and logical thinking skills. Acmeological criteria include motivation, personal qualities, self-control, reflexivity, creativity.

REFERENCES:

- **1.** Kipchakov BB, Utepbergenov AQ. The effect of intense physical activity on the physiological state of high-class athletes. Science and society. 2021;(1).
- **2.** Shukurllaev JM. Methodological features of the selection of students for the sport of volleyball. Academic Research in Educational Sciences. 2020;(1).
- **3.** Maqsadbaevich SJ. Didactic possibilities of acmeological approach in the development of physical qualities in schoolchildren through the sport of volleyball. Public education. 2021;(5):28-30.
- **4.** Utepbergenov AK. General physiological principles of physical education and sports. European Journal of Molecular and Clinical Medicine, 2020;7(9):2366-2371.
- **5.** Maqsadbaevich SJ. Development of physical performance of volleyball players based on cluster approach. Public education. 2021;(5):57-59.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **6.** Utepbergenov AK, Shukrullaev JM. Preliminary Stages of Didaktiks in the Process of Akmeolologikal Approach to Volleyball Sports. Innovative Technologica: Methodical Research Journal, 2021; 2(06):28–31.
- 7. Utepbergenov AK. The Concept of the Management of Body Functions and Their Properties. Organism and environment. International Journal on Human Computing Studies. 2021;3(2): 146-148.
- **8.** Maksadbaevich SJ. Acmelogy of Physical Training In Volleyball Sports Academic Research In Educational Sciences. 2021;2(9).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ARCHITECTURE OF HISTORICAL CITIES OF UZBEKISTAN

Arziyev Dilshod Amriddinovich*; Saidkhonova Umida Ziyodullayevna**; Gadayeva Shaxzoda Bahromovna***; Shaumarova Dilnoza Abduhabirovna***

*Senior Lecturer,
Department of Interior and Landscape Design,
Tashkent Institute of Architecture and Construction,
Tashkent, UZBEKISTAN
Email if: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02704.X

ABSTRACT

This article is about the architecture of historical cities of Uzbekistan, its current state and the history of its creation. A city is a complex of interconnected enterprises and factories. Every day, the city consumes thousands of tons of raw materials and food, and produces thousands of tons of industrial and other waste. The architect is a specialist in a wide field. it must unite art, modern technology, science and economics into a single unit and constantly expand the scope of knowledge. The process of urban development is complex and multifaceted. Today we need to think about 21st century architecture. The group system of settlements (AGT), on the other hand, they form a group. The type of communication that develops with each other is associated with stable functional relationships.

KEYWORDS: Powerful Engineering Farm, Largely Consistent, Social Labor, Combating Soil,

INTRODUCTION

Architecture is the oldest art form. From the time man built his first home, the architectural profession began to take shape. People gradually moved from individual dwellings to settlements, and then to cities. The architect is a specialist in a wide field. it must unite art, modern technology, science and economics into a single unit and constantly expand the scope of knowledge. The architect must consider all aspects of the building and structure in the design. in doing so, he must not forget that all conditions will be created for future generations. Urban planning is a broad concept. It also includes the problems of the organization of settlements related to the location of productive forces, as well as the creation of housing related to the lifestyle of the population. Urban planning is the theory and practice of planning and construction of urban and residential areas that jointly address sociol-economic, sanitary-hygienic, technical construction, transport and architectural-artistic issues. [1,2]

The main part: Urban planning is a complex and multifaceted development process in the formation of an urbanized environment of settlements and settlements. The object of urban planning activities includes planned areas and settlements, residential areas and other planning elements of industrial, recreational areas and urban areas. A city is a complex of interconnected enterprises and factories. Every day, the city consumes thousands of tons of raw materials and food, and produces thousands of tons of industrial and other waste. The city is a powerful engineering farm. These include hundreds of kilometers of water pipes, power supply, boilers,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

sewage treatment plants. The city is the center of development, where the masterpieces of material and spiritual culture have been created. is decided when choosing a system of population placement, taking into account the organization of the show. Sanitary and hygienic issues include the creation of healthy living conditions for the population, the establishment of sanitary protection between industrial and residential areas, landscaping, combating soil, air and water pollution and noise [3]. Study of engineering and geological conditions, determination of the level and modern means of construction equipment, solving a rational system of transport and pedestrian traffic, landscaping (supply of drinking water, sewage, hot water, gas, electricity, etc.) Architectural and artistic issues are related to the definition of the general architectural-plan structure of the city, the network of streets and alleys, the solution of the functional structure of individual parts of the city, including the composition of the center. The process of urban development is complex and multifaceted. Today we need to think about 21st century architecture. Modern architecture is not only an art, but also a unit of science and technology. There is no art that combines the achievements of many fields of knowledge at an architectural level. [4,5]

Population is the system of spatial and territorial distribution of cities and other settlements in the country. In other words, it is the process of distribution of the population in the regions through the development of existing settlements and the construction of new ones. In cities, their economic structure is largely consistent with the role they play in the division of social labor. The primary branches of the mining and processing industries are attracted to small and mediumsized cities and urban-type villages (Chirchik, Angren, Almalyk, Bekabad, etc.). Industries (engineering, chemistry, radio electronics) are more developed in large, large and largest cities. Studies show that as cities grow, so do their industries. As the population of the largest and largest cities grows, so does their number. In 1926, there were 26 cities in Uzbekistan, but today there are 129. Their rapid growth depends primarily on socio-economic factors (integration of industry and science, education, etc.). Small and medium-sized cities play a major role in the division of social labor. They make up the absolute majority. Today, the growth of small and medium-sized cities, the future development of the problem of improving the quality of their architectural and planning solutions. The problem of attracting free labor resources to social work plays an important role in them. Types of settlements Types of settlements depend on the specialization of production and cooperation of its branches. Types of population distribution are also determined by the characteristics of the economic base of settlements and their size. With the abolition of the primitive community system, the process of division of labor — the separation of agriculture from the handicrafts and trade — gave rise to two types of settlement urban and rural [6,7]. Even today, there are 2 main types of population:

- -urban type-related to the emergence and development of cities and urban-type villages.
- The type of village is associated with the development of various rural settlements.

CONCLUSION

Within each major view, a number of species can be distinguished depending on economic, natural, demographic, and other specific conditions. Within the urban landscape, there is a concentrated or concentrated type of population, which is characterized by the concentration of the population in the largest, largest cities, and the majority of the population is dispersed in medium, small and urban-type rural areas. Forms of settlement depend on the density of the type of settlement, the characteristics of their mutual location within a certain area and the level of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

development of the types of communication between settlements [8]. Different types of relations between settlements are formed. The second sign of population distribution is the development of functional relationships between the characteristics of the location of settlements -they are autonomous (ART) or group (AGT). The system of settlements (ART) is located far from each other, the communication between them is poorly developed transport links, settlements are separated from each other. Develops, functional relationships are weak and unstable. The group system of settlements (AGT), on the other hand, they form a group. The type of communication that develops with each other is associated with stable functional relationships. It is a complex of urban and rural settlements of different sizes in the national economy, combined with developed regional industrial relations, common engineering infrastructure, an integrated type of social, cultural and service centers. [9]

REFERENCES:

- 1. Isamuxamedova DU, Adilova LA. Fundamentals of Urban Planning and Landscape Architecture: Part 1, Textbook / Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan, Tashkent: Cholpon Publishing House, 2009. 160 p.
- **2.** Mirzayev MK, Latipov DV. Fundamentals of urban planning of the Republic of Uzbekistan. Textbook. T. 2000 TAQI.
- 3. Mirzayev MK. Basics of district planning. Textbook. T. 2001 TAQI.
- 4. Isamuhamedova DU. Fundamentals of urban planning. Study guide. T., 2000.
- **5.** Saidov AA. The basic principles of increasing the density of multi-story residential development. European Journal of Molecular & Clinical Medicine, 2021;8(1):732-740.
- **6.** Saidov AA. The Planning Solution and Landscape Design of Courtyard Spaces in Multi-Storey Residential Buildings of Uzbekistan. International Journal of Advanced Research in Science, Engineering and Technology, 2018;5(11):7243–7248.
- 7. Erkinovich MZ, Zayniddinovna ES. Hagia sophia as a synthesis of the types of Byzantine temple architecture and an example of the Byzantine building culture of the IV-VI centuries. Asian Journal of Multidimensional Research, 2021;10(8):294–297.
- **8.** Shukhrat R, Zarif A, Zafar M. (2021). Role of the design code in improving the quality of the urban environment. Academicia: An International Multidisciplinary Research Journal, 2021;11 (1):1805–1812.
- **9.** Himmatovich AZ, Olimovna DU, Ziyodullayevna SU. Landscape Solutions for Automobile Ways of Environment. International Journal of Advanced Research in Science, Engineering and Technology, 2019;6(8):10444–10448.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CARTOONS AND THEIR IMPORTANCE IN KIDS' DEVELOPMENT IN PRESCHOOL PERIOD

Kurbonova Mekhrangiz Khurshedovna*; Ibrohimov Maksud Mirsalim ogli**; Bultakova Nilufar Shokir qizi***; Ochilova Maftuna Doniyor Qizi****

*Teacher of English Faculty,
The Department of Integrated English Course,
Samarkand State of Foreign Languages, Samarkand, UZBEKISTAN
Email if: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02705.1

ABSTRACT

Cartoons are a kind of art that shows all types of events or conditions related to social relationships with a humorous style of thinking. The creation of cartoons has a positive effect on the development of the personality of a preschooler, which is reflected in the reduction of anxiety, stabilization of the emotional state, the ability to identify one's own emotions and the emotions of others, etc.

KEYWORDS: Cartoons, Preschool Period, Speech Training, Primary Language

INTRODUCTION

Cartoon is one of the favorite genres of children and adolescents. The strength of this art lies in the fact that it does not require translation into other languages, it boldly paves the shortest distance from thought to the image. Cartoons have a great impact on the development of preschool children. On the one hand, these are bright, spectacular, imaginative, simple, unobtrusive cartoons available to children. They form in him the primary ideas about good and evil, standards of good and bad behavior. By comparing himself with his favorite characters, the preschooler has the opportunity to learn to perceive himself positively, cope with his fears and difficulties, and respect others. The events taking place in the cartoon make it possible to educate children: to raise their awareness, develop thinking and imagination, and shape their worldview.

As a result of numerous studies, scientists have identified certain requirements for cartoons. This is, firstly, a high aesthetic level, which manifests itself in the human and aesthetic content, clarity of design and composition, colorfulness, simplicity, and accessibility of the characters' speech. Secondly, the content should correspond to the age perception of children and, thirdly, the film shots should be made by pictorial and expressive means of the screen language, which children can learn and convey in their drawings: a variety of characters; dynamics of forms; complex composition of the frame; expressive color; a wealth of visual techniques. On the basis of these requirements and theoretical analysis of the literature, the criteria for assessing the development of children's art in drawing based on cartoons are determined: the presence of a plan, expressiveness. [2]

The preschool period is an extremely important period in the development of the child. Especially, the fact that cognitive, physical, and socio-emotional development takes place in this

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

period makes this period much more meaningful early childhood, the child generally engages in learning behaviors at a conceptual level. It is a mental process that symbolizes the common characteristic of concepts, objects, or events. At the period of preschool, a child's imagination is colorful, therefore, he/she draws and paints by using color pens in every color. All of these are tools for illiterate children who learn and explore the real world. Since caricature is an art of cartoon and benefits the colors, it appeals to the spirit of children, almost creates a bridge between the real world and the child's mind. Cartoons can convey many messages and concepts to children with pictures and symbols The colors used in cartoon graphics are very important. Colors have psychological effects, and they affect brain waves, nervous system functions, hormonal activities, stimulate emotional and aesthetic values and stimulate other senses. In addition, color is an element that has to be emphasized in design due to its psychological effect on people. [3]

Expressive means of animation are the most natural for children. They stimulate their creativity and free-thinking. Communication through movement and imagery is easier than traditional verbal communication.

Animation classes create the most favorable conditions for the development of the child's creative potential, versatile development, artistic education. Screen creativity is synthetic in nature. Combining different elements of theatrical, visual arts, music, opens up a wide horizon for the development of personality.

Animation classes awaken in the child the ability to represent individual moments of action in development and in various semantic linkages, create a whole, teach him to be balanced and precise coordination of movement. He will need this in the future, no matter what field he becomes. At the same time, the process of developing these skills is natural and organic.

The educational essence of cartoon film is that the language of the cartoon, mastered in childhood, is able to contribute to the development and improvement of the perception of the world. Being engaged in animation, the child gets unlimited opportunities for the embodiment of his unique experience and first life discoveries and impressions.

How powerful potential do cartoons of their own production have? This unusual activity will help children to feel more confident, to determine their future goals, to understand eternal life values.

Preschool children watch cartoons every day. With the advent of modern technology, the fascinating world of animation, which seemed previously inaccessible and mysterious, has now become available to many. On a superficial level, animation seems like a simple undertaking. In fact, this is a rather difficult job, and its successful outcome, among other things, depends on good imagination and extraordinary imagination.

It is always very simple to motivate children to create a cartoon, and children willingly respond to an offer to try to create a cartoon by themselves and to be a "director".

Children can depict objects, phenomena, create patterns, embody their ideas in drawing, modeling, the application only if they master the technique of each type of visual activity. Despite the fact that the technical execution of the work is not the main thing, mastering the correct and varied technique is necessary. The visual activity of the child acquires an artistic and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Tipeer reviewed journal

creative character gradually, as a result of the accumulation, clarification of images-representations, and mastery of the methods of depiction.

The use of pictorial and expressive means of cartoon films as a means of developing the visual creativity of older preschool children is productively carried out as the final thematic lessons. Creation of a cartoon based on drawings, moldings, or works made using the applique technique.

Animation includes an unlimited number of activities. "Cartoon five minutes" is a time of improvisation, gaining new knowledge, consolidating the material covered, and finally, the ability to quickly translate thoughts on paper, in plasticine.

The task of animation classes is to develop the imagination and creative imagination of preschoolers, to intensify the understanding of the previously studied material, as well as to develop the skill of drawing and modeling.

"Painting activity", in the process of pre-school education, is one of the frequently used applications by teachers.

Giving materials covering various animals or flowers pictures to all of the students the teacher asks them to colour.

We believe that speaking skills of preschool children could be developed by giving them cartoons especially within the colouring activity appropriate with their development in a conscious way and in the next step deriving from coloured caricatures students could be asked to talk about them.

At a pre-school educational institution, caricature above was given to the students to make "speech activity a study of the charcoal drawing and they were asked to colour this. After completion of painting study, speech activity was started. Accompanied by some of the questions asked to students about the caricature images, it was brain stormed with the students and they got them to give their opinions related to the image by focusing on it.

CONCLUSION

If a picture worths a thousand words, draw picture and save a thousand words, "Lyrics can be applied to cartoon as well. In pre-school process, the short or long speeches made by using cartoons for the education will lead the increase of student's vocabulary capacity, the ability of speech and development their critical thinking.

Thoughts are hidden between the lines in a cartoon, which analyses a particular event or situation. The child looking at the Caricature, will attempt to solve the meaning of thoughts, will ask the questions if can't solve, with answers in his mind, will create a composition about cartoon. Here is the main source of this composition to improve his comprehension and storytelling skills.

Taking the following aspects of comic art, It can be easily understood how much it can contribute to understanding and explaining skills of a child in pre-school.

Cartoon is suggestive.

Cartoon makes laugh or smile.

Cartoon opens the horizon.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Cartoon speaks volumes.

Cartoon increases attention.

Cartoon gives the lessons.

Cartoon allows us to achieve gratification.

If curiosity of children is supported by the cartoons appropriate to their intellectual and emotional development, their real-world understanding will be enriched and individuals who can communicate effectively in the future will be brought up. Cartoons will also contribute to the different aims such as development of students understanding and explaining skills which are part of their native language development, improvement of their perception level, problem solving, creative thinking, decision-making skills, observation skills.

REFERENCES

- **1.** Chin C, Teou LY. Using Concept Cartoons in Formative Assessment: Scaffolding students' argumentation. International Journal of Science Education, 2009;31(10):1307-1332.
- **2.** Hodgson C, Pyle K. A Literature Review of Assessment for Learning in Science, Slough: UK National Foundation for Educational Research 2020. pp.1-32.
- **3.** Ramachandran VS, Hirstein W. The Science of Art A Neurological Theory of Aesthetic Experience, Journal of Consciousness Studies, 1999;6(6-7):15-51.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

PROFESSIONAL IDENTITY AND GENDER ISSUE IN CREATIVE **FIELDS**

Tushti Sharma*

*Professor,

Department of Management, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: dr.tushti@gmail.com

DOI: 10.5958/2249-7137.2021.02647.1

ABSTRACT

In recent times all social and business-oriented perspectives have taken on a new dimension of 'creative industries' and the attitudes of creative workers. The emphasis was on the allegedly hybrid character of "creative work" and the manner in which this feeds the image of the selfinteresting creative worker. Our essay takes these statements as its point of origin and tries to create more detailed discussions regarding these areas of labour, often overly synthetically handled. Based on our research in the past, we are investigating how the principles and a fun and humorous image of the creative worker were handled by two groups of creative workers in advertising and magazine publishing. We explain the subjective participation of these practitioners within specific types of manhood and explore how to write genre into the creative cultural field of advertising and magazine publishing in the early concerns of gender and in particular masculinity. Our goal when we examine these issues is to disturb the progressive tales often inserted in creative professions and highlight the survival within these sectors of a very old concept of production.

KEYWORDS: Advertising, Creative, Cultural, Industries, Labour, Social, Work.

1. INTRODUCTION

Recent reports of social and cultural change produced across the industrialized western portion of the globe have given the organization of economic and cultural life a great lot of significance in the so-called creative industries. Regional industries such as advertising, publishing, design, digital media, Music and Film gain a new significance, whether for claims about the development of an information society or for a move towards an age of reflective modernity. More journalistic and business-related publications, too, have made similar claims about the growing significance of these sectors, bringing them into line with the arguments about the development of a new economy (Fig. 1)[1].

In policy authorities' recommendations, the cultural development of the creative industries was also apparent. In Britain, of course, since 1997 these industries have taken centre stage in the formulation of cultural policy by the current Labour government. These sectors were the main vehicles for a number of policy statements and initiatives in which the promotion of creativity activity and cultural innovation were considered to be key to a cultural and economic

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

modernization programme, led by the Departments of Culture, Mass Media and Sport, and the Inter-Departmental Task Force for Creative Industries.

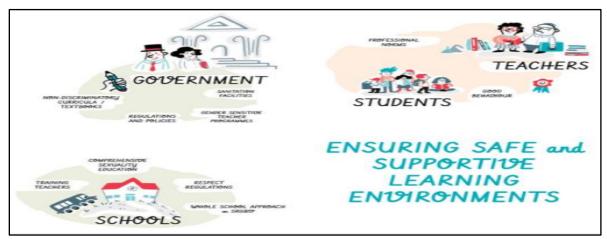


Fig. 1: Who Is Accountable For What In Achieving Gender Equality Through School?

A number of recurrent claims have been made about the growing significance of these sectors via these different arguments and proposals. Perhaps the most surprising item included the notion that the creative industries essential because methods of working in these sectors are the model for redrafting the way work is done in other areas of employment and in particular the subjective dispositions of creative workers. For example, for Lash and Urry, the paradigmatic importance of these sectors is emphasized by the necessity for key workers in the creative cultural industries to operate as autonomous, thinking and creative people. They are an illustration of the individualization and reflexivity processes of a new age of reflective modernity which spreads throughout social life[2]. Scase also think that the leading edge of the movement towards the information age is the need that individuals in these sectors exercise intellectual and creative skills (to contemplate the indisputable, to be inventive) [3]. These comparable statements on the growing importance of the methods to operate in the creative industries have also been made by management consultants. As Jackie Townsend's remark at the opening of the article makes it apparent, effective companies, in accordance with the ways of behavior associated with artists and other creative types, have fostered the transformation of their core personnel into independent, resourceful and creative individuals.

However, cultural critics have undoubtedly provided the most interesting remarks on creative work and the provisions of creative personnel. The paradigm status of this work has been supplemented by an attention to the specific characteristics of creative activity. Angela Mc Robbie has done the most in this regard by pointing out that creative labour appears hybrid and its disruption of existing boundaries between leisure and labour. She has witnessed the impact on the organization of this creative world via the full panoply of language, dress and music produced by club culture. As she wonderfully phrased it, the heady pleasures of the entertainment culture have provided a model for managing an identity in the working world for certain section of the under-35s working in the creative sector[4]. At the same time, she highlighted the manner in which the blurring of the boundaries of work and leisure in these domains also implies simultaneous work incursions into leisure times. As she shows, Auge cites work from every corner of life, including flexible work at home, convivial working at the coffee shop and transportable work from non-residents[5].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In this essay, we take as our starting point these various remarks on creative industries and in particular the assertions about the hybrid character of creative work. In this manner we aim to investigate one aspect of these creative working cultures, which in the literature is to yet still untapped. This includes the identifications and subjective motivations of creative workers and their usage of the ideal of the self-expressive creative worker, which is utilized so extensively to characterize these industries in secondary accounts. We also wish to address this issue to make these areas of employment more realistic, sometimes overly synthetic, discussions. In our prior research, we rely on components from two different teams of creative professionals, art directors and writers for London-based advertising agencies and the publishers of men's magazines of general interest[6]. Our goal is to discover how an understanding of creative work is accurately enjoyable, pleasant and allowing its practitioners to have access to a world of beauty and style, which these creative people themselves experienced in a continual manner. However, their work experiences were more contradictory than the celebrations of creative labour suggest. While art director and copywriter's and magazine publisher's professions enabled the practitioners, the extremely significant position of the hedonism in the portrayal of their vocations created concern for those business actors as to the professional legitimacy of the work they performed [7].

The narrative we construct here priorities a story about sex and, in particular, masculinity in analyzing these issues. This lowers the focus of the research for valid reasons. The predominance of males in these occupations was one of the most striking features of the jobs we documented. And while this may not be too startling for men's magazines, why should it be the case for works of a publicity art director or copywriter is not apparent. While that is not too unexpected. The study of the masculine identity of creative men we interviewed and the manner in which sex has been translated into the cultures that are connected to the execution of their job does not only allow us to reflect on the characteristics of the creative working environments[8].

In the first half of the essay, we provide short context for our findings on the subjectivities of our practitioners and the cultures that they have moved into by commenting on the structure of their sectors and organizations and their divisions. Part 2 and part 3 outlines the investments made by our practising professionals in a work-cantered identity based on a variety of hedonistic and consumeristic supplies. We emphasize the investments of professionals in the most contemporary signals of men's culture by means of clothing and consumption, and analyse their distinct, but linked, social traditions of advertising and journalism. In this we concentrate on the extremely metropolitan character of this sociability and situate our practitioners within a long history of subaltern social actors' metropolitan consumption.

In part four, we continue to examine the hidden costs of a working life that is so clearly defined in the framework of a fun and funky image. The specific sexual interests of the males who dominate our account are significant in this. In reaction to their work views as precisely nice and amusing, we describe how these men attempted to adhere to previous sex hierarchies, particularly primarily gender hierarchies of labour. Again, these responses were substantially different from one another across our two groups but both showed that the idea of work in the so-called "creative" economy still remains as an old productivity.

2. LITERATURE SURVEY

P. W. Daniels stated in the paper that world advertising expenditures have grown more quickly in recent years than the worldwide gross product. The organisational structure between small and big businesses is extremely dubbed: they have undergone metamorphosis into huge trans-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

national corporate networks. This is the most successful method for servicing international clients that develop but sell regionally globalised goods. The market access, national treatment, and tension between uncertain national regulatory regimes and the potential provided through global agreements, such as GATS, nevertheless restrict commercial advertising services. However, technology may be more important than trade liberalisation in the internationalization of agencies[9].

J. P. Wearing et al. stated in the paper that the colorful, highly creative book re-builds the texture and importance of popular entertainment in Victoria. Peter Bailey blends linguistic theories and social activity with an in-depth examination of contemporary sources in his study of the pub, theatre, music hall and funny newspaper. Analysis of how businesses, performers, social critique, audiences engage with one other reveals particular codes of humour, sociability and glamour creating the new populist ideology of good time and completion. Bailey shows how the new world of leisure has given its viewers a repertory of roles to handle the unsettling encounters in urban life. With its own distinctive voice, Bailey offers challenging interpretations of the respectability, sexuality and cultural politics of class and gender[10].

3. ADVERTISING AND MAGAZINE PUBLISHING IN BRITAIN IN THE 1990s

The most significant link between editors and publishers was in men's consumer magazine publishing. The editor was responsible for the commercial operation of the magazine and was important to its relationship with advertising clients. However, the publisher had little firsthand knowledge regarding the magazine's editorial direction and content. This was the job of the publisher and the identity and address of the magazine to its readers was created. The precise nature of the connection between the editor and publisher depended very significantly on the size of the magazine. For example, the editors-in-chief were the direct supervisors of the editors of each magazine and gave guidance for broad publisher policies and goals for large companies, such as IPC and Emap. Managing directors have taken significant responsibility in smaller magazine businesses for the profitability and administration of each magazine and have therefore engaged in a number of areas that publishers and editors would have elsewhere. More unusual was the fact that, when it initially debuted in 1998, Cabal Communications did not follow the industry norm that each magazine had a single publisher, but rather chose experts in the specific publishing, selling, circulation and advertising areas.

Typically, the nature of the relationship between publishers and publishers was unpleasant. Formal publishing administrators have often been called "bosses" of their magazines. They had been needed to understand publishing processes and strategy as the long-term defenders of the magazines brand identity and sometimes were allowed to authorize the hiring of new editorial teams. There was no obvious need for publishers to have adequate business abilities, but publishers were obliged to take part in particular activities such as advertising pitches that publicly addressed both the economic and creative sides of their job. None the same, in a situation that was equally apparent for advertising agencies, publishers, who understood the importance of autonomous editorial judgment in producing revenue from sales and advertising, shielded creative staff from many of the more pressing economic requirements of magazines. It was the cumbersome nature of this kind of material that meant that editors, although frequently nominally subordinate to a publisher, exerted secretive competence over the publications they supervised. It was an issue of comprehending, addressing and dealing with readers properly.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Many of the same characteristics were shared by our work environments, both by our directors and copywriters. Both the creative PR divisions and the publishers' editorials have been easygoing and casual places of work. In creative departments, their office furniture usually included pools, soft chairs, sofas and consoles. For example, one practising practitioner described in Nixon recalled that people streaming guitars in the afternoons brought the creative section he worked in to life. Editorial bureaux were also established as informal creative spaces. Music has often been played loud in open workplaces filled with memorabilia from young and popular media. However, these cultures of the informal workplace often had a strong sex aspect. Of course, the informality of office life inside advertising companies allowed remarkable types of masculine and homo-sociability to flourish. In a more benign version, men would play football in the corridors of the workplace, but more worrisome versions included horseplay, such as the decoration of the company Christmas tree with condoms and sanitary napkins and the sweeping pinion of Barbie doll to office doors. In this manner, in this area of creative labor techniques which were regarded as strange in other professions are allowed.

The easy-going settings of these places of employment co-existed with a growing number of contractual connections between creative people. Creating advertising divisions were split into permanent full-time contracts, smaller employee numbers, and, usually, numerous placement teams. Creating departments Placements were employment experiments where creative employees worked for little or no money on client accounts. Agencies frequently have been engaged in fraud by indirectly encouraging individuals to sign up for positions for social security. There was no guarantee in most instances that the creators would be given full-time employment, even if they had done a good job during the duration of the training. Typically, working hours were lengthy and many agencies asked workers to complete 10 hours as a contractual requirement by the project if project deadlines required this to be met. Work contracts were arranged and hours similarly long within publishing of magazines. The rewards could however be very great for both jobs, with a creative director at a London office, for instance, in 1996 to order an extra £160,000 payroll with additional bonuses such as share options, private medical insurance, class subscriptions and an apparel benefit, and star publishers who are able to earn significant salaries. The wages given to successful employees were part of a unique system of labour markets. The mobility of practitioners between companies and both advertising creative experts and magazine publishers was significant, performing duties that were defined by their professions rather than the direction of the company. This feature of the employment markets makes networking a vital prerequisite for innovation and publishing at official and informal business meetings. It was important to be recognized for professional success in the industry circuits of awards ceremonies, launches and the wider social networks of PR and publishing of publications. In this sense, social capital was part of the successful career of art directors, copywriters or editors. However, these social networks are also part of the oftenrepresented attraction of these professions and in this following section, we want to start investigating our practice's subjective participation in different kinds of socio-consuming based employment.

4. DISCUSSION

It is obvious that our dedication to style and uniqueness shown in our self-presentation is mainly owing to its stark divergence from the masculine utterance of adjacent professions, particularly in financial services, where rigid, formal clothing standards remain. When we focus on the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

sartorial choices of those practitioners, it is obvious. It was partly based on the ideas on our practitioners' creativity and was also evident in the manner they differentiated themselves from their more business-oriented colleagues. The greatest change was, of course, with the advertising specialists, who oversaw individual consumer reports and liaised with customers. As the phrase implies, account managers are frequently recognized as the suits, usually in good costumes, more appealing than advertising creative professionals to those male workers in the legal and financial services sectors. You would see a waistcoat, a sweat suit, or a harsh double-breasted jacket very rarely. It's informal more than it used to be. They call the account managers conditions, but I believe this is a very nice remark. The creators are the ones who lay the golden eggs, and the account managers are the ones that have to sell them. They must be clothed with a certain wisdom. After all, why wear unusual clothing and risk attracting attention from your effort. In differentiating the practitioners' attire, seniority and rank also played their role. Creative directors typically wear suits or finer casual wear because of their interactions with consumers, but such fits must be contemporary and stylish, as Robin Wight pointed out. Then you don't really support what you are providing if a creative director provides a client who wears a third-rate fit. The clothing of the creative director should be unique as the whole presentation should reflect it when you market innovation.

If we used to adorn themselves to some degree, we interviewed practitioners and lived out unique kinds of masculinity in their profession, then other aspects of their report both showed the initial appeal of their different professions and their experience. Their interest in socializing was pervasive, which constituted a significant part of daily life in both companies and the wider social calendar of advertising and periodical publications. The editors of magazine could anticipate events such as movie screenings and fashion demonstrations as part of their daily living routines with a constant cycle of lavish industry and business evenings. Similarly, advertising designers had access to a specific social industry. This included the main social events of the industry, such as the renowned yearly creative ceremony of the D&AD and Advertising Creative Circle. Both events were celebrated for the drink, and after working at the local pub on Friday nights, it was drinking with colleagues and, frequently, during the week, which created both media practitioners a more regular social pattern. An important element of their working life was for more seniors in the PR sector especially creative directors and other agency managers to dine in restaurants or enjoy socialization benefits at one of many private clubs. Their admission to these clubs was regulated by rank and elderly age, and in general they were far beyond younger practitioners' means.

These types of sociality were very metropolitan in the location of many of the informal work-oriented and work-oriented fun and pleasure in publicity and periodicals around central London. It is very difficult to establish exactly what it meant for these practitioners and how they lived these social relationships. The significant significance of Soho in the leisure lives of marketers is a particular issue here. The varied cultural heritage of Soho and the present diversity of social actors in its social spaces are at risk. As Frank Mort has noted, Soho's development throughout the 1980s and 1990s of legal economic activities (particularly the increasing presence of media and publishing companies) interplayed in complex ways with Soho's bohemian and avant-garde culture of the previous century. One method this took was for some of the younger commercial artists to adapt old bohemian customs into contemporary culture. But Soho's old and modern customs did not always have smooth connections. Journalist John Barnard, who himself frequented the famous Colony Room on Dean Street, was a part of an after-war society of artists,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

actors, and literary types, including artist Francis Bacon. He railed against the new inhabitants of Soho, obviously thinking that his vision of Soho bohemianism had been challenged. Melodramatically, he wrote in the early 1980s that Soho is dead. Massive advertising managers with bagpipes and a taste of low-cost wine have finally destroyed what's just about the best area of London for someone who has never recognized the worth in his job.

6. CONCLUSION

The resort to the character of the gonzo journalist by journalists like Tim Southwell and James Brown showed misogynistic concern for their publishing career and journalism. Like the others we examined, this activity demonstrates the desire to challenge perceptions of creative work as consumerist, humorous and without harsh grafting. As we said, this achieved its stunning form, when creative people sought to bring together artistic work with a hierarchy of men's professions that placed physical labour as the manliest activity. Some of the men we questioned were especially disturbed by the sense the creative activity was blurring the distinctions between work and leisure, and they had to deny these connections by asserting the difficulties of the job and its overall demanding nature. Compared to other white-collar and professional groups, their answers also tended to emphasize the hard character of their employment as well as its parallels with physical labour in the face that "desk professions" were easy and feminized. Certainly, in the study conducted out by Mike Roper on a group of top managers of the British manufacturing sector after the war, the rigorous and demanding nature of their management job is recurrent among these people. In terms of socioeconomic background and age, the males we questioned were significantly different from those described by Roper and they lacked a regular contact with a factory floor culture and proletarian kinds of masculinity that prompted Roper management to stress they weren't the "soft" manual workers. Their acceptance of a gender hierarchy of labour, although more clearly linked with the cultural implications of creative labour and the prestige of each industry, was nevertheless as strong.

However, not only to the creative people we studied, their social position and temperament played a negative role. We also observed how some males claimed that they were investing in work leisure forms connected with the job at the same time. In that they tell us the kind of men they were in their testimony. Identification of hedonism and a consumer-based ethic of enjoyment that affected the attractiveness and performance of the work were the focus of these endeavours. These kinds of pleasure have usually been connected to conventional ideas of heterosexual masculinity but, via their choice of clothing, it was essential to exhibit and accept the most recent signs of maleness. Those wardrobe choices signalised that the consumerist forms of identity depend on a highly self-conscious masculinity via constant self-design and self-reflections processes. The tensions between these competing forms of connection to their occupations showed that their sense of self-employment as working men had to be structured around these conflicting identification processes as well as the kind of social division which resulted from them.

REFERENCES

- 1. H. Gert-Jan, "The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life: The Flight of the Creative Class: The New Global Competition for Talent.," Creat. Innov. Manag., vol. 15, no. 3, pp. 323–324, 2006.
- 2. S. Lash and J. Urry, "Economies of signs and space," Econ. signs Sp., 1994, doi:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

10.2307/2076072.

- **3.** H. Davis and R. Scase, Managing creativity: The dynamics of work and organization. 2000.
- **4.** N. Rossiter, "Creative Industries and the Limits of Critique from," M/C J., vol. 6, no. 3, 2003, doi: 10.5204/mcj.2208.
- **5.** A. McRobbie, "From Holloway to Hollywood: Happiness at Work in the New Cultural Economy?," in Cultural Economy: Cultural Analysis and Commercial Life Cultural economy: Cultural analysis and commercial life, 2012, pp. 97–114.
- **6.** T. J. Curry, "Representing Men: Cultural Production and Producers in the Men's Magazine Market. By Ben Crewe. Oxford: Berg, 2003. Distributed by New York University, 2004. Pp. ix+230. \$75.00 (cloth); \$26.00 (paper). ," Am. J. Sociol., vol. 110, no. 5, pp. 1503–1504, 2005, doi: 10.1086/431610.
- **7.** A. Healy, "Living on Thin Air: The New Economy," Plan. Theory Pract., vol. 1, no. 1, pp. 145–145, 2000, doi: 10.1080/14649350050135293.
- **8.** T. Butler and F. Mort, "Cultures of Consumption: Masculinities and Social Space in Late Twentieth-Century Britain," Br. J. Sociol., vol. 48, no. 3, p. 536, 1997, doi: 10.2307/591157.
- **9.** P. W. Daniels, "The Internationalisation of Advertising Services in a Changing Regulatory Environment," Serv. Ind. J., vol. 15, no. 3, pp. 276–294, 1995, doi: 10.1080/02642069500000035.
- **10.** J. P. Wearing and P. Bailey, "Popular Culture and Performance in the Victorian City," Albion A Q. J. Concerned with Br. Stud., vol. 32, no. 1, p. 157, 2000, doi: 10.2307/4054036.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

GENDER INEQUALITY IN INDIA: AN OVERVIEW

Sourabh Batar*

*Assistant Professor,

Department of Corporate Law, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: battarsourabh@gmail.com

DOI: 10.5958/2249-7137.2021.02648.3

ABSTRACT

Gender equality theory, idea, and politics can be seen as part of a long-running historical battle for equality and democracy, but with a particular focus on equality and democracy between women and men, and genders in general. The term "democracy" is frequently used in the context of equal political representation, despite the fact that it is commonly understood in many communities and historical eras to refer solely to adult men. Men and women each are equal and play a paramount position in the introduction and development in their households in a specific and the society in trendy. Indeed, the warfare for equality has been one of the essential concerns of the ladies's motion everywhere in the international level. The difference in sex and bodily form denotes no distinction in popularity. Woman is the complement of guy, and there is no inferior complex anymore. In India, since lengthy lower back, ladies had been considered as an oppressed section of the society and that they were ignored for hundreds of years. Gender inequality in India is a vital truth.

KEYWORDS: Developing Countries, Gender Inequality, National Cultures, Organizations, Workplace.

1. INTRODUCTION

2. *Gender Inequality:*

Gender equality encompasses not only political representation and leadership, such as through parliamentary elections, but also rights and opportunities in all aspects of society, such as economic participation, decision-making, behaviour evaluation, aspirations and needs of women, men, and other genders, and violence-free living. Gender equality is therefore strongly linked to the creation of gendered citizenship, which is defined as a set of rights and duties that includes political and economic entitlements, access, and belonging. Full inclusion of women citizens requires addressing basic structures of gender inequality throughout societies, such as questions of care, dependency, and interdependency in and across public and private spheres, and their interrelationships, in light of historical exclusions and marginalization's of women [1].

In education, health, personal autonomy, and other areas, gender disparities favoring men are consistently greater in impoverished nations than in wealthy ones. The underlying reasons of gender disparity in impoverished nations are examined in this article. Is underdevelopment to blame for the greater degree of gender inequality. Gender disparity is not only a problem in poor

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

nations? In almost every society, males earn more than women. In nations with low GDP per capita, however, inequalities in health, education, and negotiating power within marriage are more pronounced [2].

3. Gender inequality in impoverished nations:

Education and health shows the ratio of the male and female college enrollment rates plotted against GDP per capita for the several countries included in the World Bank's World Development Indicators (WDI) data set. The relationship is downward-sloping: The male bias in college-going falls (and in fact evaporates) as GDP increases. Although the correlation cannot be interpreted as a causal relationship, it is strong: In a univariate regression of the college gender ratio on log GDP per capita, the R2 is 0.44, equivalent to a correlation of 0.66. A negative relationship between the schooling gender gap and GDP is also seen for primary and secondary school enrollment The male to female ratio of college enrollment in the United States has declined steadily since 1950, falling below parity by 1980 and continuing to decline since the data points for China and India are labeled. These two countries are given special attention both because they are large together they are home to over one third of the world population and because they are infamous for their strong son preference. Interestingly, in terms of school enrollment, neither China nor India is an outlier. Turning to health, in general women have a longer life expectancy than men, but this female advantage is somewhat smaller in poor countries. The pattern is not explained by the disease composition varying with the level of development; even for a given cause of death, women have higher age-adjusted mortality relative to men in poor countries than in rich ones .Most sub-Saharan African countries are above the best-fit line, the HIV/AIDS epidemic has hit Africa hard and decreased female life expectancy disproportionately[3]–[6].

Gender (or sex) inequality is a common human rights violation that takes many forms, including sexual humiliation, uneven compensation for women who do the same occupations as men, and even discrimination at the level of pregnancy. Despite the fact that the Indian constitution provides equal rights and advantages for men and women, as well as similar provisions to improve the status of girls in society, the majority of women are still unable to enjoy the rights and opportunities guaranteed to them. Despite the fact that the Indian constitution provides equal rights and benefits to men and women, and makes parallel commitments to improve the social status of women, the rights and opportunities guaranteed to women by the constitution are still some distance away from being realized [7], [8].

4. Factors responsible for gender inequality:

Although females have identical legal rights to personal property and inherit the same rights as boys, in practice, women are at a disadvantage. The Hindu Succession Act of 2005 gives ancestral and owned property the same succession rights; nevertheless, the legislation is not well implemented [9].

5. Gender Inequality and Economic Performance:

Gender inequality in schooling decreases the average quantity of human capital in a society, therefore harming economic performance. It accomplishes this by artificially limiting the pool of talent from which to draw for educational purposes, therefore eliminating highly qualified individuals. Furthermore, if marginal returns to education are falling, limiting girls' education to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

lower levels while raising boys' education to greater levels means that the marginal return to educating females is larger than that of boys, boosting overall economic performance [10].

Gender is a social construct and consists of a set of behaviors and expectations. The two most common genders are male and female and there are also non-binary genders, such as that of the hijra, an iconic gender figure (usually male-bodied self-identified female) in South Asian culture. Hijra have been recently legally recognized as third gender in several South Asian countries, including India Gender used to be 3 associated with biological sex but these are now regarded as distinct concepts. Behaviors expected from males and females vary between cultures and have changed over time. A hundred years ago, females were not expected to become highly educated .Gender-based disparities of power and influence over the corporation are not uncommon inequities that occur inside the administrative center. In comparison to males, women have a harder time moving up into higher-paying professions. Gender-based completely imbalances of individuals in electricity and control over the organizational management are two typical workplace inequalities. In comparison to males, women are less capable of quickly moving up into better-paying professions. In Sweden, Erik et al. investigated whether women are discriminated against due to sticky floor or glass ceiling effects. They discovered via their research that sticky floor effects affect women in Sweden more than glass ceilings. Their research also revealed that women with small children experience the greatest professional disadvantage. Younger and older women face a greater gender penalty, whereas middle-aged women face a lower penalty. In their analysis, there was no evidence that women had less job prospects in the private sector than in the public sector, compared to males. Susan and her colleagues focused on the logical prejudice hypothesis of workplace gender discrimination.

We examine change in multiple indicators of gender inequality for the period of 1970 to 2018. The percentage of women (age 25 to 54) who are employed rose continuously until ~2000 when it reached its highest point to date of 75%; it was slightly lower at 73% in 2018. Women have surpassed men in receipt of baccalaureate and doctoral degrees. The degree of segregation of fields of study declined dramatically in the 1970s and 1980s, but little since then. The desegregation of occupations continues but has slowed its pace. Examining the hourly pay of those aged 25 to 54 who are employed full-time, we found that the ratio of women's to men's pay increased from 0.61 to 0.83 between 1970 and 2018, rising especially fast in the 1980s, but much slower since 1990. In sum, there has been dramatic progress in movement toward gender equality, but, in recent decades, change has slowed and on some indicators stalled entirely.

Men have a higher level of employment than women at each year, and their employment has gone up and down more than women's with business cycles, including the Great Recession. Unlike for women, the long-term trend for men has been slowly downward, from 91% in 1970 to 84% in 2018. The percent employed fell more dramatically for men than for women in the Great Recession, from 84 to 79% between 2008 and 2009, with a larger rebound as well, back to 84% after 2010. To assess the trend in the gender gap in employment, Fig. 2 shows the ratio of women's percent employed to men's percent employed. The ratio rises continuously from 0.53 in 1970 to 0.85 in 1995. The progress toward equality was steepest from 1970 to 1995 as women's employment went up dramatically and men's employment went down some. Thereafter, the ratio was quite flat except for a rise and then decline of several points, reflecting, as discussed, that the recession and recovery both affected men more than women. The ratio was 0.86 in 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Using cross-country and panel regressions, we investigate to what extent gender gaps in education and employment reduce economic growth. Using most recent data and investigating a long time period (1960-2000), we update the results of previous studies on education gaps on growth and extend the analysis to employment gaps using panel data. the combined 'costs' of education and employment gaps in Middle East and North Africa and South Asia amount respectively to 0.9-1.7 and 0.1-1.6 percentage point differences in growth compared to East Asia. Gender gaps in employment appear to have an increasing effect on economic growth differences between regions, with the Middle East and North Africa and South Asia suffering from slower growth in female employment.

2. DISCUSSION

According to this theory, decision makers may choose to discriminate if they believe their superiors or others with power over their careers expect or favor it. Their research found that entrepreneurs discriminate against women, with those at the top of the organization being more biased than those at the bottom. Their research also discovered that management encourages prejudice, albeit the level of discrimination was lower than in prior studies, indicating that equal opportunity is becoming more common. Their studies also indicated that external forces had a greater impact on bias than internal constraints. The influence of the Brick Wall and the Glass Ceiling on Bangladeshi governmental administration was examined by Habib. His research indicated that women in the Bangladeshi government face discrimination in terms of promotion and admittance to higher posts (Glass Ceiling). Social and cultural concerns are the most significant stumbling blocks and hurdles to women entering the public sector. Their professional advancement was hindered by structural and attitudinal reasons. Government laws and regulations have been ineffective in this regard. Women from higher social classes, on the other hand, were not discriminated against. The uneven treatment of women has an impact on their morale, motivation, and performance.

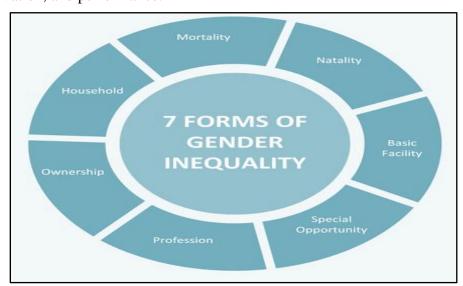


Figure 1: Illustrates the 7 forms of the gender inequality.

According to Uzma (identity is formed through society, environment, and parents. It's a two-way street: how others see you and how you see yourself. Parents attitudes toward their children shape their identities. Parents frequently regard their daughters as weak, timid, and overly

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

susceptible, needing to be safeguarded by society's male members. As a result, females are unable to suggest or oppose. This is the initial stage of oppression and enslavement. Even educated women, she claims, have a dual identity - professional and personal. Another conclusion of her research was that women's earnings are not seen as the primary financial source for their families, but rather as a complement to the earnings of their male partners. She also discovered that such findings were not applicable for higher and advanced households, where women are allowed total autonomy[11]. Figure 1 illustrates the 7 forms of the gender inequality.

There are many reasons to be concerned about existing gender inequalities in important wellbeing related dimensions such as education, health, employment, or pay. From a well-being as well as an equity perspective, such gender inequalities are problematic as they lower well-being and are a form of injustice in most conceptions of equity of justice.2 While such a view would argue for reducing gender inequalities in these dimensions of well-being on intrinsic grounds, recently a literature has developed that has investigated the instrumental effects of gender inequality on other important development outcomes with a particular focus on economic growth. Without denying the importance of reducing gender inequality on intrinsic grounds, this paper is a contribution to that latter literature. A significant focus of that literature has been to examine the impact of gender inequality in education on economic growth. A number of theoretical contributions have suggested a negative link between gender inequality and economic growth (e.g. Oded Galor and David Weil 1996; Nils-Petter Lagerl öf 2003). This literature shows that, largely due to the impact of female education on fertility and the creation of human capital of the next generation, a lower gender gap will spur economic development. The next section will briefly summarize the main findings from that literature. In parallel, an empirical literature has also examined these effects.

While some earlier studies had suggested that gender inequality in education might actually increase economic growth (Robert Barro and Jong-Wha Lee 1994; Barro and Xavier Sala-IMartin 1995), more recent work has shown that the opposite appears to be the case (Anne Hill and Elizabeth King 1995; David Dollar and Roberta Gatti 1999; Kristin Forbes 2000; Stephen Knowles, Paula Lorgelly and Dorian Owen 2002; Stephan Klasen 2002; Steven Yamarik and Sucharita Ghosh 2003; Dina Abu-Ghaida and Klasen 2004). These studies not only differed from previous analyses in their findings of the impact of gender inequality on economic growth, but also were able to explain why earlier studies had found the opposite effect and why more careful econometric techniques yielded the new finding that gender inequality in education reduces economic growth.3 These macro studies are also consistent with findings using micro data showing that girls have a higher marginal return to education, and even more so, if the impact of female education on fertility and education of the next generation is included (Hill and King 1995; World Bank 2001; King, Klasen, and Maria Porter 2008).

While these results are instructive, they are based on information on education and economic performance until 1990. Recently, new data on education achievement and economic performance have become available that now stretch to 2000 so that one purpose of the paper is to update the findings of the impact of gender inequality on economic growth. We will do this by using an updated and extended data set and the same econometric specification that was used in Klasen (2002). For some regions (including the MENA region), an update is particularly

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

germane as the gender gaps in education have been closing more rapidly recently so that one would expect smaller but still remarkable costs for the existing gender gap in education.

A subject that has not been investigated in great detail is the impact of gender inequality in employment and pay on economic growth. The relatively small theoretical literature on the subject yields conflicting results (e.g. Robert Blecker and Stephanie Seguino 2002; Berta Esteve-Volart 2004; Tiago de Cavalcanti and Jose Tavares 2007). While there is some empirical literature suggesting that high earnings gaps, combined with high female labour force participation rates, helped spur export-oriented economic growth in some Asian countries (e.g. Stephanie Seguino 2000a, b; Matthias Busse and Christian Spielmann 2006), there has not been a thorough empirical investigation of the role of gender gaps in employment on economic growth and the few studies existing have to be treated with caution due to problems of endogeneity, unobserved heterogeneity and poor data availability and quality

3. CONCLUSION

In order to eliminate gender disparity, India must take tangible actions. As long as gender disparities remain, it is necessary to reassess the concepts and tactics used to promote women's dignity and rights. There is a need for new forms of institutions that incorporate new norms and rules that support equal and simple family members for both men and women. A man and a woman are like two wagon wheels. Without the other, one's lifestyle is unbalanced. The most foolproof way to reduce gender inequity is to alter people's minds. This problem will not be remedied by a few individuals; rather, everyone should work together to eliminate inequality.

REFERENCES:

- **1.** N. Gupta, "Gender inequality in the work environment: A study of private research organizations in India," Equal. Divers. Incl., 2017, doi: 10.1108/EDI-04-2016-0029.
- **2.** G. Fatima, "Gender inequality in human capital accumulation and economic growth: A comparative analysis of Pakistan and Sri Lanka," Asia Pacific J. Soc. Work Dev., 2013, doi: 10.1080/02185385.2013.778786.
- **3.** E. T. Richardson et al., "Gender inequality and HIV transmission: A global analysis," J. Int. AIDS Soc., 2014, doi: 10.7448/IAS.17.1.19035.
- **4.** C. Murendo and G. Murenje, "Decomposing gender inequalities in self-assessed health status in Liberia," Glob. Health Action, 2018, doi: 10.1080/16549716.2019.1603515.
- **5.** E. M. Redding, M. T. Ruiz-Cantero, J. Fernández-Sáez, and M. Guijarro-Garvi, "Gender inequality and violence against women in Spain, 2006-2014: towards a civilized society," Gac. Sanit., 2017, doi: 10.1016/j.gaceta.2016.07.025.
- **6.** T. Yang and H. E. Aldrich, "Who's the Boss? Explaining Gender Inequality in Entrepreneurial Teams," Am. Sociol. Rev., 2014, doi: 10.1177/0003122414524207.
- **7.** R. Batra and T. G. Reio, "Gender Inequality Issues in India," Adv. Dev. Hum. Resour., 2016, doi: 10.1177/1523422316630651.
- **8.** K. Klingorová and T. Havlíček, "Religion and gender inequality: The status of women in the societies of world religions," Morav. Geogr. Reports, 2015, doi: 10.1515/mgr-2015-0006.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **9.** D. Amutha, "The Roots of Gender Inequality in India," SSRN Electron. J., 2017, doi: 10.2139/ssrn.2906950.
- **10.** S. Klasen, "The Impact of Gender Inequality on Economic Performance in Developing Countries," Annu. Rev. Resour. Econ., 2018, doi: 10.1146/annurev-resource-100517-023429.
- **11.** P. WA, G. AH, and K. Pahore D, "Gender Inequality Causes and Impacts on Honor Killing: A Case Study of District Shikarpur, Sindh, Pakistan," Arts Soc. Sci. J., 2016, doi: 10.4172/2151-6200.1000229.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INNOVATIVE TECHNOLOGIES IN FOREIGN LANGUAGE TEACHING METHODOLOGY

Mahbuba Mirzayevna*

*Associate Professor,
Department of Foreign Languages in the Humanities,
Fergana State University, Fergana, UZBEKISTAN
Email id: Mahbubamirzayevna@gmail.com

DOI: 10.5958/2249-7137.2021.02699.9

ABSTRACT

This article discusses the methodology of foreign language teaching, the history of its development as a science, the types of modern methods used in foreign language teaching methods and their use. The training differs drastically in certain aspects. This, in turn, applies requires the use of foreign language teaching technology. Learning a foreign language is a multifaceted doctrine and the process is complex undergo psychological changes. Including native language and foreign language the comparison process occurs. Different methods of teaching and in these process technologies are used.

KEYWORDS: *Innovative Technologies, Foreign Language, Methodology.*

INTRODUCTION

Language learning is one of the most important areas in human society. Language, which is a means of communication, is used in the natural environment, that is, in the family, in the community or practice in an organized manner. Knowledge of language phenomena theoretically taught. Languages in our time of international relations knowledge, especially multilingualism, are of immense importance. Study in our country the pupil and students who receive it usually learn three languages. These languages are special referred to by names. These are: native language, second language, and foreign language. Mother tongue is the first language to play a special role in the formation of thinking. The second when it comes to language, it includes brothers and sisters of other nationalities, considered as the language of the neighbors.

A foreign language is the language of a foreign country. Western Europe in our republic (English, Spanish, German, French) and Oriental (Arabic, Turkish, Persian, Chinese, Indian) languages is being taught. These languages are included in the curricula of educational institutions. The process of teaching three languages is different. Mother tongue and second language are natural situation, and a foreign language is learned in an artificial environment. Communication in a foreign language, mainly, in the classroom under the guidance of a teacher. Learning a foreign language and between the three languages. The training differs drastically in certain aspects. This, in turn, applies requires the use of foreign language teaching technology. Foreign language teacher methodology the language experience gained by the student through the thorough mastery of the achievements of science gain a clear understanding of the norm and further refines it.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Foreign language teaching methodology as a science has a history of more than 200 years. This is the period to observe different attitudes towards foreign language teaching methods possible. One such view belongs to academician L.V. Shcherba.

In his opinion, despite the fact that the methodology of teaching any science is a science, is not considered a theoretical science. It solves practical problems, including foreign languages teaching methodology is not only based on the evidence of psychology, but also general and based on private linguistic research. A linguistic linguistic phenomenon if it deals with the laws of origin and motion, the methodology is what to do to put into practice the necessary linguistic phenomenon based on the laws answers the question of whether. The most valuable of the methodological books also written by linguists.

<u>Methodology</u> is "'a contextual framework' for research, a coherent and logical scheme based on views, beliefs, and values, that guides the choices researchers [or other users] make". [1,2]

It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge such that the methodologies employed from differing disciplines vary depending on their historical development. This creates a continuum of methodologies [3] that stretch across competing understandings of how knowledge and reality are best understood. This situates methodologies within overarching philosophies and approaches. [4]

A teacher in today's society, culture and education need for innovation activities is measured by:

- Socio-economic modernization of the education system, methodology and teaching. The process requires a radical update of technology. In such circumstances innovative activity of the teacher, creation of pedagogical innovations consists of assimilation and use;
- -Humanizing the content of education is always a new organization of teaching requires the search for forms, technologies;
- In relation to the development and implementation of pedagogical innovation a change in the nature of the teacher's attitude.

The most widely used interactive teaching methods in the classroom today as follows:

1. Methods of completing the task, exercise: A teacher of German grammar to reinforce it once it has been introduced to students gives a variety of assignments. They can be written or oral.

Assignments for independent work. Verbal: Choose the correct answer to the question. Correct the nonsense and give the correct answer. Write: A grammatically correct sentence with the given words grammatically appropriate to complete a given sentence. Choose a word.

- 1. Creative thinking, methods of shaping responsiveness. In English lessons, a variety of word games are organized enrich students' vocabulary and broaden their horizons expansion. These games are designed for a short time and involve students. These methods are related to the English language "organizational games", :Picture test cards", "Theme crossword puzzles solve", "Happy competition and more".
- 2. Interactive methods of thinking, reasoning, acting. Create and tell an independent story based on pictures. The student is given the following instructions for writing a story.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Interactive methods for learners. This is the interactive method feature is the interaction of students individually, in groups diversity of students in such activities appears. Interactive methods allow the student to be polite, orderly, and thoughtful

Teaches to think and express on the basis of evidence. Learning a foreign language is a multifaceted doctrine and the process is complex undergo psychological changes. Including native language and foreign language the comparison process occurs. Different methods of teaching and in these process technologies are used. With the help of modern pedagogical technologies teaching comparing a native language with a foreign language gives effective results. Foreign language teaching knowledge of its methodology. Methodology and technology plays an important role in the process of learning a foreign language. There are different methods of methodological science in the organization.

In conclusion, it is important to emphasize that the teacher is the subject of the student interactive methods in the classroom to ensure full comprehension and the use of innovative pedagogical technologies, education contributes significantly to its efficiency.

REFERENCES:

- 1. Zaripova RA. Handbook of foreign language teaching methods, Tashkent-Teacher. 1986.
- 2. Shatilov SF. Method of teaching German language in middle school, L. Prosveshenie. 1977.
- 3. Jabborov V. Independent work of students on foreign languages. Tashkent-Teacher. 1984.
- **4.** Eshmuhammedov RJ. Education using innovative technologies. Ways to increase efficiency. Tashkent. 2004.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

APPLICATION OF PEDAGOGICAL TECHNOLOGIES IN THE **EDUCATION SYSTEM**

Kalekeeva Tamara Turkmenbaevna*

*Associate Professor of Mathematics Teaching Methods, Nukus State Pedagogical Institute, UZBEKISTAN Email id: Kalikeyevatamara12@gmail.com

DOI: 10.5958/2249-7137.2021.02700.2

ABSTRACT

This article discusses the application of pedagogical technologies in the education system and its classification by scientists. The goal is seen as a central component. This allows you to determine the level of achievement. To see the signs of pedagogical technology, it is necessary to compare it with methods and teaching methods. Pedagogical technology has many advantages over methodology and teaching methodology: first - the goal is clearly set on the basis of pedagogical technology.

KEYWORDS: Pedagogical Technologies, Vertical And Horizontal Structures Of Pedagogical Technologies, The Essence Of Pedagogical Technologies.

INTRODUCTION

No matter what subject a teacher teaches, there is always the question of "how to teach?" the question arises. The solution to this problem depends only on the skill of this educator. How, what methods, techniques and pedagogical technologies can be used to form competencies in students in the learning process?

There are many methods, techniques and pedagogical technologies used in the teaching process. They will be tailored to the child's age characteristics, public education, or individual education. The term "educational technology" appeared in pedagogical publications in the 60s of the last century. The word "technology" comes from the Greek words techno - skill and logos - doctrine. Accordingly, if the term is translated literally, it can be said to be a doctrine of pedagogical skill. According to N. Selevko's [2] classification, pedagogical technologies have a vertical and horizontal structure:

- 1. Vertical structure. Any pedagogical technology covers a specific area of pedagogical activity. On the one hand, if it includes a number of components (relevant technologies), on the other hand, it can itself become an integral part of a high-level activity (technology). In the vertical structure it is possible to distinguish four pedagogical technologies which are subordinated to it:
- Met technologies general pedagogical (general didactic, general educational) technologies that fully cover the educational process at the level of social policy (socio-pedagogical level) in the field of education;
- Macro technologies or pedagogical technologies related to the field belong to the field of teaching or education in one of the areas of study (general pedagogical and general methodological level). It can also be in the form of a subject teaching technology;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- mesotechnologies or modular-local technologies belong to a part (module) of educational process. This technology will be focused on solving problems in a private, local didactic, methodological or educational direction. At the same time, some manifestations of subject and object activity will be as technologies, technology of learning a particular subject, technology of lessons, technologies of assimilation, repetition or control of knowledge;

- Micro technologies these are technologies related to the solution of narrow operational issues and the interaction or internal interaction of the subjects of the pedagogical process. Used as training in the correction of individual characteristics.
- 2. The horizontal structure of pedagogical technologies consists of three main aspects:
- 1. Scientific. Technology is a developed scientific solution to a particular problem based on the achievements of pedagogical theory and advanced practice.
- 2. Official classifier. Technology that describes the purpose, content, methods and tools, algorithm of actions of the model used to achieve the planned result.
- 3. Procedural activity. Technology is the process of implementing the activities of objects and subjects, in which the goal is to set, plan, organize, achieve the goal and analyze the result [2].

Thus, according to GK Selevko's classification, pedagogical technology exists in the following ways: as a science (field of pedagogical theory) that studies and designs the most rational ways of teaching; methods and results of operation, as a system of algorithms and as a real process of teaching and education. As for the definition of pedagogical technology, its single definition is not accepted. Accordingly, we use a definition that is consistent with our study. When we talk about pedagogical technology, we can briefly understand the following: the direction of pedagogical science, which designs the pedagogical process that guarantees the planned learning outcomes, the most effective achievement by students.

To see the signs of pedagogical technology, it is necessary to compare it with methods and teaching methods. Pedagogical technology has many advantages over methodology and teaching methodology: first - the goal is clearly set on the basis of pedagogical technology. The goal is seen as a central component. This allows you to determine the level of achievement. In traditional pedagogy, the goal problem does not play a leading role, the level of achievement is not clear; secondly, it allows to develop objective methods of control over the achievement of the goal (final, intermediate) because it is clearly (diagnostically) set; third, in contrast to the methodological developments designed for each lesson that the teacher has previously used in his work, pedagogical technology involves the design of the learning process that determines the content and structure of students' learning activities. This leads to sustainable success even when the number of students is in any number. [1]

Important aspects of the concept of "pedagogical technology" are:

- pedagogical technology is developed for a specific pedagogical issue, which is based on a clear expected result;
- The existing pedagogical technology, taking into account the principle of individualization, provides for the interaction of teacher and student;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- be a tool for quality control (teaching) of teaching as part of pedagogical technology. At the same time, the content of instruments, indicators, criteria for measuring performance should be included;
- The use of pedagogical technology guarantees a certain quality of education for all students based on the set goal.

Unlike pedagogical technology, method and teaching methodology, it involves the systematic organization of the interaction of all elements at all stages of the teaching process; guarantees the achievement and reflection of the educational goal. Another difference is that it requires an algorithm that includes a control task system, control type, and method that is adequate to the task at which the results are measured and reproduced.

Modern pedagogical technologies have a wide range of opportunities:

- not only creates the conditions for understanding the content, but also develops the ability to use new methods of learning, methods of learning;
- allows to master methods of information exchange, change and deepening of information units;
- Technological methods allow the audience to show their strengths. Because everyone chooses their own opportunity to participate with the amount of information, the pace of professional growth, the way they interact with other participants.

The following conclusions can be drawn from the analysis of the essence of pedagogical technologies:

- pedagogical technologies are aimed at students and success in mastering is ensured through their personal activities;
- Pedagogical technologies allow to achieve the goals of education through personal development; in doing so, it is achieved through objective mastery and self-control of the mastery of its purpose and the quality of education.

Thus, it is necessary to select educational technologies, to approve them, to distinguish the most effective ones in order to form general competencies in the basics and science in students[1,3].

REFERENCES

- **1.** Rakhimov OD, Turgunov OM, Mustafaev QO, Ruziev HJ, Modern educational technologies. Tashkent. Science and Technology Publishing House. 2013. 200 p.
- **2.** Selevko GK. Modern educational technologies. Uchebnoe posobie. M: Narodnoe obrazovanie, 1998. 256 p.
- **3.** Tolipova JO. Modern methodology of teaching exact and natural sciences. Republican Teachers' Forum. Tashkent, Uzpfiti, 2016.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

EVOLUTION HISTORY OF LANGUAGE TESTING AND ASSESSMENT

Kamola Muradkasimova*

*Researcher, Uzbek State World Languages University, UZBEKISTAN

Email id: kmuradkasimova@yahoo.com **DOI:** 10.5958/2249-7137.2021.02701.4

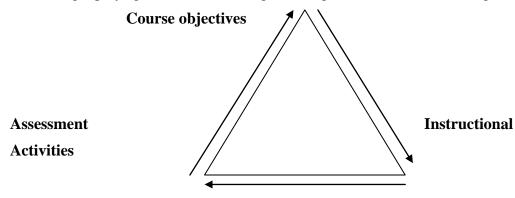
ABSTRACT

The following article describes the important role of assessment in language teaching and learning. The paper begins with the importance of aligning learning objectives, instructional activities and assessment, the evolution of language teaching and language testing, necessity of language assessment. Also, the following paper provides information on techniques and features of three generation approaches in language teaching and language testing.

KEYWORDS: Assessment, Evolution Of Language Tests, Objective, Subjective, Contextualized, Authentic, Disembodied.

INTRODUCTION

Teaching and learning foreign language became the necessity of modern world. In educational sphere the great attention is paid to the development of teaching/learning process of foreign languages. Different forms of seminars, workshops and training courses are organized at the variety of institutions and levels to develop areas such as professional development, teachers training, material designing and others. Much work was done to experience implementing new methodology in foreign language teaching. New methods, techniques and approaches help to develop learners' knowledge, habits and skills in foreign language. Today's methodology requires implementing authentic tasks and using authentic language, so that learners are able to transfer it to the real life communication. This process requires teachers to develop and run their lessons effectively, where learning objectives, instructional activities and assessment are aligned. This triangle plays great role in teaching, learning and assessment of foreign language learners.



ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Assessment is an integral part of the language learning process. Thus, it is very important to be assessment literate and design successful assessment tasks. As, clear assessment is the base for classroom administering and scoring, aiding instructional decisions, communicating results to stakeholders, and being aware of inappropriate and unethical uses of tests (Fulcher, 2012, p.115) [1]. So, we may say that assessment is the worldwide attribute of social life. Throughout history people have been put to test to prove their capabilities or to establish their credentials (TimMcNamara, 2000, p.3) [2]. The Russian scientist V.S. Avanesov states that "any action done to find out the origin of the tests is equal with the attempt to find the beginning of the river". This clearly demonstrates that using tests go to long history. Scientists state that there is no concrete date of the test origin. Hence, from the early history people try to show their capabilities, skills and compete with each other. Sure, each attempt was evaluated and assessed by others. Tests to see how a person performs particularly in relation to a threshold of performance have became important social institutions and fulfill a gatekeeping function in that they control entry to many important social roles. So, we may confidently say that testing and assessment exist with the appearance of mankind. The most common and obvious distinction between how language testing is used mostly defined: between objective (right/wrong) and subjective (judgmental) assessment techniques. It is more useful to see this distinction in historical context, because language testing and language teaching go parallel through history, therefore any changes in language teaching effects language testing. Hence, assessment should provide us, the teachers, students, parents, and stakeholders with the evidence of how well the students have learned what was intended them to learn. Let us see the evolution of language testing which was provided by Richard West. It is common to see the evolution of both language teaching and language testing since the second world war. They fall into three generations:

1 generation- grammar/translation approach

2 generation- audio-lingual/structural approach

3generation-communicative approach

It is usually said that language testing lags behind language teaching. Thus, these three generations of language teaching are parallel to the generations of language testing. Many writers and specialists on language teaching and assessment agree with these generations, but they do not agree with how they should be called. Even though, the writers suggest different names for the generations, the content stays the same.

First generation tests. chard West agrees with Spolsky on referring first generation as "traditional", as teaching and testing was based on translation from L1 to TL. The common techniques which were used to assess the learners were: translation of passages (mostly literary texts) from and into target language, endless compositions without context and which were based on product-oriented writing (eg. Write 150 words about hobby), and oral interviews which often asks questions without meaning and sequence. Considering all mentioned above, let us make some conclusions about first generation tests.

Tasks were not authentic. Sure we always use translation in real life, but we do not translate literary extracts. In addition when we write and speak there should be a purpose. However, we can not see the existence of purpose in the first generation.

This generation tasks and test techniques do not have context. When we write some words about one topic e do not know *why* we are writing, *who* we are writing it for, and *how* are we supposed

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

to write it because of this we are lack of information about the appropriate language which will be suitable to this context.

The scoring was **subjective**, which required assessor to make own judgments based on personal opinion and experience. On this basis, we may say that language testing and assessment was not reliable.

Second generation tests. Second generation assessment techniques were set out to eliminate the shortcomings of the first generation, especially the problems with subjectivity. Therefore some ways of assessing language on right-wrong basis were explored. These techniques were considered much reliable and fair, because the results of experiment showed that the assessment could be replicated and show the same result. Such factors who assessed the item, when it was assessed and the mood of the assessor did not matter. This illustrates that second generation test items may be marked by people who were not teachers of English, or do not understand English. Also they could be marked by computers. The most common and famous test item was multiple choice (MCQ). Comparing with first generation and considering all mentioned above, we may state that second generation tests have the following characteristics.

The techniques of the second generation were all **objective**, it was done to get rid of the shortcoming of the first generation items which were all **subjective**.

Second generation techniques, multiple choices, is even more disembodied than the first generation one. There is no any context in multiple choice questions, and that is a big problem, because distracters may confuse or penalize better students who have broader knowledge and imagination to see other possibilities.

The same with authenticity. The second generation tests are less authentic than the first generation tests were. It is obvious that we do not make choices in the real world communication, especially language choices. So, this type of tests do not prepare students to real life language use.

Third-generation tests. The main aim of communicative teaching and communicative testing is the use of real word situations. The quote which was presented by Carroll (1982) clearly sets out the aim of communicative approach.

The third generation approach was the real reaction against the previous generation approach. Here are some characteristics of the third generation tests.

We may say that third generation techniques are always as much authentic as possible, Authenticity refers to both texts (texts were selected from real life sources: newspaper, radio, lecture and ect.) and tasks (tasks attempt to stimulate language tasks which are needed in real life). Perhaps, total authenticity is impossible, but learners at least will be able to use the language which is relevant to the situation beyond the classroom.

Because the third generation tests are attempting to be authentic and elicit language as it should be used in real life, all third generation techniques are **contextualized**. For example ESP students coming from their specialization, required to produce that skills that are required in their future content.

As third generation tasks are concerned with all four skills, it should assess all four skills in integrated way. It is obvious that listening and reading can be assessed objectively, but there no

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

way to assess speaking and writing objectively. So, the main task of testers was to improve the reliability of subjective assessment. The improvements are seen in the form of: using more than one assessor, frequent retraining of assessor, and use of banding descriptors.

As we have mentioned earlier, language testing lags behind language teaching, depending on the methodology and tasks which are applied, assessment techniques are designed. Therefore, at the beginning of the article we have mentioned that aligning course objectives, instructional tasks and assessment is very important. [3] To simplify the whole information presented in the article, we present the following table.

In conclusion we would like to stress that, teaching and learning is the most basic processes that people have had since their existence. And, assessment always goes parallel to teaching and learning whether formally or informally. The results that assessment and tests show, gives purposeful shape for the teaching, developing syllabus and curriculum. Thus, it is very important for teachers to be assessment literate and have both theoretical and practical knowledge of assessment.

REFERENCES

- **1.** Fulcher G. Assessment literacy for the language classroom. Language assessment Quarterly, 2012;9(2):113-132.
- 2. McNamara T. Language Testing. Oxford University Press. 2000, p.140
- **3.** Richard W. Assessment in language Learning, Introduction and principles of language testing, Unit 0, MD338, University of Manchester, 1997, pp.29-30.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW PAPER ON BIODEGRADATION PRODUCTS

Ankit Kumar*

*Assistant Professor,
Department of Civil Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: ankitengg2011@gmail.com

DOI: 10.5958/2249-7137.2021.02649.5

ABSTRACT

Thousands of chemicals and materials with a wide range of characteristics and functions are produced and utilized for commercial and everyday purposes, with little knowledge of their final destiny in the environment. These chemicals are often released into the environment during their production and usage through various pathways in the air, water, and land. Massive amounts of solid waste of all kinds, as well as its efficient disposal, have created a slew of issues that need technical advances. Many of these chemicals take a long time to decompose and have harmful effects on plants and animals, resulting in widespread environmental damage. Pollution from discarded plastic items is also a major issue. Industrial wastewaters connected with the production of organic compounds are large and often have concentrations ranging from a few parts per million to thousands of parts per million. The biodegradation of such dissolved contaminants is of great interest to a variety of industries.

KEYWORDS: Aerobic, Anaerobic, Biodegradation, Concentration, Pollution.

1. INTRODUCTION

VOC emissions from a variety of sources have a negative impact on the quality of the oxygen we breathe and on air pollutants. Biodegradation, whether aerobic or anaerobic, is a method for cleaving large molecules into smaller molecules from a mosaic of agrochemicals in a series of steps, with some of the smaller molecules being valorized as a pollution abatement strategy and a source of energy through biogas. Biogas may be made from virtually any kind of biomass, including main agricultural sectors and different organic waste streams, which can be used as a sustainable energy source. Animal dung that has not been properly handled or managed is a significant cause of pollution in the air and water. Some of the most serious concerns are nutrient leakage, particularly of nitrogen and phosphorus, as well as ammonia evaporation and microbial contamination. Steinfeld, estimate that the animal production sector is responsible for 18 percent of total CO2 equivalent emissions and 37 percent of anthropogenic methane, which has 23 times the global warming potential of CO2[1]–[3]. Furthermore, the global animal production industry is responsible for 65 percent of anthropogenic nitrous oxide and 64 percent of anthropogenic ammonia emissions. Biogas may be produced from the digestion of animal dung and slurries to reduce greenhouse gas emissions, especially ammonia and methane.

Plastics are both a curse and a blessing. Plastic is manufactured in excess of 230 million tons per year. Plastics are utilized in almost every aspect of life and offer better insulation, lighter packing, and are present in automobiles, aircraft, trains, phones, computers, medical equipment,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and other places, but proper disposal is frequently overlooked. On the one hand, plastic trash and disposal is a contentious problem across the world, but it may also help to decrease carbon emissions. By implementing an integrated waste and resource manage plan to handle each waste stream with the best choices, several top European nations are recovering more than 80% of their old plastics. Sorting and separation of plastics, recycling, depolymerization, breaking, and fuel generation are some of the methods utilized to reduce plastic pollution. Biopolymer development is being pursued aggressively. The most efficient method seems to be the biodegradation of plastics by microbes and enzymes. When plastics are employed as microorganism substrates, their biodegradability should be assessed not only on the basis of their chemical composition, but also on physical characteristics like melting point, glass transition temperature, crystallinity, storage modulus, and so on [4]–[7].

Biodegradation processes, biodegradation of a range of industrial chemicals, plastics, and other biomass, advancements in anaerobic digestion technology and biogas production, plastic processing, and biopolymer synthesis and degradation have all been addressed in this chapter. Biopolymer synthesis is discussed. The potential for processing municipal organic solid waste, manure, and polymers to produce biogas as a sustainable energy source and pollution abatement method is addressed, as well as technical considerations. Biohydrogen, bioethanol, biobutanol, and other biotransformation that lead to useful compounds, including the breakdown of bigger molecules, polymers, and biomaterials, are not included. Biorefinery is a petrochemical-like concept in which biomass is transformed into usable platform chemicals through extraction, controlled pyrolysis, fermentation, enzyme, and chemical catalysis.

1.1. Biodegradation mechanisms:

Because cellulose, lignocelluloses, and lignin are polymeric compounds and significant sources of plant biomass, their recycling is critical for the carbon cycle. Each of these polymers is destroyed by a variety of bacteria, each of which produces a large number of enzymes that operate together. The wide range of cellulosic and lignocelluloses substrates have added to the enzymatic treatment challenges. The best-known microbes that can degrade these three polymers are fungi. Due to the insoluble nature of the substrates, both bacterial and fungal breakdown occurs exo-cellularly, either in conjunction with the outer cell envelope layer or extra-cellular. Extracellular enzymatic systems in microorganisms are divided into two types: the hydrolytic system, which generates hydrolases and is responsible for cellulose and hemicelluloses degradation; and a distinct oxidative and extracellular ligninolytic system, which depolymerizes lignin. Man-produced chemicals and materials are made up of a variety of entities and functional groups that must be efficiently destroyed by microbes, and no one microorganism seems to be capable of doing so[8].

The two processes of biodegradation are growth and co-metabolism. Growth occurs when organic matter is utilized as the only source of carbon and energy, resulting in total deterioration (mineralization). Mineralization is dominated by archaebacteria, prokaryotes, and eukaryotes (fungi, algae, yeasts, and protozoa). Co-metabolism, on the other hand, refers to an organic compound's metabolism in the presence of a growth substrate that serves as the main carbon and energy source. Thus, biodegradation methods and speeds vary significantly depending on the kind of substrate and circumstances such as temperature, pH, and aqueous phase solubility, although carbon dioxide and methane are usually the main end products of the degradation.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.2. Aliphatic compound degradation in response to growth:

CO2, H2O, and cell biomass are produced through growth-associated breakdown. Degradation is catalyzed by the cells, which serve as complex biocatalysts. Furthermore, when the degradable contaminants in a polluted location have been exhausted, cell biomass may be mineralized. Aromatic hydrocarbons such as benzene, toluene, ethyl benzene, xylenes, and naphthalene, as well as other bulk chemicals, are extensively utilized as fuels, industrial solvents, and feedstock for the petrochemical industry. Another family of chemicals is phenols and chlorophenols, which are used in a number of industries. Because all microbes produce significant quantities of aromatic chemicals such aromatic amino acids, phenols, and quinines, many have developed catabolic mechanisms to breakdown them. When the molecules of man-made organic substances (xenobiotics) are comparable to natural ones, bacteria may breakdown them[9].

Benzene, condensed ring, and similar compounds have greater thermodynamic stability than aliphatic molecules in general. A dioxygenase catalyzes hydroxylation of benzene, resulting in a diol (Scheme 1), which is subsequently converted to catechol by a dehydrogenase.

1.3. Monooxygenase and dioxygenase processes:

Monooxygenase integrates one O atom from O2 into the xenobiotics substrate and reduces the other to H2O in this mechanism. Dioxygenase, on the other hand, integrates both atoms into the substrate. Other aromatic hydrocarbons' breakdown pathways include hydroxylation and dehydrogenation. The addition of a substituent group to the benzene ring opens up new possibilities for attacking side chains or oxidizing the aromatic ring. Only a few processes, such as hydroxylation, oxygenolytic ring breakage, isomerization, and hydrolysis, may degrade many aromatic substrates. Because of the inducible nature of the enzymes and their substrate specificity, bacteria with high degrading activity, such as pseudomonads and rhodococci, may adapt their metabolism to the efficient utilization of substrate combinations in contaminated soils and proliferate at a fast rate[10].

1.4. Organ pollutant co-metabolic degradation:

Co-metabolism is a common microbial activity and the foundation of biotransformation, which is utilized in biotechnology to change chemicals into usable modified forms. Microorganisms that thrive on one substrate also oxidize a different substrate. Although the co-substrate isn't included, the result may be used as a substrate for other species in a mixed culture. The enzymes of developing cells and the production of cofactors required for enzymatic processes, such as hydrogen donors (reducing equivalents, NADH) for oxygenases are the foundations of cometabolic transformation. Several aromatic substrates, such as catechol and protecatechuate, may be transformed enzymatically to natural degradation intermediates.

1.5. Co-metabolic degradation of organo-pollutants:

Chloroaromatic co-metabolism is a common bacterial activity in mixtures of industrial contaminants. 2-chlorophenol undergoes co-metabolic transformation to produce dead-end metabolites such 3-chlorocatechol, which may be auto-oxidized or polymerized in soil to create humic-like structures. The detoxifying function may be fulfilled by irreversible binding of dead end metabolites. The development of novel catabolic characteristics is fueled by the buildup of dead-end products inside microorganisms under selection pressure. As a result, the recalcitrance of organic contaminants rises as the halogenations level raises. An increase in the molecule's

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

electrophilicity allows halogen, nitro, and sulfo groups to be substituted at the aromatic ring. These chemicals are resistant to the electrophilicity assault of aerobic bacteria's oxygenases. Polychlorinated biphenyls (PCBs), chlorinated dioxins, and certain pesticides like DDT are examples of compounds that survive in atoxic environment. The reductive assault of anaerobic bacteria is very useful in combating the relatively high persistence of halogenated xenobiotics. Anaerobic bacteria's reductive dehalogenation is either a byproduct or a novel form of anaerobic respiration. The procedure lowers the degree of chlorination, making the product more accessible to aerobic bacteria for mineralization.

The initial stage in the breakdown of PCBs, reductive dehalogenation, requires anaerobic conditions with organic substrates acting as electron donors. To enable anaerobic bacteria to transmit electrons to these chemicals, PCBs receive electrons. Reductive dehalogenation-catalyzing anaerobic bacteria seem to be quite common in nature. Mixed consortia make up the majority of dechlorinating cultures. The results of anaerobic dechlorinating are invariably di- and monochlorinated biphenyls. Aerobic bacteria may further metabolize these products.

As reviewed, the rates of biodegradability of a particular substrate are primarily determined by the accessibility of the substrate to enzymes, which can be improved by a variety of methods, including

- Mechanical methods: disintegration and grinding of solid particles present in sludge: releases cell compounds and creates a new surface where biodegradation can occur.
- ultrasonic disintegration
- Chemical Method
- Thermal pretreatment: heat hydrolysis may divide and dissolve a substantial portion of the solid component of sludge into soluble and less complicated molecules.
- Enzymatic and microbial pre-treatment: a promising method for the future for some specific substrates (e.g. cellulose, lignin, etc.).
- Anaerobic micro-organism stimulation: some organic compounds (e.g. amino acids, cofactors, cell content) act as a stimulating agent in bacteria growth and methane production. The majorities of the techniques listed above take place prior to methanation and result in a superior supply of methanogenic bacteria through appropriate substrates.

1.6. Biodegradation in anaerobic conditions:

Many bacteria thrive in aerobic environments. Aerobes use oxygen to oxidize substrates like carbohydrates and fats to generate energy, which is referred to as the cellular respiration process (CSP). Glucose molecules are digested into smaller molecules in the cytoplasm of the aerobes prior to the start of CSP. The smaller molecules are subsequently transported to a mitochondrion, which is where aerobic respiration occurs. Small entities are broken down into water and carbon dioxide with the release of energy using oxygen. Unlike anaerobic degradation, aerobic degradation does not generate unpleasant gases. In most instances, the aerobic process results in a more thorough digestion of solid waste, which reduces build-up by more than 50%. Oxidations catalyzed by oxygenases and peroxidases are the most important enzyme processes in aerobic biodegradation. Oxygenases are oxido-reductases that incorporate oxygen into the substrate. Oxygen is required by degradative organisms at two metabolic sites: the first assault on the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

substrate and the end of the respiratory chain. Higher fungi have a unique oxidative mechanism based on extracellular ligninolytic peroxidases and laccases for lignin breakdown. The cometabolic breakdown of persistent organic pollutants relies on this enzymatic system. The bacteria that dominate contaminated soils come from a variety of genera and species. Mineral oil components and halogenated petrochemicals are the two most significant groups of organic contaminants in the environment, and aerobic microorganisms' biodegradation capabilities are critical. Petroleum hydrocarbons, chlorinated aliphatics, benzene, toluene, phenol, naphthalene, fluorine, pyrene, chloroanilines, pentachlorophenol, and dichlorobenzenes are among the contaminants that degrade most quickly and completely under aerobic circumstances. Many bacteria cultures can thrive on these compounds and produce enzymes that breakdown them into non-toxic forms.

2. DISCUSSION

The author has discussed about the Biodegradation Products, This chapter covers biodegradation techniques, as well as the biodegradation of a wide variety of industries chemicals, plastics, and other biomass, as well as advances in anaerobic digestion innovation and biogas generation, plastic handling, and biocomposites synthesis and degradation. The synthesis of biopolymers is addressed. Technical issues, as well as the possibility for processing municipal organic solid waste, manure, and polymers to generate biogas as a sustainable energy source and pollution abatement technique, are discussed. Biohydrogen, bioethanol, biobutanol, and other biotransformation that result in valuable chemicals, such as the breakdown of larger molecules, polymers, and biomaterials, are excluded. During their manufacture and use, these chemicals are often discharged into the environment via different routes in the air, water, and land. Massive quantities of solid waste of all sorts, as well as its effective disposal, have spawned a host of problems that need technological advancements. Many of these compounds degrade slowly and have negative effects on plants and animals, causing extensive environmental damage. Pollution caused by abandoned plastic goods is also a significant problem. Industrial wastewaters from organic compound manufacturing are enormous, with concentrations ranging from a few parts per million to millions of parts per million.

3. CONCLUSION

The author has concluded about the Biodegradation Products, Biodegradation, both aerobic or anaerobic, is a technique for cleaving big particles into smaller in a series of stages from a mosaic of agricultural inputs, with some of the large molecules ultimately valorized as an emission control approach and a source of energy in biogas. Biogas, which may be utilized as a sustainable energy source, can be produced from practically any kind of biofuel, including major agricultural sectors and other organic waste streams. Animal excrement that has not been properly handled or maintained is a major source of air and water pollution. Nutrient leakage, especially nitrogen and phosphorus leakage, as well as ammonia absorption and contaminations, are among the most severe problems. According to Steinfeld et al., the animal production sector accounts for 18 percent of total CO2 equivalent production and 37 percent of artificial methane, which has a global warming potential of 23 times that of CO2. Furthermore, 65 percent of artificial nitrous oxide and 64 percent of humankind ammonia emissions are attributed to the worldwide animal production sector.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- **1.** D. G. Karpouzas and I. O. Giannakou, "Biodegradation and enhanced biodegradation: A reason for reduced biological efficacy of nematicides," Russ. J. Nematol., 2002.
- **2.** C. F. Han, A. F. Zheng, and D. P. Li, "Study on biodegradation of polyacrylamide," Huanjing Kexue/Environmental Sci., 2006.
- **3.** J. P. Eubeler, M. Bernhard, and T. P. Knepper, "Environmental biodegradation of synthetic polymers II. Biodegradation of different polymer groups," TrAC Trends in Analytical Chemistry. 2010, doi: 10.1016/j.trac.2009.09.005.
- **4.** C. I. Nair, K. Jayachandran, and S. Shashidhar, "Biodegradation of phenol," African Journal of Biotechnology. 2008, doi: 10.4018/978-1-5225-8903-7.ch045.
- **5.** R. J. West and S. J. Gonsior, "Biodegradation of triethanolamine," in Environmental Toxicology and Chemistry, 1996, doi: 10.1897/1551-5028(1996)015<0472:BOT>2.3.CO;2.
- **6.** N. Dai, F. J. Zhang, J. Chen, G. Li, Y. F. Deng, and S. Li, "Biodegradation of [omim][PF6]," Huanjing Kexue/Environmental Sci., 2009.
- **7.** C. A. Staples, C. G. Naylor, J. B. Williams, and W. E. Gledhill, "Ultimate biodegradation of alkylphenol ethoxylate surfactants and their biodegradation intermediates," Environ. Toxicol. Chem., 2001, doi: 10.1002/etc.5620201108.
- **8.** A. Zgoła-Grzeškowiak, T. Grzeškowiak, and A. Szymański, "Biodegradation of nonylphenol monopropoxyethoxylates," J. Surfactants Deterg., 2015, doi: 10.1007/s11743-014-1652-8.
- **9.** E. Jurado, M. Fernández-Serrano, J. Núñez-Olea, and M. Lechuga, "Aerobic biodegradation of a nonylphenol polyethoxylate and toxicity of the biodegradation metabolites," Bull. Environ. Contam. Toxicol., 2009, doi: 10.1007/s00128-009-9716-6.
- **10.** J. Yang, Y. L. Song, and X. Y. Qin, "Biodegradation of polyethylene," Huanjing Kexue/Environmental Sci., 2007, doi: 10.1016/0306-3747(95)90387-9.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW PAPER ON ACIDS AND BASES

Dr. S.R.Ali*

*Professor.

Department of Civil Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: drsrali.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02650.1

ABSTRACT

The theory of acids and bases, like many other chemical theories, has undergone numerous changes in recent times. acids are sour in taste and change the color of blue litmus to red, whereas, bases are bitter and change the color of the red litmus to blue. Litmus is a natural indicator; turmeric is another such indicator. Acid-base indicators can be used to distinguish between an acid and a base. The universal indicator shows different colours at different concentrations of hydrogen ions in a solution. A scale for measuring hydrogen ion concentration in a solution, called pH scale has been developed. The p in pH stands for 'potenz' in German, meaning power. On the pH scale we can measure pH generally from 0 (very acidic) to 14 (very alkaline). pH should be thought of simply as a number which indicates the acidic or basic nature of a solution. Higher the hydronium ion concentration, lower is the pH value.

KEYWORDS: Acids, Bases, Salts, Hydrogen Concentration, pH Value.

1. INTRODUCTION

The amount of H+ ions and OH– ions generated determines the strength of acids and bases, respectively. If we use the same quantity of hydrochloric acid and acetic acid, say one molar, we get different quantities of hydrogen ions. Acids that produce more H+ ions are known as strong acids, whereas acids that produce fewer H+ ions are known as weak acids. A neutral solution has a pH of 7. A pH value of less than 7 indicates an acidic solution. As the pH value rises from 7 to 14, the concentration of OH– ions in the solution rises, indicating an increase in alkali strength. In most cases, pH is measured using paper soaked with the universal indicator and shown in Figure 1[1]–[3].

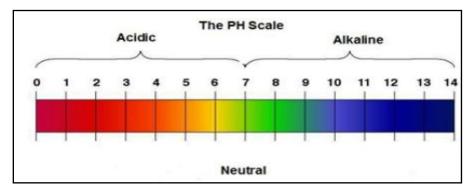


Figure 1: The above figure shows the pH Scale [keiarrabryant].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Our bodies operate in a pH range of 7.0 to 7.8. Only a small range of pH changes allows living creatures to survive. Acid rain occurs when the pH of rainwater falls below 5.6. Acid rain lowers the pH of river water when it falls into them. In such waterways, aquatic life has a hard time surviving[4].

The fact that our stomach generates hydrochloric acid is fascinating. It aids in food digestion while causing no damage to the stomach. Indigestion causes discomfort and irritation because the stomach generates too much acid. Antacids are used to alleviate this discomfort. You must have mentioned one of these remedies at the start of this chapter. The excess acid is neutralized by these antacids. Magnesium hydroxide (Magnesium Milk) is a mild base that is often used for this purpose[5].

When the pH of the mouth falls below 5.5, tooth decay begins. The hardest material in the body is tooth enamel, which is made composed of calcium phosphate. It does not dissolve in water, but when the pH in the mouth falls below 5.5, it corrodes. By degrading sugar and food particles left in the mouth after eating, bacteria in the mouth generate acids. The easiest method to avoid this is to brush your teeth after each meal. Toothpastes that are usually basic may be used to clean teeth and neutralize excess acid, preventing tooth decay[6].

With a pH of 7, salts of a strong acid and a strong base are neutral. Salts of a strong acid and weak base, on the other hand, are acidic with a pH less than 7, while salts of a strong base and weak acid are basic with a pH more than 7.

Sodium chloride is the salt produced when hydrochloric acid and sodium hydroxide solution are combined. This is the salt you put in your meal. You must have seen that it is a neutral salt in the preceding Activity. There are numerous salts dissolved in seawater. These salts are split into sodium chloride and potassium chloride. Solid salt deposits may also be found in many areas of the globe. Because of impurities, these big crystals are often brown. This is referred to as rock salt. When ancient oceans dried up, rock salt beds were created. Like coal, rock salt is mined[7].

2. DISCUSSION

Acids are ionic compounds (a compound with a positive or negative charge) that break apart in water to form a hydrogen ion (H^+) .

2.1 Common salt:

Chemicals' starting material The resulting common salt is an essential raw material for a variety of everyday products, including sodium hydroxide, baking soda, washing soda, bleaching powder, and many more. Let's take a look at how a single ingredient is utilized to create all of these other compounds. Sodium hydroxide (sodium hydroxide) When electricity is transmitted through an aqueous sodium chloride solution (called brine), sodium hydroxide is formed. Because of the products formed—chlor for chlorine and alkali for sodium hydroxide—the process is known as the chlor-alkali process[8].

$$2NaCl(aq) + 2H2O(l) \rightarrow 2NaOH(aq) + Cl2(g) + H2(g)$$

Chlorine gas is given off at the anode, and hydrogen gas at the cathode. Sodium hydroxide solution is formed near the cathode.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2.2 Bleaching powder:

Chlorine is produced during the electrolysis of aqueous sodium chloride (brine). This chlorine gas is used for the manufacture of bleaching powder. Bleaching powder is produced by the action of chlorine on dry slaked lime [Ca(OH)2]. Bleaching powder is represented as CaOCl2, though the actual composition is quite complex.

$$Ca(OH)2 + Cl2 \rightarrow CaOCl2 + H2O$$

Bleaching powder is used:

- For bleaching cotton and linen in the textile industry, for bleaching wood pulp in paper factories and for bleaching washed clothes in laundry.
- As an oxidising agent in many chemical industries.
- For disinfecting drinking water to make it free of germs.

Baking soda The soda commonly used in the kitchen for making tasty crispy pakoras is baking soda. Sometimes it is added for faster cooking. The chemical name of the compound is sodium hydrogen carbonate (NaHCO3). It is produced using sodium chloride as one of the raw materials and shown in Figure 2[9].

$$NaCl + H2O + CO2 + NH3 \rightarrow NH4Cl + NaHCO3$$

- Carbon dioxide produced during the reaction causes bread or cake to rise making them soft and spongy.
- Sodium hydrogen carbonate is also an ingredient in antacids. Being alkaline, it neutralizes excess acid in the stomach and provides relief.
- It is also used in soda-acid fire extinguishers.

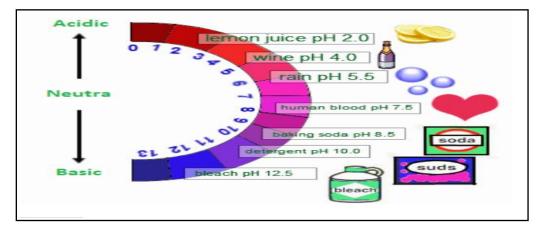


Figure 2: The above figure shows pH of different components [keiarrabryant].

2.3 Washing soda:

Chemical that can be obtained from sodium chloride is Na2CO3 .10H2O (washing soda). Sodium carbonate can be obtained by heating baking soda; recrystallisation of sodium carbonate gives washing soda. It is also a basic salt. Sodium carbonate and sodium hydrogen carbonate are useful chemicals for many industrial processes as well. Uses of washing soda:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Sodium carbonate (washing soda) is used in glass, soap and paper industries.
- It is used in the manufacture of sodium compounds such as borax.
- Sodium carbonate can be used as a cleaning agent for domestic purposes.
- It is used for removing permanent hardness of water.

Water of crystallization is the fixed number of water molecules present in one formula unit of a salt. Five water molecules are present in one formula unit of copper sulphate. Chemical formula for hydrated copper sulphate is Cu SO4.5H2O.

Example of acids are:

- Hydrochloric Acid (HCl)
- Sulphuric Acid (H2SO4)
- Nitric Acid (HNO3)
- Phosphoric Acid (H*3PO4*)
- Carbonic Acid (H2CO3)

Classification of Acids:

The author has different classification based on different factors so let's sum up and make ourselves familiar with it.

- 1. Depending upon source from which they are obtained
- Organic acids
- Inorganic acids

Organic Acids are obtained from plants and animals or we can say they are present in organic matter. Example: in tomato, oxalic acid is present, in apple, malic acid and in lemon, we have citric acid and so many other acids are present in different organic substances.

Inorganic Acids are those that are obtained from minerals present in earth. These are quite reactive in nature. Examples we have are: nitric acid, sulphuric acid, etc.

2. Classification of acids on the basis of strength, If we talk about strength, it means the amount of hydrogen ions given out when acid is dissolved in water.

On the basis of this we have two categories of acids –

- Strong acids
- Weak acids

Strong Acid is the acid that completely dissociates into hydrogen ion. These acids totally dissociate and leave no dissociated molecule of acid.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Example: Hydrochloric acid, sulphuric acid, etc. Weak Acid is the acid that partially dissociates into hydrogen ions. There actually exists the equilibrium between dissociated ions and un dissociated molecules of acids. Example: Carbonic acid.

- 3. Classification of acids on the basis of water content
- Dilute acid
- Concentrated acid
- Dilute Acid is the acid that has more amount of water in it and less salt content.
- They are not quite strong.

Concentrated Acid is that which has less amount of water in it and more amount of salt content. We can dilute the concentrated acid but need to take certain precautions as follows: One can dilute concentrated acid by adding concentrated acid slowly in water with continuous stirring. By doing so, the heat released is comparatively less and is constantly absorbed by water. So, it prevents the reaction from becoming violent.

BASES: If we talk about bases, according to Arrhenius, they are those that when dissolved in water give hydroxide ion (OH-).

Example: Calcium hydroxide Ca(OH)2 Magnesium hydroxide Mg(OH)2.

Classification of bases:

Classification of bases on the basis of their solubility in water. The bases that are soluble in water are called alkalis.

Classification on the basis of strength

- strong bases
- weak bases

I. Strong Bases:

That completely dissociates in water to give hydroxide ions. These bases totally dissociate and leave no dissociated molecule of base.

Example: Hydroxides of all reactive metals

II. Weak Bases:

That do not completely dissociate in water to give hydroxide ions.

• There actually exists the equilibrium between dissociated ions and dissociated molecules of bases.

Example: Calcium hydroxide etc.

3. CONCLUSION

Every chemical item we encounter has some nature, just as the author people do. However, when it comes to chemicals, we associate nature with acidic, basic, or neutral states. However, in order to understand what is acidic, basic, or neutral, we must first understand what it is to be acidic,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

basic, or neutral. As a result, several ideas were developed to define them. So, let's have a look at them first. Acids were formerly believed to be chemicals that are sour, turn blue litmus red, and are corrosive. Bases are those that are bitter, turn red litmus blue, and feel soapy when touched. However, subsequent ideas like as the Lewis concept, the Bronsted Lowry concept, and the Arrhenius concept supplanted it[10].

REFERENCES

- **1.** H. E. Corey, "Stewart and beyond: New models of acid-base balance," Kidney Int., 2003, doi: 10.1046/j.1523-1755.2003.00177.x.
- 2. D. Gomez-Arbelaez et al., "Acid-base safety during the course of a very low-calorie-ketogenic diet," Endocrine, 2017, doi: 10.1007/s12020-017-1405-3.
- **3.** G. J. Casimir, N. Lefèvre, F. Corazza, J. Duchateau, and M. Chamekh, "The acid-base balance and gender in inflammation: A mini-review," Frontiers in Immunology. 2018, doi: 10.3389/fimmu.2018.00475.
- **4.** G. Almeida et al., "Role of Acid-Base Equilibria in the Size, Shape, and Phase Control of Cesium Lead Bromide Nanocrystals," ACS Nano, 2018, doi: 10.1021/acsnano.7b08357.
- 5. J. M. Prieto De Paula, S. Franco Hidalgo, E. Mayor Toranzo, J. Palomino Doza, and J. F. Prieto De Paula, "Acid-base balance disorders," Dialisis y Trasplante. 2012, doi: 10.1016/j.dialis.2011.06.004.
- **6.** M. Al-Jaghbeer and J. A. Kellum, "Acid-base disturbances in intensive care patients: Etiology, pathophysiology and treatment," Nephrology Dialysis Transplantation. 2015, doi: 10.1093/ndt/gfu289.
- 7. C. De Caro Carella and H. A. de Morais, "Compensation for Acid-Base Disorders," Veterinary Clinics of North America Small Animal Practice. 2017, doi: 10.1016/j.cvsm.2016.11.003.
- **8.** W. Muir, "Effect of Intravenously Administered Crystalloid Solutions on Acid-Base Balance in Domestic Animals," Journal of Veterinary Internal Medicine. 2017, doi: 10.1111/jvim.14803.
- **9.** L. Lee Hamm, N. Nakhoul, and K. S. Hering-Smith, "Acid-base homeostasis," Clin. J. Am. Soc. Nephrol., 2015, doi: 10.2215/CJN.07400715.
- **10.** B. Scheiner et al., "Acid-base disorders in liver disease," Journal of Hepatology. 2017, doi: 10.1016/j.jhep.2017.06.023.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ENVIRONMENTAL TRENDS IN MODERN ARCHITECTURAL DESIGN

Vetlugina A.V*; Dobronravova E.A**; Fomenko N.N***

*Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN Email if: holiqovm99@gmail.com

**Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN

***Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02706.3

ABSTRACT

The article discusses the search for concepts and possible solutions to ensure the sustainable development of cities, as well as the use of phytodesign elements to ensure the environmental friendliness of the interiors of various buildings.

KEYWORDS: *environmental issues, urban planning concepts, smart city, ecologically clean city, phytodesign, landscaping interior, indoor plants, phytocompositions.*

INTRODUCTION

In the modern world, the problems of human ecology and the problems of ecological culture are becoming increasingly relevant and discussed. Environmental problems are of great importance in our country. In particular, the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 emphasizes the importance of "ensuring the environmental safety of human life" in the development of the social sphere.

Restrictive measures in the field of organizing the coexistence of man and the natural environment have long been the main methods in solving the problem of nature protection. However, one of the most important vectors in solving the environmental problem today is the ecological method in design, i.e. the concept of organically incorporating man-made products into the environment.

Design combines spiritual and material culture into a single node that combines artistic, scientific-technical and production-technological cultures. Dizaynerningijtimoiymas'uliyatiuning faoliyati doimo ijtimoiy ahamiyatga ega ekanligini va iste'molchilarga ta'sir qilishini anglashdan iborat. As a psychologist, the designer organizes life processes, social activities, creates the mood of the living environment.

The environment sets for the best conditions for satisfying human needs without disturbing the environmental balance.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Great attention is paid to environmental issues at all stages of design. The task of creating ecological well-being is solved both at the regional level and at the level of shaping the urban environment (ie at the stage of improving the ecological condition of settlements of different sizes and reducing the anthropogenic burden on natural resources). Eco-design as a current trend of the current stage includes ensuring the environmental friendliness of materials used in construction and decoration, production processes, waste disposal, etc.

The study of the specifics of landscaping of large cities, based on the latest developments in the field, pays great attention to the introduction of eco-frames, eco-infrastructure, eco-micro-districts, eco-business complexes in the planning structure.

Modern resource-saving systems for solar energy and rainwater collection are used in the creation of ecological settlements, as the use of natural resources is not only economically viable, but also increases the ecological quality of the projected facility.

However, in addition to maintaining a healthy ecological status, the existing landscape should also focus on other aspects of the concept of sustainable development. Sustainable development of settlements ensures economic development and social development in harmony with the environment [1].

Despite numerous studies on the problems of settlement, design and reconstruction of settlements, the problem of developing settlements as a sustainable system in modern conditions remains relevant. In response to the problems of our time, various options of urban planning are being created: eco-cities, smart cities, green cities, economic cities, private cities and others.

One solution to the problems of sustainable development could be the concept of a smart city. The concept envisages effective governance and high living standards through the use of innovative technologies.

Many elements of smart city infrastructure are based on the achievements of leading companies specializing in the development of information technology. Many leading IT companies have expressed interest in the idea of creating a smart city. China, South Korea and the UAE are investing in research and development of smart city projects. Currently, smart city programs are being implemented in Amsterdam, Barcelona, Madrid, Chicago, Beijing, some cities in Russia and other cities around the world, as well as the creation of smart rural programs.

However, many cities have achieved very different results. For example, Copenhagen has many parks and electric car exchanges compete with cyclists. Smart cars know where the free parking space is, as well as synchronize with public transportation and always tell you whether it's faster to get there by bus. Achievements in human capital and transport mobility can be seen in Paris. Using the Internet, it is possible to optimize the flow of people and vehicles in the city. Amsterdam is a financially stable and the most "green" city. About 90% of households have bicycles, and an advanced bicycle distribution system can easily solve the remaining 10% of the problem. Singapore is a leader in technology [2].

There are other examples.In 2014, the smart city of Fujisawa emerged in Japan, which uses only solar energy, reduces water consumption by 30 percent, and can only use electric cars, bicycles and scooters as private transportation. The streets are equipped with motion sensors - the lights become brighter as people or vehicles appear on the streets. In the event of an earthquake, the city will be able to provide its residents with hot water and electricity for three days. All facilities

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

are managed from the Fujisawa SST area complex in the city's main square. Panasonic points out that the main thing in Fujisawa is not high technology at all, but a concern for communication between the environment and people [3].

Songdo City is one of the first turnkey smart cities in South Korea. Defined as the gateway to Northeast Asia, the 1,500-hectare Songdo International Business District is a model for future sustainable urban development not only in Asia but around the world. It is located in Incheon, South Korea's first free economic zone, 64 km from Seoul, and is connected to Incheon International Airport by a 12-kilometer transport bridge.

Central Park Songdo is a multifunctional oasis for the international business district. The master plan of the city is designed to reach any point in more than 15 minutes on foot or by bicycle. The construction of the Songdo building was carried out in accordance with Korean environmental standards. A pneumatic system is provided to eliminate waste, LED lights are used to reduce energy consumption, and solar energy is also used. Bicycles and electric vehicles are used as transportation.

At present, the city of Songdo has not yet reached the expected level of employment, and the city seems to be much more deserted. Although the project was innovative, it turned out to be utopian. The reason for this is that people do not want to settle in a new settlement. After all, history shows that all major cities that are attractive to people are naturally developed.

Another ecological direction in design is the artistic design of the aesthetic appearance of interiors using plants, phytodesign.

Phytodesign has many functions: ecological - cleaning of buildings, cleaning the air from dust and gases, humidification of buildings and creating an aesthetically pleasing and comfortable environment.

The desire to decorate their homes has existed among people since ancient times. Historical descriptions show the creation of the first greenhouses and winter gardens in 17th century Europe. However, after the deterioration of the ecological situation, many studies on the beneficial physiological properties of indoor plants have emerged, as a result of which it is advisable to use plants to increase air humidity, reduce chemical pollution of the indoor environment. Currently, enclosed spaces with landscaping elements are considered as compensatory measures to improve the environmental background of the interiors of buildings.

However, the inclusion of plants in the interior of buildings not only eliminates the unfavorable microclimate and physical factors, but also helps to create a comfortable visual environment. Thus, industrial interiors often create so-called homogeneous areas - smooth surfaces with almost no visible elements or, conversely, an aggressive visible environment with a large number of identical elements. This increases the negative impact on a person's visual perception of the environment and his or her psychological state.

The choice of plants for the formation of the composition depends on many factors, such as the purpose of the room, the style of interior decoration, the possible placement of plants, the desired effect. Plants can be conditionally divided according to their functional purposes: healing - has specific antimicrobial activity and therapeutic effect; protection - air purification and noise reduction; aesthetically pleasing - decorative and flowering.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It is advisable to place large plants in rooms with high ceilings and large windows, in rooms of the production type - plants with high gas-absorbing activity; therapeutic and health-improving species - plants with phytotherapeutic effect, in children's institutions - have a therapeutic and healing effect.

It is important in the formation of the interior: the correct placement of plants, taking into account environmental conditions (light, temperature), well-formed compositions and the appropriate combination of colors and shades, taking into account their decorative qualities. When creating compositions for the interior, different types of indoor plants are used: decorative foliage, decorative flowering, decorative fruits, ampel and curly (with a hanging and vertical curling shape). The role of plants in the overall composition should be taken into account: emphasis - the most striking and beautiful flowering; background - floor covering, creating a green background; structure - the basis of the compositional group, usually medium or large plants; fillers - plants that play a supporting role.

Among the traditional methods of placing plants can be distinguished: in ceiling structures (ampel plants), on the floor (large ribbons), on the wall (climbing plants), in in window openings (plants that can withstand temperature changes), on stands (plants with spreading leaves). Many other technologies are currently used in the field of phytodesign. Thus, plant compositions in the form of living walls create an original interior to zoning the room, creating the effect of a park zone and improving the microclimate. This is achieved by planting the plants in a special structure that may require minimal maintenance with a proper automatic irrigation system and phytolamp lighting. This style is often used in offices, shopping and entertainment centers, restaurants and recreation areas.

Also, one of the modern trends in interior design is floral paintings that combine green plants and mosses, flowers, as well as various decorative elements in harmony. To decorate such paintings are used specially processed stabilized plants that artificially slow down the drying process. However, such phytocomposites no longer have a therapeutic and healing effect, although they look very aesthetically pleasing.

Thus, the analysis of the impact of phytodesign elements on the interior of various buildings shows that plants increase the artistic expressiveness of the interior, become the center of the architectural composition of the interior, making it unique, environmentally friendly and livable.

In conclusion, there is no single recipe for creating an ideal, eco-friendly, comfortable city. The city is a living organism. Using a large number of concepts, the search for an optimal solution to the problems of sustainable urban development still continues, because in each case the good outcome of urban planning depends on the competent solution of social, economic and environmental problems.

REFERENCES

- 1. Nekrasov MA, Krestinina NV. Modern information technologies for the development and visualization of mef-design projects. Moscow, 2008.
- 2. Salimovich ES, Shamilevich ST, Iskandarovna KD, Ziyodullayevna SU. Methods of Improving Green Walls on the Territory of Uzbekistan. Annals of R.S.C.B., 2021;25(4): 1253–1260

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3. Dobronravova EA, Vetlugina AV, Gadaeva ShB. Medico-ecological phitodesign in landscape design. Design Engineering. 2021;8:3205–3212.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

HISTORY OF CENTRAL ASIAN ARCHITECTURE

Gadayeva Shaxzoda Bahromovna*; Saidkhonova Umida Ziyodullayevna**; Arziyev Dilshod Amriddinovich***; Shaumarova Dilnoza Abduhabirovna***

*Senior Lecturer,
Department of Interior and Landscape Design,
Tashkent Institute of Architecture and Construction,
Tashkent, UZBEKISTAN
Email id: holigovm99@gmail.com

**Senior Lecturer,
Department of Interior and Landscape Design,
Tashkent Institute of Architecture and Construction,
Tashkent, UZBEKISTAN

***Senior Lecturer,
Department of Interior and Landscape Design,
Tashkent Institute of Architecture and Construction,
Tashkent, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02707.5

ABSTRACT

The manual covers the history of architecture of countries of the world. Designed for students of higher learning and secondary special educational institutions in the direction of architecture, design, art. The features of the development of architecture in the light of historical periods, politecheskoy situation of countries, geographical location, climatic conditions, as well as the way of domestic populations. Identifies creative methods, styles of architecture, planning structures, composites solutions facades, and also features art and decoration of interiors of buildings.

KEYWORDS: Architectural Activity, Technical Activity, Slave States, Natural-Climatic Conditions, Customs.

INTRODUCTION

Every state, nation has its own history, culture, climatic conditions, geographical location. The greatest historical and material monument of any state is its architectural structures. The economy, the natural and climatic conditions of each place and the customs of the people are closely linked. Each historical period has its own architectural and creative style. Since ancient times, the history of world culture is directly related to the development of architecture. The architectural activity of mankind has been constantly developing from the time of primitive society to the present day. [1] The subject of "History of Architecture and Urban Planning" is studied in the faculties of architecture. To date, however, there are not enough textbooks in Uzbek on the subject. In particular, there are no textbooks on the history of the ancient world and medieval architecture. The history of architecture of these periods is carried out mainly by reading and studying 12-volume books on the history of general architecture, published in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Russian. [2] These books are encyclopedic in nature and cannot serve as textbooks. Therefore, the creation of textbooks and manuals on the history of architecture and urban planning is one of the most pressing issues of our time. The problem is exacerbated by the lack of textbooks in Uzbek. [3] The work being done in the field of higher education requires the rapid development of textbooks for this field. We have tried to create this textbook for the same purpose. The textbook briefly describes the development of architecture in the period from the origin of architecture in ancient times to the formation of modern architecture. This guide is one of the first works in this field, and it is natural that it will be free from some shortcomings and deficiencies. Therefore, we hope that all students will have their say. [4]

The main part: The beginning of human architectural and construction activities dates back to the Paleolithic period, and it is associated with the construction of houses for people using the simplest stone tools. In places rich in wood, tents made of cone-shaped and two-sided roofs are widespread. The appearance of the architecture dates back to the Late Paleolithic period. , but also serves to meet the spiritual needs of the people. The inclusion of artistic and technical requirements in the process of aesthetic design and construction of simple structures brings a certain ideological and imaginative concept to the construction activity. By this time, wooden houses had taken on a rectangular shape, with walls lined with columns and twigs attached to them. Similar buildings were found at Kolomiyshina-1 on the Dnieper River. These buildings were built in the III-I millennium BC. The buildings are arranged in two concentric circles: large houses with a diameter of 170 m, and small houses inside the circle. It is the oldest regular dwelling, adapted to primitive community characteristics and defensive functions. [5]

During the Neolithic period (VI-II millennium BC), with the development of tools, primitive members of the community began to engage in farming and animal husbandry. The construction of such buildings created good conditions for fishing. The primitive community collapsed and a society of slavery based on antagonistic contradictions emerged. The oldest slave states emerged in Egypt and the Middle East. [6] The emergence of slave states in these areas was due to the development of agriculture through artificial irrigation on fertile lands. The artificial irrigation system was mainly in the hands of the kings, through which they had all the fertile land. [7] The Egyptian slave state went through four stages of development: 1. Archaic period (3200-2780 BC) .2. The period of the ancient kingdom (2780 - 2100 BC) .3. Middle Kingdom (2100 - 1700 BC) .4. New Kingdom period (1700-712 BC).

CONCLUSION

In ancient Egypt, slavery was ruled by Pharaoh. The position of Pharaoh was inherited by the royal family. The pharaohs of the earliest dynasty were buried in tombs called mastaba. The stone-walled masts are rectangular in shape and consist of many rooms. All of Pharaoh's belongings are stored in these rooms. [8,9] The upper part of the mastaba was in the shape of a pyramid, and the underground part contained a tomb and other chambers. Therefore, a large part of architectural monuments are religious buildings - mausoleums and temples.

REFERENCES:

1. Isamuxamedova DU, Adilova LA. Fundamentals of Urban Planning and Landscape Architecture: Part 1, Textbook / Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan, Tashkent: Cholpon Publishing House, 2009. 160 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **2.** Mirzayev MK, Latipov DV. Fundamentals of urban planning of the Republic of Uzbekistan. Textbook. T. 2000 TAQI.
- 3. Mirzayev MK. Basics of district planning. Textbook. T.2001 TAQI.
- 4. Isamuhamedova DU. Fundamentals of urban planning. Study guide. T., 2000.
- **5.** Saidov AA. The basic principles of increasing the density of multi-story residential development. European Journal of Molecular & Clinical Medicine, 2021;8 (1):732-740.
- **6.** Saidov AA. The Planning Solution and Landscape Design of Courtyard Spaces in Multi-Storey Residential Buildings of Uzbekistan. International Journal of Advanced Research in Science, Engineering and Technology, 2018;5(11):7243–7248.
- 7. Erkinovich MZ, Zayniddinovna ES. Hagia sophia as a synthesis of the types of Byzantine temple architecture and an example of the Byzantine building culture of the IV-VI centuries. Asian Journal of Multidimensional Research, 2021;10 (8):294–297.
- **8.** Shukhrat R, Zarif A, Zafar M. Role of the design code in improving the quality of the urban environment. Academicia: An International Multidisciplinary Research Journal, 2021;11 (1):1805–1812
- **9.** Himmatovich AZ, Olimovna DU, Ziyodullayevna SU. Landscape Solutions for Automobile Ways of Environment. International Journal of Advanced Research in Science, Engineering and Technology, 2019;6(8):10444–10448.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DEVELOPMENT TRENDS OF NON-STATIONARY TRADE FACILITIES

Elmurodov Samidullo Salim ugli*; Matniyazov Zafarbek Erkinovich**; Rasul-Zade Lobar Ulmasovna**; Tajibaev Jurat Khamroevich***

*Associate Professor, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN

**PhD of architecture, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN

***Senior Lecturer,
Tashkent Institute of Architecture and Civil Engineering,
Tashkent, UZBEKISTAN
Email id: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02708.7

ABSTRACT

The article examines the history of the emergence and stages of development of non-stationary trade objects. Architectural-spatial and planning solutions of non-stationary trade objects, stylistic changes that took place in different periods, factors of their emergence and formation are displayed. Various aspects of non-stationary trade objects in the world and Uzbekistan, their aesthetic impact on the urban environment are shown.

KEYWORDS: Design Styles, Stylistic Solution, Shopping Facility, Urban Environment, Design Code, Kiosk, Landscaping.

INTRODUCTION

Today, work is underway on the main directions of necessary and innovative development in the system of modernization of the urban environment, the formation of a favorable urban environment for various categories of society and spheres of life. This is evidenced by the active discussion of many projects adopted in the regions of Uzbekistan, including the problems of the urban environment [1].

The active development of street trading in an urban environment has led to the need to create architectural structures for people to conveniently and safely carry a variety of goods and services. The historical development of non-stationary trade facilities began with the emergence of simple open or hanging structures that corresponded to the proportions of the first non-stationary trade objects, which became a place to place specific showcases or commercial products (tents, booths, carts, etc.) served. However, these structures should not become large-scale architectural objects with their own characteristics and various influencing factors.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ANALYSIS OF THE RELEVANT LITERATURE

The theoretical basis of the article is based on the work of researchers in the same field, which reveals some aspects of the study of non-stationary commercial objects in architecture. Along with the works of foreign scientists and researchers Slovenian architect-designer Sasha Mahtig modular kiosk projects, and scientists and researchers such as Shimko VT, Ellard K., Belyaeva EA, Reyimbayev Sh.S., Adilov ZX [2; 3; 4], Saidov A.A. [5], Vetlugina A.V. [6], Aliyeva M.X. [7], Saidkhonova U.Z. [8], have been studied by scholars such as.

In addition, legal and regulatory documents related to the article were studied. Decree of the President of the Republic of Uzbekistan No. PF-6119 of November 17, 2020 "On approval of the Strategy for modernization, accelerated and innovative development of the construction industry of the Republic of Uzbekistan for 2021-2025" [9] allows you to take the work to a new level.

One of the main goals of the decree is to "develop and implement a regional" design code "by July 1, 2022, taking into account the purpose of the elements of the urban environment, traditional architecture and culture, as well as the natural and climatic conditions of the place." can be determined [9].

THE MAIN FINDINGS AND RESULTS

In the process of development, non-stationary commercial facilities, unlike other large urban facilities, began to become fully architectural objects, maintaining their scale with people [10]. This characteristic put non-stationary trade objects in the general architecture of the city at the level of small architectural forms, whose architectural and design solutions have been developing since the appearance of the first non-stationary trade objects and to modern objects [11]. Small architectural forms represented by these types of objects play an important role in shaping the urban environment relative to the overall architectural ensemble of city streets, as well as in the overall planning and spatial resolution of urban areas. The importance of non-stationary trade objects is determined by their number (growing with the development of the trade market and various goods) and the high profitability ratio that automatically arises when there is a great opportunity for them. It provides the city residents with the necessary products. Although non-stationary commercial objects are smaller architectural forms than large architectural objects, they are the epitome of urban street spaces and are perceived by city dwellers as first-class architectural objects, and the city creates a basic image of the environment [12].

Historical analysis of non-stationary trade objects in Germany. The first commercial rastas in Germany appeared in the 12th century in the form of small temporary wooden rastas at fairs and markets. Such kiosks were then called "Budkas" (Bude in German). The history of German kiosks begins in the Ruhr area (province), which is experiencing the most rapid stage of industrial development. "Beer pavilions" were invented for the workers, where not only drinks but also basic necessities were sold. The Germans still call them "stands." The first drinking pavilions in Erfurt appeared in 1900. These were works of art created by famous architects. In 1906, Klikker Kupper, a manufacturer of bottled and mineral water, received permission to build the first drinking halls in Duisburg. These were the richly decorated pavilions he had rented from city councilors. The main material for the construction of such pavilions was wood, some additional elements were made of metal. Over the years, small shops have expanded their range where you can buy canned food, bread and wine. With the advent of bottled beer, at the turn of

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

the century, drinking pavilions became a real competitor to many pubs. In addition to beverage pavilions, kiosks selling tobacco and newspapers appeared.

In the second half of the 19th century, Trinkhalle drinking pavilions were established (Fig. 1). These facilities were designed to distract workers and miners from drinking beer and provide them with clean water, as it was dangerous to drink tap water at the time. Land for the pavilions was provided free of charge or at a very low price. That's why drinking pavilions have spread among the townspeople. It was a kind of "national health program".

Pavilions began to appear actively after World War II. Beer, as well as tobacco, confectionery and food sales, have rebounded. During this time, wooden awnings continued to be made, and gypsum was actively used for exterior decoration.

In the 1960s and 1970s, the idea of modularity developed, and interest in the problems and functionality of the urban environment began. A number of experimental projects with mobile and modular designs have been implemented. In 1966, Slovenian architect-designer Sasha Mahtig, one of the founders of the School of Industrial Design at the University of Ljubljana, designed the K67 modular kiosk. After receiving a patent in 1967, the K67 was prepared for mass production, which began in 1968 with the first prototypes demonstrated in the province of Ljutomera in Slovenia. The K67 system is based on the use of five modules made of reinforced



Figure 1. Trinkhalle 1979, Dusseldorf

polyester and polyurethane. Kiosks can be used separately or combined into large configurations to suit any environmental context, any urban setting. These developments influenced the subsequent architecture of the pavilions in Germany, with the appearance of portable pavilions along with wooden and gypsum trade facilities, the base of which was made of metal with a metal frame and plastic cladding.

The main façade is often made of stained glass combined vertically and horizontally with wooden or metal frames to allow consumers to see the products. Since 1980, non-stationary trade facilities in Germany have been developing in this direction. Different color schemes and a large amount of visual information appeared in the form of advertising in the kiosks and pavilions themselves. It should be noted that the long-standing trade racks in Cologne have survived to this day. As part of improving the comfort of the urban environment, officials are trying to replace old kiosks and pavilions with new, more modern ones, but city dwellers oppose such moves because German residents have a unique impression of each "old" kiosk. This national identity is very important for Germany, so exhibitions, competitions are organized in honor of kiosks, books with photos are sold, kiosks are also kept in museum exhibits. It is believed that with the disappearance of street stalls, the culture of local communication will also disappear.

Nowadays, when many supermarkets have sprung up and other stores have started to fight for customers by increasing their opening hours, shops in beverage pavilions and gas stations have had to expand their range, among other things. along with the sale of bread, milk, sweets. Today, there are between 18,000 and 48,000 kiosks in Germany. There are no exact statistics. The

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

largest concentration of trade pavilions is located in Dusseldorf, cities of the Ruhr region, Frankfurt am Main, Berlin and Hamburg. Cologne is a country record holder, with more than a thousand such "shops".

Historical analysis of non-stationary trade facilities in France. The first non-stationary trade facilities in France were newspaper kiosks, which appeared on the Grand Boulevards in 1857 under the leadership of Baron Haussman, prefect of the Seine, and copied them from the booths of Constantinople - small pavilions and gazebos for the aristocracy. Newspapers were sold in plywood booths in Paris, and a few years later the newspaper shop became an important part of Parisian life. They consisted of a wooden structure with enough space to accommodate the vendor and a small amount of newspaper products. Newspapers were distributed to consumers through open windows. The kiosks were designed to distribute newspapers during the day, unsold newspaper products were taken away by the owner at night, and the kiosk remained empty until the next morning. In 1875, small non-stationary trade facilities for various types of posters and advertisements began to be actively introduced into the urban environment. The posters mounted on them are made of wood hexagons according to a round plan for easy viewing. In France, the name of Gabriel Morris, a Parisian printer, was written on a billboard to place advertising posters, and in 1868 he received permission from the Paris city administration to install such poles around the city to affix concert and theater posters.

The billboards used hexagonal wooden constructions in the plan for the convenience of the round appearance of the posters placed on them. In 1871, the Belle Epoque began in Parisian architecture. This time was marked by rich decorations in architecture, as well as the creative use of new and traditional materials, and this was reflected in the architectural and design solutions of the advertising columns.

In addition to indoor kiosks, mobile shelves with shelves for products to protect the vendor from the sun and rain, and a small stand with a roof, non-stationary commercial facilities with closed sides and backs began to appear. Such stores began to be set up next to billboards, as they attracted the attention and interest of the townspeople with their posters. It should be noted that the advertising stands are designed in the same style and are the same in shape, size and proportions, but the wooden booths next to them are assembled from boards and have a simple architectural and design solution was.

The development of the printing industry led to an increase in the number of printed products, which meant an increase in the variety of printed products in the kiosks themselves. It became impossible to sell all the purchased products in one day, so kiosks began to provide the opportunity to store printed matter, as the seller could not take large quantities of goods with him. For this reason, some kiosks have been modernized, retaining the appearance of billboards. The walls of the advertising stands penetrated into the interior of the structure and served as a door. This allowed the goods to be stored inside the trade facility at night, as well as a place for the seller and a window to communicate with the buyer. As the number of printed products increased, each kiosk tried to provide the buyer with more detailed information about the availability and quantity of products sold, so all printed publications were displayed outside for buyers to see. Therefore, the walls of the kiosk began to serve as a stand for the exhibition of printed products. In 1930, with the development of industry, new kiosks made of metal and glass appeared on the streets of Paris. These facilities retain the overall architectural parameters of the wooden kiosks.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

With the increase in the number of printed publications, the usable area of kiosks has increased, which has begun to affect the overall architectural proportions of the entire retail space. With the use of new materials, new architectural and design solutions have emerged. Since the 1950s, architects and designers have come up with unusual new images of metal trade objects, but not all of them have been realized. Therefore, until 1960, the stalls on the streets of Paris did not change much. But in general, they were all solved in a single architectural and design solution, and often made of the same material, accordingly they had a harmonious appearance in relation to each other. The only drawback associated with the architectural design solution of commercial objects is that the sides of the commercial objects are made of wood and glass covered with printed matter, which hides the overall stylistic solution of the small architectural form.

With the further expansion of printed products, some kiosks have expanded their area. Therefore, stores appear with an enlarged area for their assortment. Now, in addition to newspapers and magazines, books could also be purchased here. Large roller shutters were installed on the main façade, facing the street passers-by, allowing the goods to be closed inside the kiosk.

The Paris newspaper shop plays an important role in city life, such as the Paris Cafe, the Paris Square or, for example, the Wallace Fountains. In the thirty-five years since the first kiosks appeared on the boulevards, their number had risen to 350 by 1892. There is now an organization that repairs them.

The architectural and design solution of the kiosks has hardly changed since its appearance in Paris. The non-stationary shops in Paris have retained their historical style and character, which is highly respected by the city's residents. The new kiosks are based on the architectural and design solutions of the kiosks of previous years, typical kiosks with a simple and boring shape, proposed by the administration. Due to the protests of the city residents, various rallies were held to preserve the kiosks of the historical period [13].

In 2018, a new generation of kiosks appeared in France. Timescope in France produces virtual reality kiosks and installs them next to historical monuments. Users can travel back in time through a VR headset that captures live historical events from different eras. Timescope kiosks use virtual reality to recreate the appearance of various objects and offer a virtual time machine that allows people to see how cityscapes have changed in recent decades. Since 2016, a total of 15 VR kiosks have appeared in the country.

Historical analysis of non-stationary trade facilities in the UK. Street trading in the UK has long been carried out by people using mobile and portable home-building equipment. Basically, it was all sorts of wooden racks or carts with wheels moving on wheels. There are no kiosks or stands on the streets. People who traded on the street did not have to find a place to store small items at night. Therefore, there were no non-stationary trade facilities in the form of small architectural forms.

The first non-stationary commercial properties in London were small houses built in 1875 by the Count of Sheftsbury by the Cabmen Foundation and built for taxi drivers. They were rectangular green huts the size of a horse and cart made of wood. Such houses served as shelter from the rain, providing an opportunity to rest and consume hot food. In total, about 60 such facilities have been built since 1875, 13 of which have survived to the present day [14].

Other objects of the city streets appeared after Alexander Bell invented the telephone in 1876, the need for convenient communication arose at any time of the day. To this end, in the late

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1880s, the first "public telephone offices" were established. They were often located indoors: in shops, hotels, railway stations. This was not convenient, as the stores opened at a fixed time and the "quiet office" customers were separated from the customers only by curtains. Then it was decided to take the phones to the streets and wooden cabins were built for them.

The British were the first to set up telephone booths on the streets and create "street offices". These stores have become a Victorian-era innovation. But the interior and exterior of each telephone operator's booth had its own design solutions, which caused a lot of problems for citizens when finding a telephone booth in different cities. In this regard, the British General Post has commissioned new telephone booths called KI (Kiosk 1). The stands played the role of kiosks, which made it possible to talk on the phone with city residents. The size of the stand is designed for one person and the phone itself. The kiosks were made of concrete, cream-colored and transparent glass-covered wood with grilles, only the door frame was red. Several similar booths have been set up across the country.

In 1924, a competition was announced for the best design of a new type of telephone booth, because the K1 model was inconvenient for maintenance and was not accepted by the public. The winning model was the K2 (kiosk 2) designed by architect Giles Gilbert Scott. The post office has made some changes to the design proposed by Scott. Cast iron, not steel, was chosen as the main material for production. In addition, the gray color scheme was changed to red so that a bright red stand could be seen on the streets of London, even in a dense fog.

Booths and telephone booth kiosks in the UK are the only non-stationary facilities in the UK. Other goods were sold by street vendors and in various shops located on the first floors of large buildings.

Modern London kiosks have a simple, minimalist architecture and most of them operate during the warmer months. Architects and designers have developed modern concepts for non-stationary commercial facilities for city streets and parks. Basically, a system is used that allows you to change the externally supporting structures, which allows you to open the kiosk counter and sales area during the day and close them safely at night.

Comparative analysis of non-stationary trade objects in the leading countries of Uzbekistan and Europe. For a long time, trade in the cities of Uzbekistan was carried out in shops, temporary tents and stalls. These trade facilities in the cities are located on specially designated trading platforms. But gradually with the growth and development of the city, trade facilities began to find their place not only in the market area, but in the whole city.

A characteristic feature is that initially various types of goods were sold in non-stationary trade facilities in Uzbekistan (Figure 2). Preliminary arrangements of non-stationary trade facilities for the sale of periodicals in Uzbekistan are designed to accommodate the sale of rectangular three-sided glass advertising and other types of products (books, magazines, water, etc.).

In European countries, trade facilities are aimed at selling certain types of goods or services. In European countries, kiosks and pavilions have a special place, they are praised and supported by the local population, so the



Figure 2. Kiosk, Tashkent Chilanzar shopping center 1967.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

architectural and design solutions of kiosks and pavilions usually fit into a single style Most European retail outlets aimed at working in the hot season, which is evidence of their constructive solution. In Uzbekistan, non-stationary trade facilities are located mainly near bus stations. A common feature of commercial facilities is the desire for compactness and modularity for convenient location in urban conditions.

According to the stylistic solution, since the development of the printing industry, there is a surplus of advertising information placed on the facades of retail outlets. Problems with the planning and spatial solution of kiosks and pavilions in European countries are less pronounced than in Uzbekistan, as their number is several times less. In Uzbekistan, as in European countries, modern concepts of non-stationary trade facilities are being developed. In each of the registered countries, non-stationary trade facilities have been left out of the attention of the city authorities, have not been updated or modernized. Therefore, their appearance has lost its original aesthetics. Most of the non-stationary trade facilities in the countries under analysis were originally made of simple common and usable materials, respectively, not all facilities were representative of the ideas of architects and designers.

The data clearly show that non-stationary trade facilities initially emerged and developed in France, Germany, and the United Kingdom as facilities for the provision of certain types of services. In Uzbekistan, non-stationary trade facilities were mobile outlets for various types of products and were widely distributed in urban areas. In contrast to the countries studied in Uzbekistan, non-stationary trade facilities are part of bus stops, which is a unique feature. There are similarities in the architectural and design solution in the wide availability of outdoor advertising, in general architectural forms, and in the types formed. It should be noted that since 2017, the types of non-stationary trade facilities in Uzbekistan, mainly for light food, have become widespread (Figure 3-4).





Figure 3.4. Non-stationary trade facilities Tashkent, Asia Street

CONCLUSION

Non-stationary commercial facilities architecture is an integral part of the urban environment, which began to develop more than a century ago, and is still actively developing today. In recent years, non-stationary trade facilities have also become widespread in Uzbekistan. Non-stationary trade facilities in cities and streets of Uzbekistan are mainly modern, have different designs and are decorated with different colors and advertisements. When placing non-stationary trade

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

facilities and kiosks in an urban environment, it is recommended to decorate them in accordance with the architectural appearance of the area and to develop architectural and design solutions.

They try to preserve the historical image of trade objects in Europe. There is a time frame for the trade objects in the European and Uzbek countries under study, which did not pay enough attention to the problems of architecture and planning, which are now being actively addressed. Over the next 2-3 years, the architectural forms of commercial facilities are gaining new architectural, planning and design solutions. This underscores the importance of non-stationary retail facilities in the urban environment, with kiosks and pavilions helping to create a comfortable urban environment and also being beneficial to urban residents.

REFERENCES

- 1. Shukhrat R, Zarif A, Zafar M. Role of the design code in improving the quality of the urban environment. Academicia: An International Multidisciplinary Research Journal, 202;11 (1):1805–1812.
- **2.** Adilov Z, Matniyozov Z, Vetlugina A, Xudoyarova D. Educational buildings solutions for typical landscape design. International Journal of Scientific and Technology Research, 2020;9 (4):2825-2828
- **3.** Adilov ZX, Matniyazov ZE, Tadjibaeva DM, Tadjibaev JX, Elmurodov SS. Landscape Design Projects for 4r-173 Call-Mountain Road Side. International Journal of Advanced Research in Science, Engineering and Technology. 2020;7(12):16238-16245.
- **4.** Matniyazov ZE, Adilov ZH, Tadjibayev JH, Daminova UO, Saidxonova UZ. Improvement of the Environmental Situation of the Aral Region through Landscape Design. International Journal of Scientific & Technology Research. 2020;9(4):3450–3455.
- **5.** Saidov AA. The Planning Solution and Landscape Design of Courtyard Spaces in Multi-Storey Residential Buildings of Uzbekistan. International Journal of Advanced Research in Science, Engineering and Technology, 2018;5(11):7243–7248.
- **6.** Dobronravova EA, Vetlugina AV, Gadaeva ShB. Medico-ecological phitodesign in landscape design. Design Engineering. 2021;8:3205–3212.
- **7.** Aliyeva MX. Environmental Issues and Their Impact in the Industrial Area. International Journal of Advanced Research in Science, Engineering and Technology. 2019;6(11): 11936-
- **8.** Elmurodov SS, Safiyev TS, Khudoyarova DI, Saidkhonova UZ. Methods of Improving Green Walls on the Territory of Uzbekistan, Annals of R.S.C.B., 2021;25(4):1253–1260.
- **9.** Shimko VT. Architectural and design design of the urban environment: textbook, manual for universities. M.: Architecture-S, 2006.
- **10.** Ellard K. Habitat. How architecture affects our behavior and well-being. 3rd ed. M.: Alpina Publisher, 2018.
- **11.** Kolli NYa, Artamonov VA, Tarasova EA, Tolstoy IA. Small forms in building and urban improvemen. M.: Stroyizdat, 1964.
- **12.** Ikonnikov AV. Architecture of the city: Aesthetic problems of composition. M.: Stroyizdat, 1972.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **13.** Ryurikova ZA. Temporary structures in the urban environment. Architecture and construction of Russia. 2007;(11).
- **14.** Kuzmin EV, Luchkova VI. Comparative analysis of architectural and planning solutions for non-stationary trade objects in Russia and leading European countries. New ideas of the new century. 2020;1:239-250.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

FORMATION OF ECOLOGICAL-AESTHETIC THINKING IN STUDENTS

Nurullayeva Sh.O*

*Samarkand, School Number of 65, Tashkent, UZBEKISTAN Email id: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02709.9

ABSTRACT

This article provides information about the role of ethnopedagogy in teaching students to ecological and aesthetic education. The main goal of environmental education is to form a conscious attitude to the environment in the younger generation. One of the most important challenges for students in the age of globalization is to address environmental risks. Equipping them with the knowledge they need to fight is of particular importance. The difference is in the non-real, that is, it exists outside of time and space, and with its very existence it is opposed to the real world.

KEYWORDS: Lesson, Pedagogy, Education, Lesson Content, Creativity, Intellect, Aesthetic Education, Aesthetic Thinking.

INTRODUCTION

Pupils should have knowledge, skills, and competencies related to science. These skills are closely related to environmental thinking. Students will learn about nature, human activities, and the relationship between nature requires to have. In all classes of education, instilling patriotism in students, instilling in them a sense of patriotism, instills in them a love for Mother Nature. Just as air, water, and sun are necessary for human life, so are plants and animals, and the natural connection between them is revealed. [1]

Pupils should understand that nature conservation involves the rational use of natural resources and the preservation of the environment, taking into account the needs of present and future generations. In this regard, students will be introduced to ecology and ecological concepts.

In particular, ecology is an independent science that studies life processes in its own way. Areas of ecology that are directly related to social life are also evolving. At the same time, aspects of environmental issues are studied in various disciplines. Ecology is the study of the laws of life of organisms (of all kinds, of all levels), taking into account the influence of the human factor in the natural environment in which they live. [2]

Therefore, the balance of the laws of nature should not be disturbed. This means instilling in young people, the next generation, a sense of compassion for nature from childhood. The main goal of environmental education is to form a conscious attitude to the environment in the younger generation. Ecological concepts help students to preserve nature, to love it, to treat it wisely, to keep their school, family, neighborhood, village and city clean, to plant greenery, to create orchards. Their contributions. It teaches us to add, to take care of the animal world, to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

respect the environment, the whole plant world, for example, to achieve the purity of the land, water and air. This, in turn, requires not only the education and upbringing of children, but also the formation of their ecological culture. The concept of ecology allows the younger generation, in general, to use natural resources wisely, to improve the situation, to ensure environmental safety, to study and apply national and universal experiences on the harmonious relationship between man and nature, to further the development of nature. beautification requires a contribution to prosperity. The prelude to this activity begins in childhood. [3]

According to the description of environmental problems, it is possible to express the stages of logical stratification in accordance with the structure of the teaching process of ecology in science classes in schools. The above is a pedagogically based approximate structure, content and sequence of stages in the transfer of environmental knowledge related to the formation and development of students' ecological thinking (environmental education) on how environmental problems are the product of human socio-historical development. [4]

Among the peoples of Central Asia, the ecological upbringing of the Uzbek people passed down from generation to generation is commendable. From that time on, our ancestors taught their children from birth to be thrifty, not to waste, and to use the elements of nature, water and soil, only in productive work. Improving the content of environmental education, its quality and effectiveness. It is important to incorporate into this process the ideas of national values, including the ecological heritage of Central Asian thinkers.

In our country, special attention is paid to the development of national values, national spirituality based on the rich cultural heritage, in which the upbringing of the younger generation is one of the urgent tasks of today. One of the most important challenges for students in the age of globalization is to address environmental risks. Equipping them with the knowledge they need to fight is of particular importance. Since the second half of the last century, the consequences of human impact on nature have become a matter of concern to the general public, and it has been decided to take large-scale measures to eliminate such negative conditions. [5]

It focuses on the development of endangered plant and animal species and measures to protect them. The creation of "Red Books" in different regions of the world is one of these measures. The illegal use of rare plants named in such books and the hunting of animals are prohibited by law [43-51]. Declining and disappearing nature reserves have been established and special "green areas" have been established to conserve and reproduce growing plants and animals. Such actions are part of the efforts to preserve nature, to preserve the ecosystem, a large part of which is to draw the attention of all mankind to this problem, to encourage them to work together to protect nature in harmony, explanation gives the expected results. [6]

Elementary classes have certain opportunities that play an important role in the formation and strengthening of behavioral qualities in the formation of ecological consciousness, ecological thinking and culture in students. Therefore, the focus on introducing students to the ecological views of Central Asian thinkers in elementary school science classes will yield positive results. Creating knowledge in the minds of primary school students based on the ecological heritage of the great Central Asian thinkers develops their ability to take responsibility for the environment and nature. Environmental education of primary school students is a problem of national importance, the solution of which is a scientific and pedagogical approach to the problem and effective depends on the designation of the roads. Therefore, it is necessary to pay special

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

attention to ensuring the systematic and continuous provision of environmental education to students in secondary schools. [7]

Baumgarten advanced theology as a theory of emotional perception. Soon, however, it began to be interpreted as either a "philosophy of beauty" or a "philosophy of art." Hegel, one of the greatest theorists of the science of fine arts, writes in the introductory part of his lectures: There have been attempts to use another term because the name "aesthetics" has failed and is superficial. Given that the word itself does not interest us, we are willing to retain the name "aesthetics" and, moreover, it has become ingrained in ordinary speech. However, the phrase that corresponds to the content of our science is "philosophy of art" or, more precisely, "philosophy of artistic iodine".

From the above, it follows that the term "philosophy of beauty" is more appropriate to our science. Because our science studies not only the beauty of art, but also the beauty of man, society and nature. In addition to beauty, there are many other concepts, such as glory, tragedy, humor, miracles, harmony, subtlety, the study of which is the responsibility of the science of art. However, it should be borne in mind that in each of these concepts, beauty, on the one hand, participates as an element, and on the other hand, they themselves act as an element in relation to beauty. We call the manifestation of these qualities in reality subtlety. [8]

Beauty, as we have seen, is the main, leading feature of sophistication. It is therefore studied and interpreted as one of the basic criteria of psychiatry. After all, without the participation of beauty, none of the above qualities can have a delicate nature. Take glory, for example. It is mainly based on size, quantity. The majesty of the Arslankhan Tower or the Kalon Minaret in Bukhara amazes people, and when you look at it, your heart is filled with the pleasure of sophistication. But you can't enjoy a chemical plant pipe at the same height. Or if you stand on a hill and stare at a mountain, you will enjoy the naafosat, but you will not enjoy the "mountain" of rubbish growing on the outskirts of the city at the same height. Because the Lion Tower, as a work of architecture, was built according to the laws of beauty; and the mountain is a majestic beauty created by nature. There is a lot of volume and quantity in the factory and in the "mountain" of garbage, but one thing is not enough beauty.

Thus, the art of painting fully embraces and penetrates into art: it studies the processes that took place after and after the creation of a work of art, from its inception to its creation, and from the theoretical to the theoretical draws conclusions. That's the secret of the phrase philosophy of art.

Fine, science is a special field that is part of the philosophical sciences. Philosophy, as you know, is called the king of science. In fact, as the king of the sciences, he embraces the achievements of all the natural and social sciences, draws general conclusions from them, and on this basis leads mankind to the truth. Therefore, it is appropriate to call thinking the object of study of philosophy. Fine art, as a philosophical science, draws general conclusions from the achievements of all the sciences of art, and on the basis of these conclusions serves to bring man to truth through beauty. In addition, the rules developed by the art historian are common to all disciplines of art. For example, style, rhythm, composition c. h. The laws of the universe apply to all kinds of art. No other art form has such a privilege. For example, the theory of rhyme developed by literature cannot be applied to music or architecture.

So the imaginary world is completely different from the ordinary, real world. The difference is in the non-real, that is, it exists outside of time and space, and with its very existence it is opposed

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

to the real world. In this case, the main task of the imagination is to unrealize its object. In order to see or possess an object, the thought takes a figurative form: the imagination is like some kind of prayer necessary for the appearance of the object being thought or possessed. The movement of the mind from the sign (letter, note) to the image and from the portrait to the image does not mean two realities, but it is only a symbolic action. "Knowledge sees itself only as a form of image: the perception of an image is a narrowing of the perception of knowledge," says Sartre, "and the function of the image is symbolic."

In the imagination, the mind seems to realize its full potential. In this sense, it is the main characteristic of transcendental consciousness. Transcendental consciousness, as a consciousness that transcends the boundaries of any experience, is the source, basis, and catalyst of human life and creative activity.

REFERENCES:

- 1. Narbasheva MA. The importance of pedagogical and psychological literacy of parents in preparing children for school education. Academicia: An International Multidisciplinary Research Journal, 2021;11(1):728-732.
- **2.** Aliqulov A, Nizomov F. Alisher Navoiy asarlarida tabiatning e'zozlanishi haqida. O'zbekistonda ijtimoiy fanlar j. 1994;(1-2):38-42.
- **3.** Kadirova D. Growth Rhythm of Intraspecific Forms of Wheat. Web of Scientist: International Scientific Research Journal, 2021;2(11):294-299.
- **4.** Zokirov, JGO, Xurramov RS. Formation of Ethnopedagogical Views among Students through the Study of the Life and Work of Alisher Navoi. Oriental renaissance: Innovative, educational, natural and social sciences, 2021;1(10):339-343.
- **5.** Norbosheva MO. The impact of parental pedagogical and psychological literacy on the preparation of children for school. Modern education (Uzbekistan), 2019;6 (79):57-61.
- **6.** Norbosheva MA, Norbosheva MA. Reforms of the preschool education system in Uzbekistan. In Basic and applied research: hypotheses, problems, results 2018. pp. 25-29.
- 7. Билолова 3 B. Using the psychological views of oriental thinkers in the formation of professional concepts. Modern education (Uzbekistan), 2015; (10).
- **8.** Norbosheva MA. The Place of Creative Works in Improving Spiritual Education In The Family. Innovations in Pedagogy and Psychology, 2020; 8(3).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW PAPER ON STATE OF SOLIDITY

Amit Kumar*

*Assistant Professor,
Department of Civil Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: amit.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02651.3

ABSTRACT

Because of their capacity to flow, liquids and gases are referred to as fluids. The molecules in each of these states are free to move around, resulting in fluidity. Solids, on the other hand, have fixed component particles that can only fluctuate about their mean locations. This explains why solids are stiff. These characteristics are determined by the composition of the component particles as well as the binding forces that exist between them. The relationship between structure and properties aids in the development of novel solid materials with desirable characteristics. Carbon nanotubes, for example, are a new kind of material that has the potential to be harder than steel, lighter than aluminum, and more conductive than copper. Such materials may play an increasingly important role in the advancement of science and society in the future. High temperature superconductors, magnetic materials, biodegradable polymers for packaging, biocompliant solids for surgical implants, and other materials are anticipated to play a significant role in the future.

KEYWORDS: Conductivity, Conductors, Liquids, Metals, Solids.

1. INTRODUCTION

There are three states of matter: solid, liquid, and gas. Which of these would be the most stable state of a particular material under a given combination of temperature and pressure circumstances relies on the net impact of two opposing variables. Intermolecular forces tend to keep molecules (or atoms or ions) closer together, whereas thermal energy tries to keep them away by causing them to move faster. The thermal energy is minimal at sufficiently low temperatures, and intermolecular interactions bring them so close together that they cling to one another and occupy permanent places. These may continue to fluctuate about their mean locations, and the material is still solid[1]–[3]. The solid state's distinguishing characteristics are as follows:

- Their mass, volume, and form are defined.
- The intermolecular distance is small.
- Strong intermolecular forces exist.
- Their component particles (atoms, molecules, or ions) are fixed in their locations and can only fluctuate about their mean positions.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

• They are stiff and incompressible.

On the basis of the type of order inherent in the arrangement of their component particles, solids may be categorized as crystalline or amorphous. A crystalline solid is made up of a vast number of tiny crystals, each of which has its own distinct geometrical form. In three dimensions, the arrangement of component units (atoms, molecules, or ions) in a crystal is organized and repeating. If we see a pattern in one area of the crystal, we can correctly anticipate the location of particles in any other portion of the crystal, no matter how far away they are from the observation point. As a result, crystals have long range order, which implies that there is a regular pattern of particle arrangement that repeats itself regularly throughout the crystal. Crystalline solids include things like sodium chloride and quartz. When liquids solidify on cooling, glass, rubber, and many polymers do not form crystals. Amorphous solids are what they're called. The word amorphous is derived from the Greek word amorphos, which means "without shape." In such a solid, the arrangement of component particles (atoms, molecules, or ions) has only a short range order. A consistent and regularly repeating pattern is seen only across short distances in such an arrangement [4]–[6].

The melting point of crystalline solids is quite high. They melt quickly and become liquid at a certain temperature. Amorphous solids, on the other hand, soften, melt, and flow across a wide temperature range and may be moulded and blown into different forms. Amorphous solids have the same structural characteristics as liquids and may be thought of as very viscous liquids. At a certain temperature, they may crystallize. Because of crystallization, certain glass artifacts from ancient civilizations have taken on a milky look. Amorphous solids, like liquids, have a propensity to flow, although slowly. As a result, they are frequently referred to as pseudo solids or super cooled liquids.

In nature, amorphous substances are isotropic. Mechanical strength, refractive index, and electrical conductivity, for example, are all the same in all directions. It's because there's no long-range order in them, and the particle arrangement isn't consistent in all directions. As a result, the overall arrangement equalizes in all directions. As a result, the value of any physical asset would be the same in any direction[7]–[10].

Anisotropic means that certain physical characteristics of crystalline materials, such as electrical resistance or refractive index, have different values when measured in various orientations inside the same crystal. This is due to the fact that particles are arranged in various orientations.

In addition to crystalline and amorphous materials, certain substances look amorphous but contain microcrystalline structures. Polycrystalline solids are what they're termed. Metals are often found in polycrystalline form. Because individual crystals are orientated at random, a metallic sample may seem to be isotropic despite the fact that a single crystal is anisotropic.

Amorphous solids are a kind of material that may be used in a variety of applications. Glass, rubber, and plastics are used in a variety of ways in our everyday lives. One of the finest photovoltaic materials available for converting sunlight into energy is amorphous silicon.

2. DISCUSSION

Various classifications exist for crystalline solids. The technique used is determined on the goal at hand. The type of the intermolecular interactions or bonds that keep the component particles together will be used to categorize crystalline solids. Van der Waals forces, ionic bonds, covalent

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

bonds, and metallic bonds are the four types of bonding. Crystalline solids are divided into four types based on this classification: molecular, ionic, metallic, and covalent solids. Molecules are the individual particles that make up molecular solids.

- a. These are subdivided further into the following groups:
- i. Non-polar Molecular Solids:

These are made up of either atoms (such as argon and helium) or molecules (such as H2, C12, and I2) produced by non-polar covalent bonding. Weak dispersion forces or London forces hold the atoms or molecules together in these substances. These solids are non-conductors of electricity and are squishy.

- They have low melting points and, at room temperature and pressure, are typically liquid or gaseous.
- Polar Molecular Solids: Polar covalent bonds create the molecules of chemicals such as HCl. SO2, and others. The molecules in such materials are kept together by dipole-dipole interactions that are considerably stronger. These solids are non-conductors of electricity and are squishy. Despite the fact that their melting temperatures are greater than those of nonpolar molecular solids, they are mostly gases or liquids at ambient temperature and pressure. Examples of such substances are solid SO2 and solid NH3.
- Hydrogen Bonded Molecular Solids: These solids have polar covalent connections between H and F, O, or N atoms in their molecules. The molecules of such substances as H2O are held together by strong hydrogen bonds (ice). They are electrically non-conductors. Under normal conditions of temperature and pressure, they are volatile liquids or soft solids.

ii. Ionic Solids:

Ionic solids are made up of ions, which are the component particles. The three-dimensional arrangements of cations and anions bonded by strong coulombic (electrostatic) forces create such solids. These substances are brittle and hard by nature. Their melting and boiling points are both quite high. In the solid form, the ions are electrical insulators since they are not free to move about. The ions become free to move about in the molten state or when dissolved in water, and they conduct electricity.

iii. Metallic Solids:

Metals are a well-ordered collection of positive ions surrounded by a sea of free electrons that holds them together. These mobile electrons are equally distributed throughout the crystal. In this sea of mobile electrons, each metal atom contributes one or more electrons. Metals' great electrical and thermal conductivity is due to these free and mobile electrons. These electrons move through the network of positive ions when an electric field is applied. Similarly, when heat is applied to one part of a metal, free electrons distribute the thermal energy evenly across the metal. Metals' sheen and color, in certain instances, are also significant characteristics. This is also owing to the fact that they contain free electrons. Metals are malleable and ductile in nature.

Covalent Solids: iv.

The development of covalent bonds between neighboring atoms throughout the crystal results in a broad range of non-metal crystalline solids. Giant molecules is another name for them. Because

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

covalent bonds are strong and directed in nature, atoms are firmly kept in their places. Solids of this kind are very hard and brittle. Their melting points are very high, and they may even disintegrate before melting. They don't conduct electricity since they're insulators.

3. CONCLUSION

Solid, liquid, and gas are the three states of matter. Because of their capacity to flow, liquids and gases are referred to as fluids. Solids, on the other hand, cannot flow. Because particles in solids are not free to move in available space, this is the case. In solids, there is a significant intermolecular interaction between the particles. The location of the component particles in a solid is fixed, and they can only fluctuate around their mean position. This provides the solid rigidity and, as a result, a set form. The mass, volume, form, and stiffness of a solid state of matter are all fixed. The arrangement of component particles is used to classify solids. It exhibits a broad variety of characteristics as a result of their particular configurations, and therefore has a wide range of applications, such as superconductors, magnetic materials, polymers, and so on.

Two opposing forces control the specific state of matter in nature at a given temperature and pressure. The intermolecular force of attraction and thermal energy are the two factors at work. When the intermolecular force of attraction is greater than the thermal energy, particles stay in close proximity to one another, resulting in very little particle movement. The solid state is the desired state of matter in this situation.

Let's go through the general properties of solids once more:

- Mass, volume, and form are constant.
- A strong intermolecular attraction force.
- Fixed location of component particles.
- Least intermolecular space.
- Stiff and incompressible

Solids are categorized according to how their component particles are arranged. Crystalline solids have the same arrangement of component particles throughout the solid (long range order). Amorphous solids are those in which the arrangement of particles does not follow any regular pattern across the solid (short range order).

- It is made up of a huge number of tiny crystals with a clear geometrical form.
- Throughout the solid, the arrangement of component particles is consistent (long range order). That is, a set pattern of component particles repeats itself across the full spectrum of solids on a regular basis.
- They have very high melting points.
- They are anisotropic in nature, with an uneven distribution of component particles throughout the solid. Only a tiny portion of the component particle pattern is visible. That is, it demonstrates short-term order.
- The melting point is not very high. Amorphous solids melt at different temperatures.
- They have a propensity to flow more slowly.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

• They are naturally isotropic.

"The term isotropic refers to the lack of differences in characteristics when seen from any direction." Van der Waals forces hold the molecules in a solid together. Hydrogen bonding, dipole-dipole attraction, and London dispersion forces are all examples of van der Waals forces. London dispersion forces affect all molecules. Furthermore, dipole-dipole interactions may occur in polar compounds. The London dispersion force and dipole-dipole interactions are the interactions that keep the molecule together in a polar molecular solid. The uniform and repeated arrangement of component particles in space is a distinguishing property of crystalline solids. The crystal lattice is the regular three-dimensional arrangement of component particles in a crystal.

Vacancy defect: This occurs when some of the lattice points during crystal formation are left vacant.

- It may be found in non-ionic compounds.
- It lowers the solid's density.
- It may be made by heating water.

When certain component particles occupy interstitial locations other than the lattice points, an interstitial defect occurs. It may be found in non-ionic compounds. It raises the solid's density.

Impurity defect:

An impurity defect occurs when a tiny quantity of impurity is added to an ionic solid. In an ionic solid, it really produces a cationic vacancy. When SrCl2 is introduced to a molten salt of NaCl, for example, it takes the place of Na+ in the crystal. However, the charge on Sr is 2+. After eliminating two Na+ ions, Sr2+ occupies just one position. As a result, there is a 1 point vacancy.

- It may be found in non-ionic compounds.
- It raises the solid's density.

REFERENCES

- **1.** J. G. Kim et al., "A review of lithium and non-lithium based solid state batteries," Journal of Power Sources. 2015, doi: 10.1016/j.jpowsour.2015.02.054.
- **2.** O. Yamamoto, "Solid state ionics: a Japan perspective," Science and Technology of Advanced Materials. 2017, doi: 10.1080/14686996.2017.1328955.
- **3.** Y. Shen, Y. Zhang, S. Han, J. Wang, Z. Peng, and L. Chen, "Unlocking the Energy Capabilities of Lithium Metal Electrode with Solid-State Electrolytes," Joule. 2018, doi: 10.1016/j.joule.2018.06.021.
- **4.** J. Ma, B. Chen, L. Wang, and G. Cui, "Progress and prospect on failure mechanisms of solid-state lithium batteries," J. Power Sources, 2018, doi: 10.1016/j.jpowsour.2018.04.055.
- **5.** P. K. Sadh, S. Duhan, and J. S. Duhan, "Agro-industrial wastes and their utilization using solid state fermentation: a review," Bioresources and Bioprocessing. 2018, doi: 10.1186/s40643-017-0187-z.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **6.** Y. Lu, L. Li, Q. Zhang, Z. Niu, and J. Chen, "Electrolyte and Interface Engineering for Solid-State Sodium Batteries," Joule. 2018, doi: 10.1016/j.joule.2018.07.028.
- **7.** L. Xu et al., "Interfaces in Solid-State Lithium Batteries," Joule. 2018, doi: 10.1016/j.joule.2018.07.009.
- **8.** N. J. J. De Klerk and M. Wagemaker, "Space-Charge Layers in All-Solid-State Batteries; Important or Negligible?," ACS Appl. Energy Mater., 2018, doi: 10.1021/acsaem.8b01141.
- **9.** Z. Yuan, C. Wang, X. Yi, Z. Ni, Y. Chen, and T. Li, "Solid-State Nanopore," Nanoscale Research Letters. 2018, doi: 10.1186/s11671-018-2463-z.
- **10.** C. Zhao et al., "Solid-State Sodium Batteries," Advanced Energy Materials. 2018, doi: 10.1002/aenm.201703012.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW OF WIND ENERGY IN JAPAN

Dr. Varun*

*Associate Professor,
Department of Applied Science (Chemistry), Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: drvarun.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02652.5

ABSTRACT

This article examines the history and present problems surrounding wind energy growth in Japan, as well as the role of policy and wind energy's future trajectory. Wind energy's share in Japan has not increased as a result of previous policy's lack of market emphasis. Just after Big East Earth quake in early 2011, and the following Fukushima Nuke Plant Accident, the circumstances around wind and other renewable energy altered drastically. The new Feed-in Tariff system has been implemented, and the Power Sector Reform is proceeding slowly. Despite the fact that wind energy has a considerably higher potential in Japan than other renewable, the FIT has not boosted wind installation to yet, and the amount of bottlenecks has hampered largescale market deployment. The grid access of wind projects has been restricted due to a lack of grid capacity, the present energy market structure, and grid operation practices by incumbent Power Generation Companies. A layer of rules governing development permits lengthens the time it takes to complete a project, increases project uncertainty, and raises risk premiums. Due to certain previous errors that failed to answer local community issues, societal acceptability is especially difficult. Wind energy costs are also expensive in comparison to other nations, owing to a lack of economies of scale and other factors. To expand the proportion of wind energy in Japan's energy mix, the country has to adopt a more comprehensive policy package to address various bottlenecks and hazards.

KEYWORDS: Japan, Policy, Solar, Trend, Wind energy

1. INTRODUCTION

The goal of this study is to look at the history and present problems of wind energy in Japan, as well as the role of policy and the future direction of the industry. The following is the structure of the article[1]. A short history of wind energy policy and development in Japan is given after the introduction. The effects of the 3.11 Great East Japan Earthquake and Tsunami, as well as the following Fukushima Nuclear Accident, are then examined in relation to contemporary energy policy issues. The fourth part focuses on recent advances in wind energy policy, which is considered essential for expanding the proportion of renewable energy. The fifth part delves into the present state of affairs and future plans for wind energy. The review's last part examines the connections between the problems addressed and the policy approaches that should be taken to expand the role of wind energy in Japan[2].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.1 History Of Wind Energy In Japan:

After the First Oil Crisis of 1973, Japan, like many other nations, began to promote renewable energy. Prior to the oil crisis, Japan mostly depended on coal for energy requirements during the post-World War II recovery era, and oil as the primary energy source during the following period of rapid economic development. In 1973, oil accounted for about 77.4 percent of the country's main energy source[3]. The dependence on the Middle East was particularly high, with 77.5 percent of oil imported from the area each year[4]. The oil crisis has highlighted the urgent need to reduce Middle East oil reliance by securing oil supplies from other parts of the globe, increasing energy efficiency, and diversifying energy sources via the development of new energy technologies. The Sunshine Program was established in 1974 by the Ministry of International Trade and Industry (MITI) for the latter aim. Solar, geothermal, coal, and hydrogen were the four technologies that the Sunshine Program focused on. The Moonlight Program, which promoted the development of energy-saving technologies, was launched by the MITI in 1979. In 1980, the MITI established the New Energy and Industrial Technology Development Organization (NEDO) to oversee public research and development of new energy and energy conservation technologies, as well as to encourage their commercialization[5]. The MITI launched another research and development program, the Earth Environmental Technology Development Program, in 1989, and combined it with the Sunshine and Moonlight Programs to become the New Sunshine Program in 1993.

Wind energy technology policy in Japan up to 2011: government financing for wind energy research and development in Japan. Because wind energy was not selected as the Sunshine Program's primary technology, RD&D funding for it started in 1978 with a considerably lower overall budget than solar or geothermal. In addition, wind RD&D funding has been inconsistent throughout time. From the 1990s to the mid-2000s, the majority of RD&D funding went toward developing wind resource databases and grid stabilization technology, such as Japan Wind Atlas Development (FY1993), field testing and data gathering projects (FY1995-FY2006), Local Area Wind Energy Prediction System (LAWEPS) development (FY1999-FY2002), wind database based on LAWEPS (FY2003-), and energy storage based on LAWEPS (FY2003-) (FY2005-FY2007). In the late 2000s, things began to shift[6]. In 2007, 2008, and 2009, the Ministry of Economy, Trade, and Industry (METI, the successor of the MITI) released three energy technology roadmaps. Wind energy was identified as a priority for technological advancement in the roadmaps. Turbine upscaling, composite materials development, cost reduction, power quality improvement, power system management, wind power production forecasting, grid connection control, grid stability, and high-quality low-wind turbine development were all priorities for onshore wind. Exploration of both bottom fixed foundation and floating foundation ideas, wind power production forecasting, grid connection control, grid stability, energy conversion and storage system development were all mentioned as RD&D priorities in the roadmaps for offshore wind. The METI's increasing interest in wind energy is due to an increase in wind energy installations across the globe. In 2008, the METI includes wind energy research and development in its Energy Innovation Program. The overall budget for the three multiyear projects increased dramatically from 2009[7]. There are three components to the Energy Innovation Program for Wind. From FY 2008 to FY 2012, the first focused on creating technological solutions for Japanese-specific meteorological and climatic circumstances such strong lightning and typhoons. The second program (FY2008–FY2014) is completely dedicated to offshore wind

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

energy technology and includes three kinds of projects: large-scale offshore wind system development, offshore wind demonstration for both fixed and floating foundations, and offshore wind resource monitoring studies. The program has been extended through the end of fiscal year 2017[8].

• Wind energy market development policy up to 2011: The main energy policy in Japan is technological development, and market policy has been extremely weak, with wind being no exception. Capital subsidies and Renewable Portfolio Standards (RPS), based on the "Special Measures Law Concerning the Use of New Energy by Electric Utilities," were the two major market policies for wind. Capital subsidies began in fiscal year 1998 and continued until fiscal year 2010[9]. One was for private-sector development, with up to a third of the capital cost covered. The other provided funding for wind projects in the non-profit sector and municipalities, paying up to half of the capital costs. Although the latter initiative was not formally discontinued in FY 2011, there were no open wind project recruiting opportunities that year [10]. The RPS program, which began on April 1, 2003 and ended on June 30, 2012, was the other major initiative. Solar power production, wind power generation, biomass, small and medium-sized hydro power generation (up to 1 MW capacity), and binary geothermal power generation were all included under the RPS system. An electrical retailer may produce power, buy new energy electricity from another party, or buy a "New Energy Certificate" from another party to fulfill its obligations.

1.2 Wind Energy Current Issues And Future Agenda:

- Assessments of renewable energy potential: Prior to March 11, 2011, both the METI and the
 Ministry of the Environment (MOE) have looked into the renewable energy installation
 possibilities. They released the findings shortly after the Great East Japan Earthquake and
 Fukushima Nuclear Power Plant Disaster in 2011. In comparison to other renewable energy
 sources, these two ministries said that onshore and offshore wind energy had much higher
 potential.
- FITs and the wind energy market: Renewable energy installation has increased significantly since the FIT was introduced in July 2012. However, as shown in Table 5, PV made up more than 95 percent of the facilities that went live; there are significant differences between renewable resources built under the FIT program. In the case of wind, 66 MW wind energy facilities went online during the first year of the FIT program, although their capacity is less than 1.9 percent of PV capacity. In addition, the METI had approved 805 MW of wind energy facilities as Specified Suppliers and were awaiting commissioning, while just 3.8 percent of PV had been certified as of the end of June 2013. At the end of June 2013, about 84 percent of FIT-certified renewable power plants were yet to be operational. This is uncommon when compared to renewable energy installations in other nations, since wind is typically a more cost-effective option. The main explanation for this disparity and the significant rise in PV is the gap in lead-time, not the tariff levels or resource potentials. Due to numerous obstacles, including a layer of rules for development licenses, wind and geothermal have considerably longer lead times than PV; PV is much simpler to install with just a few regulatory permissions in Japan. The sections that follow delve into the obstacles that stymie wind energy development.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Japan's wind resource locations and grid connectivity problems: The geographical distribution of wind resources in Japan is very unequal. The MOE (2011) examined wind energy potentials and existing power generation capacity for each EPCO area, illustrating that wind energy resources are concentrated in the Hokkaido, tohoku, and Kyushu EPCO regions, while existing power generation capacity indicates demand centers in the Tokyo, Kansai, and Chubu EPCO areas. As a result, areas with abundant wind resources do not face high demand. Furthermore, excellent wind resources are often found in distant regions with no or low-capacity transmission lines, making it difficult to link large-scale wind energy projects without bolstering transmission line capacity within each region. This geographical disparity in market demand and wind energy production necessitates the construction of a robust transmission system to transport wind-generated power from Hokkaido, Tohoku, and Kyushu to demand centers like as Tokyo, Kansai, and Chubu. However, the poor transmission line capacity between regional EPCOs restricted grid connection of wind power plants in Japan. In addition to the grid's fundamental characteristics, Japan's power production mix is inflexible, with a high penetration of base load power plants including nuclear, run-of-river hydro, and must-run thermals, resulting in less flexible electricity throughout the night. Due to these conditions, the grid connection of distributed energy production has typically been capped at ten EPCOs. Table 6 displays the grid connection ceilings imposed by each regional EPCO, but the Tokyo, Kansai, and Chubu EPCOs do not establish the limitations since they refuse to give distributed power producers with accurate technical information about their system. EPCOs often defend grid connection limits by citing the risk of voltage fluctuations, the difficulties of maintaining appropriate frequency, and the management of excess energy generated by intermittent wind and PV power production. Due to regional market segregation and a lack of significant regional connectivity, each EPCO must carefully balance supply and demand within each area; wind intermittency may make supply-demand balancing problematic. The specific issues with wind energy grid integration differ per by EPCO. The EPCOs in Tohoku, Chugoku, Shikoku, and Kyushu lack flexibly controlled power production capacity and a lack of downward reserve in the event of low demand with abundant wind. The grid's frequency may be increased as a result of this. Okinawa EPCO lacks the necessary control capability for shortterm frequency variation and balancing (a few minutes to 20 minutes). During periods of fast demand shift, all EPCOs suffer from a lack of control capability for long-term (from 20 minutes to six hours) variation and steep ramp induced by wind power. With these reasons, EPCOs abruptly curtailed wind power production anytime they believed wind power generation endangered grid stability. EPCOs were required to pay power generation income to wind power producers for curtailment hours if they exceeded 8% of annual power production hours when curtailment was implemented for certain grid-related reasons. Wind power producers have been able to apply (bid) for grid access within the Hokkaido, Tohoku, and Kyushu EPCOs' ceilings since 2002. The recipients of grid access have been chosen by lottery, although the bidding and lottery procedure has lasted anything from six months to a year.

2. DISCUSSION

This paper examines the history and present problems of wind energy development in Japan and considers the role of policy and future direction of wind energy. Past policy with its poor market emphasis did not increase wind energy share in Japan. The circumstances around wind and other

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

renewable energy changed significantly following the Great East Earthquake and Tsunami and the subsequent Fukushima Nuclear Plant Accident in early 2011. The new Feed-in Tariff system was implemented and the Electricity Sector Reform is steadily proceeding. Although wind energy has considerably greater potential than other renewable in Japan Wind power is one of the fastest-growing renewable energy sources. Usage is on the increase globally, in part because prices are decreasing. Global installed wind-generation capacity onshore and offshore has grown by a factor of nearly 75 in the last two decades, rising from 7.5 gigawatts (GW) in 1997 to approximately 564 GW by 2018, according to IRENA's latest statistics. Production of wind power quadrupled between 2009 and 2013, and in 2016 wind energy accounted for 16 percent of the electricity produced by renewable. Many areas of the globe have high wind speeds, yet the greatest sites for producing wind power are often isolated ones. Offshore wind power provides enormous promise. Wind turbines originally appeared more than a century ago. Following the development of the electric generator in the 1830s, engineers began trying to harness wind energy to generate electricity. Wind power generation did occurred in the United Kingdom and the United States in 1887 and 1888, but modern wind power is believed to have been first created in Denmark, where horizontal-axis wind turbines were constructed in 1891 and a 22.8-metre wind turbine started operating in 1897. Wind is utilized to generate electricity utilizing the kinetic energy produced by air in motion. This is converted into electrical energy utilizing wind turbines or wind energy conversion devices. Wind initially strikes a turbine's blades, forcing them to spin and turn the turbine attached to them. That converts the kinetic energy to rotational energy, by rotating a shaft which is linked to a generator, and thus generating electrical energy via electromagnetic. This essay examines the history and present problems of wind energy development in Japan and considers the role of policy and future direction of wind energy. Past policy with its poor market emphasis did not increase wind energy share in Japan.

3. CONCLUSION

the risks and blockages that impede large-scale deployment of onshore wind energy in Japan by depicting a typical wind power generating project flow/value chain on the horizontal axis, as well as the location of risks and blockages in terms of safety and reliability. features of resources, policies and laws, data/technologies infrastructures, business methods, cost, market, and stakeholder relations are all factors to consider. Relationships on the vertical axis, as well as interrelationships. Numerous blockages occur in every value chain activity, causing uncertainty and high risks, extending project lead times, and raising risk premiums and prices across the board. The majority of blockages are man-made, despite the fact that changing natural wind resource characteristics is difficult. By complicating the project process and raising uncertainty, a layer of regulation constitutes one of the biggest obstacles.

Even though many laws and regulatory processes are being deregulated, it will take time to resolve problems with the newly adopted EIA process and create a streamlined but solid development process that meets the needs of all regulatory agencies, local people, and the wind sector. Another significant obstacle is the absence of grid capacity, defined regulations, and operational processes for integrating wind energy projects into the current system. They contribute to a high level of development and grid connection uncertainty, as well as a high level of development expenses. Although integrating a large amount of wind and solar energy into the grid is a top priority for countries looking to increase intermittent renewable in their energy mix, the scale of the Japanese problem differs significantly from that of countries such as Germany

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and Spain, which have already established strong wind energy deployment documents. The latest integrated, regionally separated, and small electricity market constructions, as well as the lack of transparent grid connection rules, necessitate significant institutional changes, which are dependent on the existence and exercise of strong and consistent political will, as such changes necessitate long-term commitment and effort. Physical grid capacity augmentation is also required to allow broader area grid operations to more readily absorb wind intermittency. This must be accompanied by structural and market change in the power industry. The EPCO's political and economic authority has been undermined by the shutdown of nuclear power plants and significant public opposition to their previous commercial practices, especially in connection to nuclear power, thus there may be a short window of time.

REFERENCES

- **1.** E. Mizuno, "Overview of wind energy policy and development in Japan," Renewable and Sustainable Energy Reviews. 2014, doi: 10.1016/j.rser.2014.07.184.
- **2.** I. Ushiyama, "Wind energy activities in Japan," Renew. Energy, 1999, doi: 10.1016/S0960-1481(98)00261-4.
- **3.** D. Sangroya and J. K. Nayak, "Development of wind energy in India," Int. J. Renew. Energy Res., 2015, doi: 10.20508/ijrer.71475.
- **4.** A. Haghparast-Kashani and A. Bahri, "Compilation of wind energy assessment software and wind energy assessment in the northwest of Iran," Int. J. Glob. Energy Issues, 2009, doi: 10.1504/IJGEI.2009.030654.
- **5.** G. Ahmadi, "Aeroelastic wind energy converter," Energy Convers., 1978, doi: 10.1016/0013-7480(78)90079-7.
- **6.** T. Agarwal, S. Verma, and A. Gaurh, "Issues and challenges of wind energy," 2016, doi: 10.1109/ICEEOT.2016.7754761.
- 7. L. Fagiano, M. Milanese, and D. Piga, "Optimization of airborne wind energy generators," Int. J. Robust Nonlinear Control, 2012, doi: 10.1002/rnc.1808.
- **8.** A. Al-Mohamad and H. Karmeh, "Wind energy potential in Syria," Renew. Energy, 2003, doi: 10.1016/S0960-1481(02)00186-6.
- **9.** C. Lkili and S. Türkbay, "Determination and utilization of wind energy potential for Turkey," Renewable and Sustainable Energy Reviews. 2010, doi: 10.1016/j.rser.2010.03.033.
- **10.** E. Pirverdiyev, N. Rahmanov, and R. Rahmanov, "Offshore wind energy farms in the azerbaijani part of caspian sea, wind energy potential assessment," 2009.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

MODERN ASPECTS OF EPIDEMIOLOGY AND PATHOGENESIS OF BRONCHIAL ASTHMA

Matniyozova Zaynab Tukhtaboyevna*

*Assistant of the Department of Pediatrics, Bukhara state medical institute Bukhara city, Republic of UZBEKISTAN Email id: doctor.ganieva@gmail.com

DOI: 10.5958/2249-7137.2021.02720.8

ABSTRACT

The review and analytical article describes the pathogenetic mechanisms of the formation of bronchial asthma, describes a cascade of immune interactions that cause bronchial obstruction. The authors studied the features of the spread and etiopathogenesis of respiratory allergoses, among which bronchial asthma occupies the highest frequency.

KEYWORDS: Bronchial Asthma, Allergy, Pathogenesis, Immunity, Epidemiology

INTRODUCTION

One of the most important generalizations in immunology over the last 10-15 years has been a fairly complete and convincingly substantiated understanding of the innate and acquired components of the immune system. The concept of innate (from English: innate immunity) and adaptive or acquired (from English: adaptive immunity) immunity has been formed. Currently, the parameters characterizing the characteristics of each of these components of the immune system are clearly defined and the links (subsystems) linking them into a single whole are characterized [1,3,6].

The immune system interacts closely with other systems of the body, primarily with the nervous and endocrine, exerting a regulatory influence on many vital functions of the body [2].

The current understanding of the function of innate and acquired components of the immune system is important for practical medicine and clinical immunology. There is still an opinion among specialists of many medical specialties that a number of factors (for example, the integrity of the skin, mucous membranes, bactericidal activity, etc.) influence the so-called natural resistance of the body. Indeed, such factors may be important in protecting against pathogenic microorganisms. However, in the mechanisms of protection against malignant neoplasms, from genetically foreign cells and proteins, in the immune relationship between mother and fetus, in the control of genetically "one's own" and in many other immune processes, the so-called factors of "nonspecific immunity" are of little or no significance. Terms such as "non-specific protection factors", "non-specific immunity" have lost their use in the practice of modern immunology [4].

From an immunological standpoint, the epithelium of the respiratory tract mucosa is an area of concentration of a population of allergen-presenting cells that actively express a group of receptors of the innate immune system. These immune responses are also characteristic of allergic inflammation of the upper respiratory tract. However, the effect of significant microbial allergocomponents on the nature of the immune-mediated inflammatory reaction in the seasonal

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and year-round form of allergic rhinitis, which is reflected in the characteristic cytokine profile, has not actually been studied. The profile of such cytokines is particularly interesting, which are synthesized in epithelial cells of the mucous membrane TSLP, TNFa, GM-CSF when stimulated indirectly through the system of innate immunity receptors [9].

BA is a chronic respiratory disease characterized by reversible airway obstruction and hyperreactivity of the airways to nonspecific bronchoconstriction agonists as the main underlying pathophysiology. Over the past 40 years, the incidence of asthma has increased dramatically worldwide. The World Health Organization (WHO) estimates that currently more than 300 million children and adults worldwide suffer from this incurable disease and 255,000 die from it every year. It is now generally accepted that asthma is a heterogeneous syndrome and many clinical subtypes have been described. Viral infections such as respiratory syncytial virus (RSV) and human rhinovirus (HRV) have been implicated in exacerbating asthma in children due to their ability to cause severe inflammation of the respiratory tract and wheezing. Infections with atypical bacteria also seem to play a role in the induction and exacerbation of asthma. Recent studies confirm the existence of an infectious etiology of asthma mediated by Chlamydia pneumoniae (CP) and possibly other viral, bacterial and fungal microbes. It is also likely that early infections with microbes such as CP can lead to changes in the lung microbiome that significantly affect asthma risk and treatment outcomes. These infectious microbes can aggravate the symptoms of established chronic asthma and may even contribute to the initial development of the clinical onset of the disease. It is now increasingly recognized that the patterns of airway inflammation differ depending on the trigger responsible for the initiation and exacerbation of asthma. Thus, a deeper understanding of asthma subtypes is currently being studied more actively, not only to decipher pathophysiological mechanisms, but also to choose treatment and prognosis [10,15,18].

BA is a chronic disease of the pathways, which is characterized by the presence of symptoms such as shortness of breath, wheezing, chest congestion, cough. An important link in AD is mast cells, eosinophils and lymphocytes. BA is one of the important diseases that progresses every year, as the number of patients with the disease is increasing. Many factors (exogenous, endogenous) play a role in the development of this disease [11].

The incidence of AD is increasing worldwide. It is among the top ten non-communicable chronic diseases that are the main cause of death in middle and old age, reducing the average life expectancy of men by 6.6 years, women by 13.5 years. Today there are about 300 million patients with AD in the world. (Report of the Second World Assembly on Aging Madrid; 2011.). Despite the large amount of information in the available literature, there is no information whether the age of patients in which the disease developed can influence its manifestations and course [9].

BA leads to permanent disability, to a decrease in the quality of life, as well as mortality. According to statistics, there are about 130 million patients. The fear of an attack, which can manifest itself in AD, does not allow you to do simple work, and the symptoms of the course lead to patient care for several days [12].

In the Russian Federation, about 12% (adult population) and 19% (children) suffer from AD, in recent years the incidence of AD has worsened, and the number of cases has increased by 2 times. According to statistics, the birth rate of a child with BA is 50% if both parents are sick,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

but at the same time, characteristic symptoms may not manifest, the environment plays a big role. BA is most commonly found in Australia, New Zealand, the USA, Israel and Ireland [3].

In 1991, the first standardized protocol of the International Study of Asthma and Allergies in Children (ISAAC) was developed to conduct multicenter epidemiological studies in different regions of the world. The research under the ISAAC program involves 3 phases. In phase I, screening of schoolchildren aged 6-7 years (in Russia – 7-8 years) and 13-14 years (at least 3,000 children in each group) is carried out using a standardized questionnaire to study the prevalence and severity of symptoms of allergic diseases. Phase II provides for clarification of the diagnosis and etiological factors of the detected diseases based on an in-depth examination of persons identified by the results of the questionnaire in phase I. Phase III is a repetition of phase I of the program in at least 3-5 years to assess the dynamics of the prevalence of allergic diseases. For each center, the annual change in the prevalence of symptoms was calculated as the difference in the prevalence of indicators between phase I and phase III, divided by the number of years between the two surveys. The main tool of the program is a questionnaire with adapted questions about the relevant symptoms, such as wheezing, chest tightness, shortness of breath and cough (for BA), or sneezing, runny nose or stuffy nose, itchy eyes and watery eyes (for AR) [9,11].

At the same time, the assessment of current symptoms (within the last 12 months) is the most reliable for the epidemiological diagnosis of an allergic disease. Since there is no epidemiological definition of asthma, the International Center for the Study of Asthma and Allergies in Children believes that the most accurate diagnosis of the disease reflects the positive answers to questions about wheezing, wheezing in the chest over the past 12 months. Similarly, the epidemiological diagnosis of AR corresponds to questions about the presence of sneezing, runny nose or stuffy nose without signs of a cold in the last 12 months [4,5,14].

Scientists investigated how the environment affected the genotype-phenotype relationship in a genetically homogeneous but geographically separated population and evaluated 18 single-nucleotide polymorphisms (SNPs) corresponding to 8 genes (ADAM33, ALOX5, LT- α , LTC4S, NOS1, ORMDL3, TBXA2R and TNF- α), lung function and five respiratory/allergic conditions (asthma, bronchitis, rhinitis, dermatitis and atopia) in two populations of Inuit living either in the western part of Denmark or in rural Greenland. The results showed that lung function was associated with genetic variants in ORMDL3, with polymorphisms having significant interaction with the place of residence. LT- α SNP rs909253 and rs1041981 were significantly associated with the risk of bronchitis. LT- α SNP rs2844484 was associated with susceptibility to dermatitis and significantly depended on the place of residence [12].

BA is the most common chronic disease worldwide among children and young people. Due to the early onset of the disease (one out of four people in the general population gets asthma before the age of 40) BA is one of the main causes of disability and a decrease in the quality of life of patients. The problem of BA requires a significant increase in health care costs and contributes to a noticeable loss of labor productivity. Despite the large number of reports on the prevalence of BA in different populations, the lack of an accurate and universally accepted definition of the disease prevents an adequate comparison of data on the prevalence of BA obtained in different countries. Nevertheless, based on standardized methods for assessing the prevalence of asthma and diseases accompanied by wheezing in children and adults, it can be argued that the prevalence of asthma in different countries of the world ranges from 1 to 21%.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

There is reliable evidence that differences between countries regarding the prevalence of BA symptoms have decreased, especially in the age group of 13-14 years, with the prevalence decreasing in North America and Western Europe, and increasing in regions where it was previously low. Although the overall prevalence of wheezing has changed little, the percentage of children with registered BA has increased significantly; perhaps this reflects greater awareness of BA or a change in diagnostic practice. The increase in the prevalence of BA symptoms in Africa, Latin America and parts of Asia shows that the damage in the world from BA continues to grow, but the global differences in prevalence are decreasing. Approximately 250,000 people die from BA per year, while mortality rates are poorly correlated with the prevalence of the disease. The lack of data does not allow us to determine the possible causes of intra- and inter-population differences in the prevalence of BA [2,6,17,19].

CONCLUSION

The prevalence of asthma and allergic diseases is disproportionately distributed among different population groups, and there is an upward trend in Western countries. BA is an ecologically caused disease, the course of which is largely determined by the state of the environment and climatic conditions. In addition, the impact on the human body of various exogenous factors creates conditions for high allergenic loads.

REFERENCES

- **1.** Bakhranova NR, Yuldasheva GG. Pathogenetic Aspects of Coronavirus Infection in Pregnant Women. Central Asian Journal of Medical and Natural Sciences, 2021;64-69.
- 2. Nikolaevna BS, Vladimirovna DO. Dynamics of the prevalence of bronchial asthma and allergic rhinitis in children according to epidemiological studies. Sib. med. zhurn. (Irkutsk). 2012;(6).
- **3.** Ganieva ShSh, Radjabova GB. Clinical and Laboratory Assessment of The Health Status Of Patients With Chronic Obstructive Pulmonary Disease Who Have Undergone Coronavirus Infection. Central Asian Journal of Medical and Natural Science. 2021;76-80.
- **4.** Ganiyeva ShSh, Jurayeva FR, Hamdamova GR. Diagnostic role of immunological and biochemical parameters in the gastrointestinal food allergy in children. Art of Medicine International Medical Scientific Journal, 2021;1(2):73–81.
- **5.** Ganiyeva ShSh, Rustamov BB, Panoyev XSh. Regional features of the frequency and clinic of respiratory allergy. New Day in Medicine 2021;3(35):194-197
- **6.** Belevsky AS. Global strategy for the treatment and prevention of bronchial asthma: revision 2014. Russian Respiratory Society, 2015. 148p.
- 7. Jabbarova MB. Prevalence and clinical manifestations of bronchial asthma. Biology and integrative medicine. 2021;1(48).
- **8.** Russell J. Bronchial asthma: monograph. M.: VSD, 2017. 195p.
- **9.** Juraeva FR, Kolesnikova NV, Ganieva ShSh. Modern Aspects of Immune Mechanisms in the Pathogenesis of Arterial Hypertension. Eurasian Bulletin of Pediatrics. 2021;3(10):7-13.
- **10.** Karunas AS. Genetics of allergic diseases. Ufa: Gilem, 2013. 304p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **11.** Navruzova ShI, Akhmedov AT. Autoimplantation Of Thymus In Surgical Correction Of Congenital Heart Defects. Central Asian Journal of Medical and Natural Science. 2021;2(3):88.
- **12.** Navruzova ShI, Khamraeva DR. Regional features of the spread of chronic constipation in children. Eurasian Bulletin of Pediatrics. 2021;2 (9):76-82.
- **13.** Rychkova OA, Malinina EI, Kuzmicheva KP, Sheshegova MM, Cherkasov EV, Rybalko AV. Climatic and ecological aspects of the prevalence of bronchial asthma and asthma-like symptoms of children. Rosvestnperinatol and pediat. 2020;(4).
- **14.** Syrov VV. Ideas about epidemiology and possibilities of prevention of bronchial asthma at the present stage. Allergology and immunology in pediatrics, 2016;3(46):20-33. doi: 10.24411/2500-1175-2016-00017
- **15.** Tyurin YuA, Reshetnikova ID, Sharifullina AA, Agafonova EV, Fassakhov RS. Clinical and immunological features of patients with various forms of allergic rhinitis during sensitization by microbial, household and pollen allergens. Practical Medicine, 2018;16 (6):211-217.
- **16.** Webley WC, David L. Hahn Infection-mediated asthma: etiology, mechanisms and treatment options, with focus on Chlamydia pneumoniae and macrolides. Open Respir Med J. 2017;(11):1-9.
- **17.** Woodcock A, Lowe LA, Murray CS. Early life environmental con-trol: effect on symptoms, sensitization, and lung function at age 3 years. Am. J. Respir. Crit. Care Med. 2017;170:433-439.
- **18.** Giyasovna YG, Ramazanovna BN, Samiyevich BS. Statistical Analysis of the Structure of the Birth Rate of Underweight Children in the Bukhara Region. Art of Medicine International Medical Scientific Journal, 2021;1(2):73–81.
- **19.** Zhmurov DV, Parfenteva MA, Semenova YuV. Bronchial asthma. Colloquium-journal. 2020;14(66).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

UNIVERSAL PHILOSOPHIES IN ABDULLA ORIPOV'S LYRICS

Ganiev Ilhom Muzaffarovich*

*Doctor of Philology, Department of Uzbek Literary Studies, Laureate of the International Yassavi Prize, TerSU, UZBEKISTAN Email id: ganiyev@gmail.com

DOI: 10.5958/2249-7137.2021.02718.X

ABSTRACT

The article analyzes and analyzes Abdulla Aripov's works, which are equally loved and valued by the Turkic peoples. interpreted. Many people think that "poetry is writing poetry, embellishing verses with word games, knowing beautiful words, dedicating one's life to this work, publishing a series of books." In such diversity, man is in fact trying to understand himself, and at the heart of all man's intelligent actions is a sense of self-understanding. A person who finds the truth and is free from everything is like the sun that radiates light. The heart finds its spiritual nourishment complete, it needs nothing else. He doesn't even feel the need for them.

KEYWORDS: Poetry, Poetry, Art, Universal Values, Personality And Creativity, Lyrical Hero, Spiritual Beauty, Philosophical Observation, Poetic Thought, Literature And Time.

INTRODUCTION

Poetry is a picture of an instantaneous mood, but this instantaneous mood is a unique divine blessing that has always existed in the spirituality of the poet. Poetry is therefore a picture of the soul, how clear the picture can be, directly or indirectly, is now a matter of controversy. With so much reading and hard work, it is impossible to be a true poet. If that were the case, those who compiled volumes would become clever scholars, and well-known literary critics would become great poets. This means that poetry is not a complete mental phenomenon.

It is no coincidence that "there is magic in words, there is wisdom in poetry", because the universe and man were originally created by one original WORD. The life of a work that does not take a person out of spiritual balance does not last long, which means that it is not an original art. Making a mirror by curing millions of grains of sand in the flames, making it transparent, and then hitting that mirror with a stone, what will he see if he catches the broken glass ?! Of course, each mirror piece has its own reflection. This artist is a poet. Yes, in every word his secret, in every poem the spirit of the poet lives.

You know, a real talent generation

A little heavenly creature.

Originally a poet to the soil of Davron

The Creator Himself is the only one [1; 100]

"In a real lyrical work, there are vibrations that neither the eye nor the ear can perceive, but only the strings of the soul," says the poet, and continues. Even if you look at such works for years,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

you will not be satisfied, they can turn your mood into something completely different. [2; 171] Any pattern of creation that is not as natural as the wild itself itself, after a certain period of time, bores the reader, exhausts his interest and excitement. The sound of sounds, the breath of words, the poem cannot captivate the reader, it cannot become his property.

Abdulla Aripov's poetry combined the voices of his predecessors. Let's say someone played the flute, someone played the rubab, and someone played the gijjak - each of them has its own tone and is a favorite. A. Aripov is a symphony orchestra of our poetry. The voices of Cholpon, Hamid Olimjon, Gafur Gulam, Oybek, Shaykhzoda, Mirtemir seem to be combined in his poetry. One comparison:

As I roamed the valleys, My country, I finished a poem for you today,

I had a wonderful feeling. I never found your match.

Poets have a garden that blossoms all over the country

I kissed the soil of my homeland. Olam aro atagan tanho.

(H.Olimjon) (A.Oripov)

We can say that A. Aripov is still a traveling star for our poetry. The harmony in these poems enchants the reader, a miraculous combination of philosophy, folk melodies, sometimes sad, sometimes sad lamentations, unexpected conclusions, the truth of life and artistic truth.

She is doomed to live outside the creator after the poem is born, but ...

The personality of the poet is very important when examining a poem. Because the poem reflects the suffering, grief, sorrow, pain, love, hatred, confession, desire in the soul of the author. It is necessary to experience that state in order to feel an experience such as beauty, kindness, hatred, which a poet who sees a being with a bubble eye can feel. In fact, the creator himself cannot always experience this evolution, this experience, because creation is a mysterious image of the soul in instantaneous moments. A. Aripov himself explains it as follows: "When evaluating the work of a poet, it is necessary to look only at his, that is, the mental image of a particular poet. The work of a perfectly skilled, clear-minded artist on any subject will surely reach the heart of the reader. In this sense, both high pathos and unheard lyrical breaths have their own unique value and magic. "[2; 226] Human emotions are diverse. For a person, at a certain age, favorites change. His mother in infancy, still stiff, spotless; when he reached a certain age, when he began to understand the world more or less, when he realized the importance of power in the world, his father in the image of that hero; and when he reaches the age of puberty, darling; later place of birth, Homeland; as he begins to reach the end of his life, in his old age he again misses his parents inwardly, feeling thirsty for their unconditional love. Someone may have to feel these feelings about a person's age at some point, and someone may never be blessed with this blessing. Just as the human child's loved ones change, so do his or her favorite things. In such diversity, man is in fact trying to understand himself, and at the heart of all man's intelligent actions is a sense of self-understanding. While the creator also breathes the same air with others, he, first of all, does not fall away from his time, that environment, that climate influences him. Either an event in nature, or an event that takes place in society, leads him to creativity. There is no third way, nor can there be.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

"Creative work, no matter how individual an individual process, cannot be manifested outside the social environment. In addition, art has always been one of the pillars of society." [2; 179] This opinion of A. Aripov applies to all times. Art plays an important role in bringing a society to crisis or development. The ideas programmed by the Jadids in the recent past, the abolition of the Kokand autonomy, the proposal to raise the Uzbek language to the status of the state language - all were very important and appropriate, but none of them came true, and those in charge were brutally executed.

The creator is, in fact, a wise person with an awake mind, an enlightened figure who can see the future, but he is not a historical force that realizes this idea, and this is not his task. Creativity is a sound thought, an idea, a belief that calls people to awareness, to morality, to show them where they stand in life and how to be happy.

The task of literature is anthropology, the study of man. Man is the highest status, bestowed with rank, honored, all beings, eighteen thousand universes were created to serve him, all the things on earth and in heaven were created for his benefit. Man's task is clear: first of all, to know, understand, comprehend himself, and thus his Creator, through the heart and mind. For this he is endowed with feeling, contemplation, intellect, and perception. The purpose for which they are used is at the discretion of man: good or evil, honest or impure, loyalty or betrayal, prayer or life. His happiness and unhappiness are determined accordingly.

O human factor, the ultimate cause,

The only sign before God.

You are to blame for your pain,

You blame yourself for loading yourself. [1: 79]

So, the cause of all problems is selfishness, that is, murder, greed, ambition, bigotry, envy, lying, depravity, jealousy, and the root of all crimes:

A thousand curses on the time you planted,

To the tree you planted.

Let the faces of destiny darken,

If they sink into the well you dug.

Screaming to tear the dome of the sky,

If you have your own child, you are an executioner.

Let the black smoke rise to the throne,

One day your cradle will turn into a coffin. [1; 63] (2007)

Today the whole planet is in turmoil: an invisible virus that weighs not a gram, natural disasters, murder, theft, corruption, human trafficking, drug addiction, same-sex marriage, religious strife. All this is a punishment sent to humanity according to its deeds. Who carried out the tragedy of Ulugbek, written by the poet with a thousand sorrows ?! Is Prince Abdullatif his nephew? Who sentenced the believer Mirza to death, not Sultan Hussein Boykaro ?! ("Mumin Mirzo"). So, have such heinous crimes been abolished today, and if not, what is the reason for it? The theme

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

of both poems is not only related to the past, it is the point of sorrow, pain, suffering, pain of today and all nations, peoples. This is the universality and longevity of A. Aripov's poetry.

All defeat is my friend,

All the losses are related to me. [2; 5] (Quartet, 2010)

What is the reason for the poet's confession, why does he consider himself defeated in life?

Allah sent His Messengers first and then the Divine Books so that His servants would not go astray. He sent the saints again and again because he was kind, merciful, and capable. But the son of man did not listen to any of this. Although his face is clean, his name is human - forgetful. In fact, his exile was also due to his forgetfulness, when Eve did not forget her promise on the Day of Judgment, when she did not eat the forbidden fruit, she would not have had to live on Earth as a stranger. Even if we make mistakes, we inherited them from Adam and Eve.

Just as the person looking in the mirror sees his reflection, each of us is the result of our own actions, the opposite, the product. Happiness and unhappiness are nothing but consequences of our actions.

The difference between man and other creatures is in the mind, in thinking. If he uses his mind in the way of righteousness, he will approach an angel, and if he uses it for evil, he will approach an animal.

Add wisdom to your mind, patience to your anger! This is how a person who is able to live by following only one wise idea will find himself perfect. He will be a great example not only to himself, but also to those around him. Just as patience in ignorance and lack of gratitude in ignorance are considered flaws, so is sharpening the mind and spending only in the way of goodness.

In the poem "Layer of Azan" it is stated that Qadir Gaffor protects us like a lamp in the palm of his hand. However, it is clear that if a person does not have his own layer of adhan, that is, if there is a defect in his actions, his vision will fail.

If evil takes place in the hearts,

The name of such a person is ad.

The world of property is rich, but

But his soul is crippled. [2; 18] (Azan layer, 2010)

Man's humanity is in his spiritual beauty. When the soul is pure and beautiful, that person is the happiest, the happiest. After all, this test is the only one we can take away from the transient world, which is a world of testing, and it is our own spirit. It is necessary to conquer the nafs in order to keep the soul pure and more beautiful. Just as the nourishment of the body is a variety of foods, the nourishment of the soul is a good deed, and the blessing that comes after this good deed is a blessing. But it is very difficult to follow. That is why Mawlana J. Rumi said, "A human being conquers the world, but he cannot conquer his mouth." Indeed, abstaining from the eyes, hands, feet, ears, and mouth is true piety. The thinker Jalaliddin Rumi interprets the external and internal properties of the eye as follows: But a person who is blind to the heart is exposed to hidden filth. Any visible dirt can be cleaned with water. Invisible, hidden, and the filth in the heart cannot be cleaned by water. On the contrary, it increases as it increases. As

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

long as filth is felt in the heart, nothing but tears can cleanse them. According to Mawlana Jalaliddin Rumi, it is better to have a spiritual eye than a material one. Man should not be greedy for the blessings of the world, but should turn to the divine truths. The eyes of the hearts of the people of Truth are especially open. Even if their material eyes are asleep, this is not a shortcoming for them. That is, they do not grieve in this world, even if they are deprived of a career, a career, or even a kingdom. In the face of the spiritual blessings that the eye of the heart has bestowed upon them, the material kingdom has no value. In mysticism, this is called "open vision." A person who finds the truth and is free from everything is like the sun that radiates light. The heart finds its spiritual nourishment complete, it needs nothing else. He doesn't even feel the need for them. That is, they do not feel the need to see or hear them. On the other hand, those whose eyes are closed but whose eyes are physically open are not spiritually calm.

The poet does not have to do evil in order to say that a person is bad in the poem "Spectator", but he has to have action and money to say that he is good, he says with a bitter irony. The reason for this ridicule is inefficiency between people, hatred for each other, hostility, ignorance. The cause of ignorance is ignorance, the inability to draw the right conclusions from what is happening around us. Because sometimes the mind can be replaced by experience. What can be said but delusion that a person ruins his life by doing this, knowing that addiction is the downfall of a lifetime ?! In the poem, the poet recalls a scene he witnessed in India. Cows can't cross the cow's path on the Delhi side, but there are rows of hungry, helpless people in front of the tall houses who can't even cover their delicate places. As the thinker Ahmad Yugnaki wrote:

Let people turn to the rich,

He will enslave them.

Turning away from the poor man,

Let them close their eyes.

The poet says with irony that his heart is full of pain, sorrow and sorrow because of people's carelessness, indifference and cruelty:

On your way to the zoo,

Think about who is watching whom. [2; 71] (Tomosha, 2013)

According to the poet, who was helpless in the face of such tragic scenes of life, the greatest loss for a person, the greatest tragedy is the loss of his soul. After all, a person who has lost his heart is deprived of the honor of being a human being (the flower of the universe!), And he is no different from the unconscious, mindless beings.

The main theme of A. Aripov's work is the homeland and the people, but these two concepts are inseparable. Furthermore, this twin is the basis of a concept that requires each other, one of which cannot exist without the other - Man.

These two feelings accompany man from time immemorial,

One is fear, and in the end there is defeat,

One is respect, a relative is a believer. [2; 87] (Tafakkkur, 2012)

You need to be able to choose one of these two senses that guide people. A person who has a sound mind, who relies on common sense, and who believes in its power and strives forward,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

will surely win. Man can find true happiness only when he seeks it in his heart, because what man seeks is in fact in his heart. In other words, man is always always looking for himself. The driving force of life is in the search for that identity. This is not a new topic. Contemplate your own body, remember the king's verse or "Lison un tayr" that says, "Whatever you want, ask yourself." The poet's ideological purpose becomes clear. A. Aripov deviates from the traditional plot, chooses events from the period in which he lived and interprets them beautifully artistically. It is more accurate to call the poet's writings new interpretations of an old theme.

How deceitful you are, human feelings,

Is there a judge to determine your amount ?!

You lead sometimes to perfection and sometimes to ignorance. [2; 86] (Tafakkkur, 2012)

Understanding the evolution of the human heart, curbing human inclinations, requires a great deal of effort. A person who manages this correctly will undoubtedly achieve his goal. The ancient Roman poet (65-8 BC) Quintus Horace Flaccus said, "A power that is insane dies on its own." Very true, bitter life, historical fact. No kingdoms, no dynasties, no power, no p

The poet narrates an incident among the trio, the content of which is as follows: On a rainy day, a poor man began to walk from the ceiling of an apartment to the roof. You have to go up to the roof and take action. The boy thought: how can I get to the roof, when my father is sitting at home?! As a result, everyone in the house was covered. Do not climb on the roof of the house where your father lived, the poet not only used his proverb very wisely, but he was able to completely subdue it to his ideological goal. The skill of the poet is evident in the simple detail, in the interpretation of the event, in the drawing of a totally unexpected conclusion from it. The Creator has given us wisdom, and the opportunity to use it. The sign of God's will in existence is that there is no power equal to contemplation:

When you grow up surrounded by high feelings

It fits the whole world into his consciousness.

Otherwise, it is like an army without a commander.

The savior of all mankind is Tafakkur only.

May your father be respected in the home, may he,

But don't go overboard, baby. [2; 87]

The above trinities are taken from the 7th volume of the poet's selected works. There are fifteen categories under the heading "Colors and Tones": "Colors and Tones", "Harmony", "Fate", "Contemplation", "Nation", "Story", "Mufti", "Dignity", "Faith", "History". "," Goodness "," Truth "," Homeland "," Soul "," Test ". Reminiscent of the content of the poet's work, these inscriptions are written in the form of white poems. Although not a rhyme, it is not difficult to perceive the inner musical tone. There is a whole that connects these three, each independent of its busy structure.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The universe was created on the basis of an unknown order, a rule. There is no space in it, something fills the space. There is also blue air in the waterless vessel, and time lives in the depths of the dark universe, and inanimate spirits travel. The universe is made up of harmony, and every space must have something worthy and unique. A sleeping man does not need a tune, just as a fat man does not need food. Man, on the other hand, seeks to disrupt this harmony with his actions. All problems: crime, war, conflict, hostility stem from it. But:

There are great exceptions in the world, however,

It cannot be built by hand

They call it love, Love. [2; 82] (Harmony, 2012)

Because the essence of the universe is love. The invisible bond that binds the earth and the sky is also just love. Love enlightens a person, motivates him to move forward, strengthens his body and soul. It is no coincidence that Sufi Alloyar says that love is the highest quality of the soul, the garden of enlightenment is the garden of enlightenment. That is why Ali (ra) said: Indeed, a man with an empty heart is very dangerous, for he is insensible, like a ghost, to touch any lowly, lowly, evil. The poet himself says, "The world is such an incomprehensible mystery." The great poet Abul-Qasim Firdausi lamented, "This is the custom of the ancient world: we will swim in the sea of mysteries, but we will never see the shore." The reason is obvious: no matter how intelligent, wise, restless and strong a person may be, he cannot reach the end of the mysteries of this world.

Alqissa said:

He even set foot in heaven.

But pride in the flowing blood,

The desire to live next to labor. [3; 28]

The poet marvels, "The flower of the universe is man forever, O heaven, your creation is so perfect," believes in him, loves him, loves him sincerely, and then laments his imperfections, but does not leave him alone, feels a real sense of compassion. Sometimes he is frightened by his ignorance and delusion, his stomach is full of blood and he says, is forced. As they continue on the path of life, they are disappointed to see the condition and actions of their companions, those before them and behind them:

I recited the takbir to the man,

I sang with rage to be Raso.

I did it later because I was sad,

I added the letter "v" to Raso. [3; 6]

Examining the evolution of the human image in the work of A. Aripov allows us to determine not only the artistic and philosophical views of the poet, but also the cardiogram of the creative changes that took place in his heart.

The fact that the poet's post-independence work has changed in terms of subject matter and ideas is not only related to the period, the socio-political system, but also to the evolutionary influence of his personality as a person. Over time, fiery, fiery, emotional poems began to be replaced by

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the wise teachings of the Eastern pandnoma. Although the poems written during this period are numerous in number, the volume is narrow. Islamic-mystical sources and conclusions drawn from the poet's bitter life experience are reminiscent of Sheikh Saadi's didactic works. But still, A. Aripov's unique style, style of expression and image, his skill are noticeable. Although without legs, the water was also flowing

Take a lesson, at least you look at him [3; 65]

The detail in this passage is water, the poet's skill is when he is able to add new content to that detail.

The Farang philosopher Voltaire says, "Every specimen of creation testifies to the creator. Nothing can stop me from this simple axiom." In fact, if we look at it with simple logic, everything that is created, in the discovery, is sealed in the particle of the inner world of the creator, his way of thinking, his character. Based on this fact, psychoanalysis explores the features of the creative personality under the words of every word, detail, action, sign, gesture, tone in the artistic text or other forms of art.

Creation is the subject of the owner's dress, the inside, the person and the profession, the secret of the heart, the cries of which were not revealed openly in their time. A. Aripov's poetry today deserves to serve as a literary criterion for our literature, because it is worth it, both in terms of its weight and high artistic and uniqueness, international and universal. Summarizing the above, in each of A. Aripov's poems a whole life, human drama, tragedies are expressed in artistic unity. In each of the poems of the poet there is a poetic generalization - oriental wisdom, wisdom, pandnoma, jaydari philosophy. In each poem, the emotional and intellectual world of the lyrical protagonist is fully revealed. In the poems, the destiny of an individual is engulfed in a whole world, and the scenes, emotions, symbols, and metaphorical images are extremely harmonious and impressive. It arouses a new idea in the reader.

As Hazrat Navoi said, "The secret of truth is hidden in every human being." Aripov's poetry can be seen in the mirror. In the poet's writings, "guhari sharif" appears as a mysterious and perfect image of Man, the caliph of Allah on earth.

A. Aripov expressed the bitter life and human reality as follows:

I drank softly - bitter and bitter,

I felt the celestial power of passion.

Mankind does not live in the world, after all

Just to test his will."

At a glance, each verse is complete, independent, with its own layer of meaning and scope, but the poet's artistry is such that he combines the meanings in each verse into a single verse with unseen inspiration and talent. In the eyes of the poet, and in our view, man does not come to this world only to test his will, he enters the path of guidance and realizes himself as he struggles with error. Maybe he will live with a lifelong human longing. This fact reminds us of the poet's orifona philosophies and sharpens our thoughts, directs our thinking to the essence of the universe and man, and so is the magic of the word and the wisdom of the word.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In a word, the charm of A. Aripov's poetry, its relation to eternity, is that it sings the eternal problems of mankind, while its essence is the high connection of Man, Destiny, Time and Divine truths.

There are many people in the world who dream of becoming a poet. There are many who are striving for this noble goal, who are endowed with the talent of the Word of Destiny. But do the people like what they write, which of them does history write on its pages, and who deserves the noble name of a poet in general? - This is another matter. [4; 3]

Many people think that "poetry is writing poetry, embellishing verses with word games, knowing beautiful words, dedicating one's life to this work, publishing a series of books." It is even impossible to agree with the idea that "such and such a writer would have gone down in history if he had written this one line without writing anything else." Poetry is a society in which a person lives happily, having a clear life program saturated with the longing of a perfect human being worthy of being a citizen of that society; to consistently reflect the ideas of this program in your writings without deviations or retreats; it is to fight for the victory of these ideas in life, to sacrifice one's life when necessary. He forced Alisher to return from his lifelong dream of pilgrimage, forced Mirza Babur to spend the night in the snow with his soldiers, deprived Count Tolstoy of his beloved and devoted Sophia Andreevna, and imprisoned Fitratu Cholpon, the heir to a fortune, in solitary confinement. "There are many poems, but what about the poet?" this is the answer to his suspicion.

History has not preserved the name of a poet who did not dare to fight for human happiness, who was in harmony with progress and humanism. The poet, whose homeland was in disarray, whose pride was trampled on, whose dignity was trampled on, and whose future was hopeless, never felt happy. The poet is a ruthless rebel against injustice, violence, adultery, oppression, unbelief, arrogant inspections and experiments on man.

Fate and history chose Abdulla Aripov as one of the true poets of the Turks in the twentieth century. With sincere love and respect to both the nation to which he belongs and to all the peoples of the world; with the rebellion, struggle, and pain peculiar to those who carry the burden of history in their hands; He is a true poet with sixty years of toil in the field of the Word, able to feel and express the magic and charms of the Word with a divine feeling.

REFERENCES:

- 1. Oripov A. Selected works. Literature and time, Volume 6, T., Sharq NMIU, 2006. 100p.
- 2. Oripov A. Selected works. Charming poetry, Volume 7, T., Sharq NMIU, 2013. 171p.
- 3. Oripov A. NMIU named after G. Gulom, Volume 8, 2016, 28p.
- **4.** G'ainev I, Afoqova N. Philosophy of the free spirit. T .: Fan, 2006. 152p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

METAPHORICAL IMAGE AND ITS SPECIFIC NATURE

Berdieva Zebo Uralovna*

*Independent Researcher of the department, TerDU Uzbek Literary Studies, UZBEKISTAN Email id: berdieva@gmail.com

DOI: 10.5958/2249-7137.2021.02719.1

ABSTRACT

This article discusses the aspects of metaphorical imagery and its role in the artistic interpretation of the world, the metaphorical image and its specific nature. and subjective foundations have been explored. On the basis of metaphorization, the artistic scope of the concepts of real reality, nature, society, personality expands. The creator perceives the world through an artistic image, and creativity is a concrete form of being (man, event, nature, etc.) Whoever is full of natural thoughts, images, and has rich experience, knows the world and people, so he does not need to work on the word, because the word "speaks" and their mysteries, life, development and services in language.

KEYWORDS: Artistic Image, Poetic Movement, Poet, Experience, Lyrical Hero, Personality, Philosophical Concept, Poetic Thought, Traditional And Individual Metaphor, Social Environment.

INTRODUCTION

An artistic image is a reflection of the being and all the creatures contained in it, created through the creative eye and processed on the basis of literary-aesthetic, socio-philosophical, spiritual-moral views. Any artistic image has some aspects that are related to the being and familiar to the reader or reminding the reader of something, the reader recognizes, knows, hears, imagines, but at the same time the reader is not exactly the same as the above art related, but similar to it. An artistic image is not life itself, like a work of art itself, but a reflection of the "I" that appears in the mind of the author.

In the artistic image formed as a result of the development of thinking, imagination, means of imagination of a certain concept, the creative "I" manifests itself, and its concept is determined accordingly. The creator perceives the world through an artistic image, and creativity is a concrete form of being (man, event, nature, etc.) that passes through the prism of the soul through the artistic senses and is directly related to the creative personality. In the creation of artistic images, the unique way of thinking and the spiritual needs of the creator are crucial. "An expressive artistic image that feels concrete has a number of specific features. First, the artistic image emerges as an individualized generalization. Everything in reality has its own peculiarities with the general features of the species" [1; 30]

No poet's poem can be free of metaphor, for metaphor is the poet's tool of thought. Metaphor responds to the innate need of the human mind, and it is better to use it consciously than to use it naturally. Whoever is full of natural thoughts, images, and has rich experience, knows the world and people, so he does not need to work on the word, because the word "speaks" and their

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

mysteries, life, development and services in language. All this is good not only for creative writers, but only for the hated linguist, who says that there is no need to think deeply about it - whoever thinks so will inevitably put himself in a precarious position, and that his books are no different from old rags.

Yu.S.Stepanova states that "Metaphor is the main feature of language. By means of metaphor the speaker is connected to the body and isolates other worlds from the close circle corresponding to the moment of speech". G. Ernazarova, a literary critic who has studied the works of leading figures of our poetry, such as Rauf Parfi, ShavkatRahmon, MatnazarAbdulhakim, Usmon Azim, YuldashEshbek, Halima Ahmedova, notes that the metaphorical form of meditation is leading in their work. , real life realities, real historical past, and connections with individuals. Metaphor demonstrates its mediative nature by ensuring that the creator has a constant relationship with reality. The essence of the metaphor is formed by two things that are not similar to each other and unrelated, a new meaning that emerges as a result of the synthesis of the event. In other words, a metaphor is a mixture of the external world and the creative "I". It can be said that while the poetic form of reality is reflected in the metaphor, it reflects the most delicate aspects of the poet's personality, his poetic perception of the world.

Perhaps metaphors should be sought not only from poetic sources, but also from scientific sources, as it is one of the earliest, most ancient methods of scientific research, consisting of interactions, closeness, similarities, and comparisons between different phenomena. In the process of discovering a particular thing, he would look at another that was similar to it at one glance, thus allowing the process of knowing to deepen and expand. But the most important thing for metaphors, metonymy, and periphrasis is the moment of unexpected event, coincidence, and wonder that underlies the very essence of creation. In this function, poetic figures resemble riddles, riddles, pitchings, allusions, and parables that have accompanied man for many millennia.

Literary critic G. Ernazarova points to the following three main factors that create a metaphor: 1. Real reality; 2. The system of religious, mythological, imaginary imaginations; 3. Poet, subject of the author. The gradual development of our national poetry shows that the acceleration and intensification of the process of metaphorization is directly influenced by the socio-political environment, the prohibition of freedom of thought, lawlessness, the sharp contradiction between the individual and society. The phenomenon of metaphorization in the works of Fitrat, Cholpon, Qadiri in the thirties of the XX century was further developed in the works of Rauf Parfi, ShavkatRahmon, AskarMahkam. In the poetry of Fakhriyor, Aziz Said, UlugbekHamdam, NodiraAfokova, Halima Ahmedova, and GuzalBegim, they began to be expressed in unique and dissimilar forms. Metaphorization is one of the factors that determine the stylistic uniqueness of each artist.

On the basis of metaphorization, the artistic scope of the concepts of real reality, nature, society, personality expands. The work of poetry achieves a perfect reflection of the boundless world of art in the same way. NAShirinova explains this phenomenon as follows: the sign does not exist separately, but is integrated into the object, as well as signs of size, height, height, width, coexistence with the object as two sides of the same sheet. Language, on the other hand, expresses them individually in words in accordance with the needs of their owners, keeps them in the same word, and in this case also assigns them the means of differentiation.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Another linguist, E.M. Galkina-Fedoruk, who studied metaphors in Russian linguistics, describes the methods of meaning transfer as five types: metaphor; metonymy; synecdox; the transition of a famous horse to a stable; duty M.Mirtojiev is based on the semantic dependence of the figurative meaning on the main meaning, from which it grew. Uzbek linguists, whose names and works are mentioned above, consider these examples as metonymy. From what has been said, it is clear that in Uzbek linguistics we do not find works on a special monographic plan on the theoretical foundations of semantic transfer methods. In recent years, the researcher of Uzbek linguistics G. Kabuljanova studied metaphor as an object of independent research, based on the differences in language and speech. The researcher Z. Tohirov also studied the peculiar pragmatic features of the formation of speech metaphorical meaning [2; 73-77]. "While metaphor occurs in the Uzbek language during speech, this phenomenon is characterized by the formation of a pragmatic sema in the semantics. For example, the lexemes of lion, eagle, falcon, ohu, and wolf form metaphors, while the lexemes lal, charos, almonds, and flowers form sememes denoting human limbs. when it comes to, metaphor takes center stage among them. All these most ancient landscapes of human activity are recorded in the form of metaphors in the language, through which the already forgotten and extinct landscapes, social relations, tools of labor, customs, heresies are reappeared. Linguistics helps us to enjoy these metaphors as much as we enjoy solving puzzles and riddles, but the language of everyday use is already crushing, crushing, crushing, turning colorless, lightless, shallow and thin phrases that were once colorful, bright and beautiful. sent Istiora has become such an integral part of language that if it were suddenly taken away, people would not be able to understand each other. The table leg, the mouth of the jar (throat), the head sugar, the band, the handle, the handle, the stalk (whatever), the place where the river flows, the mouth of the bottle, the foot of the mountain - a similar metaphor, almost no one feels the metaphorical imagery, the human body anthropomorphizes attached his parts to unjustified objects.

- G. Kabuljanova also distinguishes 3 signs of metaphor formation, one of which is on a linguistic basis:
- "1. A general similarity between things in an objective or subjective being.
- 2. Proportional semantics, which are the opposite of this similarity.
- 3. The absence of the name of one of the things for the same speech condition "[3; 33]. Linguists agree on the division of metaphors into poetic and linguistic types. Linguists who approach metaphor on the basis of language and speech dichotomy interpret poetic metaphor as a speech phenomenon and emphasize the importance of linguistic metaphor for linguistics. In Uzbek linguistics, as a result of the attitude to language as a linguistic image of being and the formation of linguocultural approaches, a new approach to the transfer of meaning is developing. For example, in a study by S. Khojiev we see evidence of this: "The transfer of meaning is a phenomenon with a specific frame structure in the text, the activation of specific semantic stylistic, cognitive and national culturological components at the language level. Meaning transfer is a means of animating, articulating, and emotionally-expressively enhancing speech. The phenomenon of semantic migration is a linguistic cognitive tool based on the emergence of new meanings of words "[3; 7]. In Uzbek linguistics, there are some ideas about the internal mechanism of metaphor. Linguist M. Mirtojiev, who has recently conducted serious research in the field of semiotics, distinguishes between simple metaphors, personification and synesthesia according to the state of identification of objects that form a metaphorical meaning in Uzbek.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Distinguishing the types of metaphor according to whether it is dyed / not dyed, whether linguistic / non-dyed, is also common in the views of scholars. G. Kabuljanova classifies the metaphor in the Uzbek language according to its semantic features, color, permanent / non-permanent, according to which level it belongs. G.Nasrullaeva also supports the separation of two types of semantic transfer methods, consisting of metonymy and metaphor.

O. Karimov, a scholar who has studied the issue of metaphor, writes: This is because the principle of metaphor applies to all levels of a poetic work, from language to compositional construction. "[4, 187] The creator naturally uses metaphorical imagery to embody different experiences in a variety of ways and means. This is clearly reflected in N. Afokova's poem "Ernest Hemingway".

The ground revolves around the axis,

Dawn is breaking, the sun is setting.

Boisi ne? I don't know. But

A huge concern in my heart.

... O man! O free hunter,

Iron regime painters, oh!

O spoiler! Language player!

Will you even play my life?

Future, don't sin,

Don't unknowingly hang a label on me;

I will not commit suicide, yes,

Revenge is a restful being.

The metaphors highlighted in revealing the nature of the straightforward and rebellious Hemingway, a world-renowned writer who, like his father, committed suicide by repeating his fate, and living in harmony with society, play a key role. The protagonist's love of life was not extinguished, but his trust in people was broken. The betrayal, the hypocrisy, the laziness, the flattery around him exhausted him. That's why he said, "I've drawn real life, I've cursed guns, I've called war. Vahimami is a reward for me, Vasvasami is a gift to me. I loved love, Who is stoning me to death? Don't turn around in my head, fear, Don't tread my way, worry, "he said. Hatred and resentment take the place of love of life where dictatorial regimes and restless beings are a sign of society and ideology, where human dignity is trampled underfoot.

In this busy, market world

I don't know how I found you.

It has been a white evening ever since

I'll play the moonlight.

The likening of the world to a market is common in fiction. Not only in poetry, but also in prose, one can observe that the world is expressed through the market. For example, in the works of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

KhurshidDostmuhammad "Bazar", UlugbekHamdam "Yusuf and Zulayho" the essence of the fan world is revealed through the figurative image of the market.

In N. Afokova's poem "Moon's chiltori" is an individual metaphor, which is only a unique invention of the author. The resemblance of the moonlight to the chiltar strings clarifies the experience of the lyrical hero, and a mysterious event comes to life in the reader's imagination.

I used to walk in the autumn gardens,

Each leaf is a runaway from nothing.

You said, in your robbery

Nastarins lie open.

There is a logical connection between the leaf - the thief, the opened nastarin, the harbinger of absence. They are very convincing depictions of the fragments of human life, the heavy thoughts and frustrations of a person who thinks about the end of the priceless blessing called life.

Tirnar was clearing my throat from time to time

The broken sword of my voice.

You said that autumn is a party,

The leaves are pea, the gardens are instrumental.

The drama intensified through the "broken sword of the voice", "feast-autumn", "leaves-nails", "garden-instrument", and the symphony of life reached its peak. It shows a man staring silently with a heart full of cries.

You said, from myths

You look like a fallen dream.

The trail of flies on your wings,

You look like a legendary bird.

Strikes are the blows of life, the oppression, injustice, injustice inflicted on people. The protagonist had to go through such a life path, but he did not lose his inner freedom.

Suddenly staring at the face of the moon

You said, don't worry, don't burn ...

The stars are burning above us

It was a huge ship.

The moon and the ship. Both passengers rushing towards the destination are advancing towards their destination. The moon begins at dawn after dark. The ship is taking the hero to his dreams. The moon, the ship, is the symbol of life. Moon-shining stars are dreams in the human heart, just like a star example is beautiful, magical, but untouchable.

Then you left ... Since then

Awakening of the soul

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A moment of meeting like clouds

The moment when the seven heavens shone.

Did I find you by chance,

It happened in a crowd.

How caught your eye

My ink-stained name?

Cyclone and anticyclone clouds must collide for lightning to strike the sky. As a result, the earth glows blue and the thunder shakes. In this verse, the poet translates a vital natural phenomenon into human life. Kochim embodies the poem in front of the reader like a painting. The author's artistic skill was manifested in artistic synthesis.

The philosophical observation inherent in mediative lyricism, the associative return to the reality of the past, the poetic perception of the image of ancestors, the tones of travel within geographical regions and within itself, require self-metaphorical perception and interpretation. [4; 167]

Wrinkles sometimes on the chest

Wounded naked truth -

Longing, waiting, longing

Shall we go to the house?

The hero's chest is scarred by the naked truth. Because she longs for her lover, bragi blood in separation. It is this situation that has become a beautiful poetic thought through artistic migration. The use of metaphorical images in N. Afokova's poetry demonstrates the poet's artistic purpose, expressiveness and poetic skill. Of course, it is important to study the nature of metaphorical images in the poet's work in a broad sense, to study them.

Every creator appeals to metaphor in the creative process, that is, to re-create the world in sight, in feeling it. In the process of creating a poetic image of the poet, it is necessary to study the relationship between being and thinking, scene and emotion. Because every poet "develops an unexpected inner resemblance to us, as a result of which what we know is described in a completely new way before our eyes, revealing its invisible aspects to us." [5; 371]

AskarMahkam, a spiritual singer, writes in his poem "Autumn Night Thoughts":

Like the Akhalteke vultures splashing sunny days, dagger-like girls in the throat how many dead and alive nights.

The legendary tulpar is a sunny day, the dagger is a girl's throat, the resurrection of the night is an expression we are not used to. AskarMahkam's poetry is full of unconventional metaphors from beginning to end, in which man and nature are inseparable, as if they are living in one body, like two eyes together. In the poet's poems, such expressions are seen more as "a form of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

imagery" than as a metaphorical image. "... we must recognize that the renewal of literature is the emergence of a new attitude to the word, the renewal of the metaphor, the product of artistic thinking, which is the product of a new attitude," wrote the writer NazarEshanqul. the art of being able to give a metaphor, a new landscape, a new look, a new edge in rhythm - is poetry for me. A poem without a symbol is like a naked man. ... the important thing is that if I can find a new symbol, a new metaphor for reality and put it into rhythm, I understand poetry: poetry is wisdom in symbolic language, analysis of human nature, feelings, experiences and self in symbolic language, human psyche, imagination to draw landscapes. "There are certain reasons for the work of "creating colorful metaphorical images" in the works of artists whose works are analyzed. Each artist's own world and psyche is an individual phenomenon.

The poet's writings reflect his psyche and, of course, have a great influence on the sociohistorical period. The poet's creative concept is related to the environment, the attitude to the period, and the way of artistic perception of the world, which he conducts only in his own poetic observation.

It is known that at the beginning of the last century, Cholpon introduced the direction of symbolism to poetry and brought it to the heights that still hold its position to this day. As his follower, Rauf Parfi further developed and enriched the mazkun creative tradition. The poet's poems "Abdullah Qadiri's Ghazal", "Usman Nasir's Muhammas", "Abdulhamid / Cholpon'sMuhammas", "AbduraufFitrat", "Usmon Nasir", "Mother tongue", "Mother Turkestan", "Memory of Turkistan", "Lutfikhanim: Awakening In a number of his poems, such as The style of these artists, who are close to each other with ideological closeness, tolerance and cooperation, is not the same. They are like flowers in a bouquet of literature that breathe the same air.

In the poetry of Rauf Parfi, AskarMahkam, NodiraAfokova, Halima Ahmedova, the transfer of nature and all things in it to man and his life, actions, thoughts, feelings, the psyche, character of the inner world of individuals, his spiritual world is expressed through metaphors. the events that took place are described in the form of a rebus, a puzzle, as noted above.

REFERENCES:

- **1.** Quronov D, Mamajonov Z, Sheralieva M. Dictionary of Literary Studies. T.: Akademnashr, 2013. 44p.
- 2. Tohirov Z. Pragmatics of metaphor lexemes. Uzbek language and literature. 1983. pp.73-77.
- 3. Karimov O. Metaphor is the basis of poetic thinking. World Literature, 2014;(8):187p.
- 4. Ernazarova G. The meditative nature of modern Uzbek poetry. T.: Qamar media, 2020. 167p.
- **5.** Quronov D. Fundamentals of Literary Theory. Tashkent, 2018. 371p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW ON DEEP LEARNING FOR VISUAL UNDERSTANDING

Ramesh Chandra Tripathi*

*Professor,

Department of Computer Science, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: tripathi.computers@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02657.4

ABSTRACT

Deep learning algorithms are a kind of machine learning that aims to find many layers of distributed representations. To address conventional artificial intelligence issues, a number of deep learning methods have recently been suggested. This article attempts to summarize the state-of-the-art in computer vision deep learning algorithms by emphasizing contributions and difficulties from over 210 recent research publications. It begins by providing an overview of the different classifiers and their recent developments, followed by a brief description of their applications in a variety of vision applications, including image classification, object detection, image retrieval, semantic segmentation, and human pose estimation. Finally, the article outlines future trends and difficulties in neural network based design and training.

KEYWORDS: Deep Learning, Image, Human Pose Estimation, Artificial Intelligence, Training.

1. INTRODUCTION

Deep learning is a branch of machine learning that uses hierarchical structures to learn high-level abstractions from data. It is a new technique that has seen widespread use in classic AI areas including semantic parsing, learning techniques, natural language, computer vision, and many more. The flourishing of transfer learning today may be attributed to three major factors: substantially improved chip processing capacities (e.g. GPU units), much reduced computer hardware costs, and significant improvements in machine learning techniques. In recent years, many deep learning methods have been widely studied and debated. Schmidhuber et al. used a historical timeline approach to highlight key ideas and technical achievements, while Bengio looked at the difficulties of deep learning research and suggested a few forward-looking research paths. Deep networks have been proven to be effective for computer vision applications because they can extract relevant information while discriminating simultaneously[1].

Deep learning techniques have been extensively used by various researchers in recent ImageNet Large Scale Visual Recognition Challenge (ILSVRC) contests and have obtained top efficiency ratings. This survey is aimed for standard neural computing, computer vision, and media researchers who are interested in the current status of machine learning in machine learning. It provides an overview of different deep learning algorithms and their applications, with a focus

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

on those that may be used in the field of computer vision. The following is how the remainder of the article is organized: Convolutional Neural Networks, Restricted Boltzmann Machines, Autoencoder. In these categories, several well-known models, as well as their advancements, are mentioned. In this part, we also discuss the contributions and limits of various models. we discuss the accomplishments of deep learning methods in picture classification, object recognition, image retrieval, classification techniques, and human posture estimation in different computer vision applications. In the pipeline of their frequently used datasets, the outcomes of these applications are shown and contrasted[2]. Despite the success of deep learning techniques, we still confront a number of difficulties when building and training deep networks. In this part, we'll go over some of the main difficulties that deep learning faces, as well as some of the underlying patterns that may emerge in the future[3].

2. DISCUSSION

1. Convolutional Neural Networks (CNNs):

Convolutional Neural Networks (CNN) is one of the most well-known deep learning methods in which several layers are robustly taught. It has been shown to be extremely successful and is the most widely utilized in a variety of computer vision applications. This depicts the general CNN architecture's pipeline. Convolutional layers, pooling layers, and fully connected layers are the three major neural layers that make up a CNN. Distinct layers have different functions. A forward stage and a backward stage are both used to train the network. A forward stage's primary objective is to represent the input picture in each layer using the current parameters (weights and bias). The loss cost is then calculated using the prediction output and the ground truth labels. Second, the backward stage uses chain rules to calculate the gradients of each parameter depending on the loss cost. The gradients are used to update all of the parameters, which are then readied for the next forward calculation. The network learning may be halted after a sufficient number of forward and backward rounds. Following that, we'll go through the roles of each layer, as well as recent advancements, before summarizing the most popular network training methods. Finally, we discuss a few well-known CNN models, as well as derivative models, and the current trend of utilizing these models in real-world applications.[4]

1.1 Types of Layers:

In general, a CNN is a hierarchical neural network in which Convolutional and pooling layers alternate, followed by fully connected layers. The function of the three layers will be presented in this section, as well as a brief review of recent advances in research on those layers.

• Layers of convolution:

A CNN uses various kernels to convolve the entire image as well as the intermediate feature maps in the convolutional layers, resulting in various feature maps. The convolution operation has three main advantages: In the same feature map, the weight sharing mechanism reduces the number of parameters. Local connection learns correlations between pixels in close proximity. Invariance with respect to the object's position. Some well-known research publications utilize the convolution operation as a substitute for fully linked layers to speed up the learning process because of the advantages it provides. The Network in Network (NIN) method is a novel way of dealing with convolutional layers, in which the main idea is to replace linear filters with nonlinear neural networks by replacing the conventional convolutional layer with a small

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

multilayer perceptron consisting of multiple fully connected layers with nonlinear activation functions. In terms of picture categorization, this approach performs well[5].

• *Layers that pool:*

A pooling layer is often employed after a convolutional layer to decrease the size of feature maps and network parameters. Pooling layers, like convolutional layers, are translation invariant because their calculations take into consideration adjacent pixels. The most frequently utilized methods are average pooling and maximum pooling. The output maps for 8 8 feature maps are reduced to 4 4 dimensions using a max pooling operator with size 2 2 and stride. Boureau et al. presented a thorough theoretical study of the performance of max pooling and average pooling. Scherer et al. compared the two pooling procedures and discovered that max-pooling may result in quicker convergence, better invariant feature selection, and improved generalization. Various rapid GPU implementations of CNN variations have been published in recent years, the majority of which use the max-pooling approach. Among the three layers, the pooling layer has received the most attention. There are three well-known methods to pooling layers, each with its own set of goals[6].

2. A plan for training:

Deep learning has the benefit of being able to construct deep architectures to learn more abstract knowledge when compared to shallow learning. The high number of factors added, however, may lead to another issue: over fitting. Several regularization techniques, like the stochastic pooling method described above, have recently developed in defense against over fitting. In this part, we'll go over a few more regularization methods that may affect training results[7].

3. CNN's structure:

Some well-known CNN models have developed as a result of recent advances in CNN methods in the computer vision area. In this part, we'll go through the most frequently used CNN models before summarizing their features and applications. Alex Net, a major CNN architecture with five convolutional layers and three fully linked layers, is a significant CNN architecture. The network would repeatedly convolve and pool the activations after inputting one fixed-size (224 224) picture, then transmit the results onto the fully-connected layers. The network was built using Image Net and used a variety of regularization methods including data augmentation, dropout, and so on. Alex Net took first place in the ILSVRC2012 competition, igniting a wave of interest in deep convolutional neural network designs. Nonetheless, this model has two significant flaws: 1) it requires a fixed picture resolution; there is no obvious explanation for why it works so effectively. In 2013, Zeiler et al. proposed a new visualization method for gaining insight into the intermediate feature's inner workings. They were able to identify architectures that outperformed Alex Net on the Image Net classification benchmark thanks to these visualizations, and the resultant model, Clarifai, won first place in the ILSVRC2013 competition.

In response to the need of a fixed resolution, developed a novel pooling method, spatial pyramid pooling, to overcome the picture size constraint. Despite their differences in construction, the SPP-net may improve the accuracy of a range of published CNN architectures. There are other methods to exploring deeper networks, in addition to the widely used CNN structure (five convolutional layers + three fully linked layers). VGG enhanced the network's depth by adding

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

additional convolutional layers and using extremely tiny convolutional filters in all levels, in contrast to Alex Net. Similarly, Szegedy et al. presented GoogLe Net, a model with a somewhat deep structure (22 layers) that placed first in the ILSVRC2014 competition. Despite the fact that many models have achieved top-tier classification results, CNN-related models and applications are not restricted to image classification. New frameworks have been developed based on these models to handle additional difficult problems such as object recognition, semantic segmentation, and so on. There are two well-known derivative frameworks: RCNN (Regions with CNN features) and FCN (completely convolutional network), which are primarily intended for object recognition and semantic segmentation[8].

4. Inference of activation:

We must infer the feature activations from a collection of weights. The Iterative Shrinkage-Thresholding Method (ISTA) is a common sparse coding inference algorithm that uses a gradient step to optimise the reconstruction term, followed by a sparsity term with a closed form shrinkage operation. Despite its simplicity and effectiveness, the algorithm has a serious flaw: it converges slowly. The issue is partially addressed by the Fast Iterative Shrinkage-Thresholding Algorithm (FISTA), which maintains the computational simplicity of ISTA but converges faster thanks to the addition of a "momentum" component in the dynamics (the convergence complexity increased from O1=t to O1=t2). Both the ISTA and FISTA inferences require iterative optimization (i.e. LASSO), which is computationally intensive. Kavukcuoglu et al., on the other hand, used a feed-forward network to mimic the sparse codes, significantly speeding up the inference process. Furthermore, marginal regression was used to replace the LASSO optimization step in, successfully scaling up the sparse coding system to huge dictionaries[4].

5. Developments:

We will discuss several well-known algorithms related to sparse coding, in particular those that are employed in computer vision problems, in this subsection, as we have quickly indicated how to create the sparse representation given the objective function. Sparse coding SPM (ScSPM), which is an extension of the Spatial Pyramid Matching (SPM) technique, is one example of a sparse coding methodology. Unlike the SPM, which employs vector quantization (VQ) to describe images, the ScSPM uses sparse coding (SC) and multi-scale spatial max pooling. SC's codebook has an overabundance of options, and each feature can only activate a tiny number of them. SC has a significantly smaller reconstruction error than VQ owing to the less stringent restriction[9].

There are a total of nine properties. In further detail, 'generalization' refers to whether the method has been shown to work in a variety of media (e.g., text, pictures, audio) and applications, such as voice recognition and visual recognition. The capacity to train a deep model without supervision annotation is referred to as "unsupervised learning." The capacity to automatically learn features based on a data collection is known as "feature learning." The terms 'real-time training' and 'real-time prediction' relate to the speed with which learning and insinuating processes are completed. The terms 'Biological understanding' and 'Theoretical justification' indicate if the method has substantial biological or theoretical basis. If the method has been proven to be resistant to changes such as rotation, scaling, and translations, it is said to be invariant. The capacity to learn a deep model with a limited number of instances is referred to as a "small training set." It's essential to keep in mind that the table only depicts current results, not possible futures or specialized niche situations.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

6. Theoretical understandings:

Although deep learning techniques have shown promise in solving computer vision problems, the underlying theory is not well known, and there is no clear understanding of certain architectures will perform better than others.

It's difficult to know which architecture, how so many layers, or how many nodes in each layer are appropriate for a given job, and it's also tough to select reasonable parameters like the learning rate, the secularizer's intensity, and so on. Historically, architectural design has been decided on an ad hoc basis.

A theoretical approach for finding the optimum number of feature maps was presented by Chu et al. This theoretical approach, however, only worked for very tiny receptive fields. Created a modeling technique that revealed the role of intermediate feature layers to better comprehend the behavior of well-known CNN designs. It opened up new opportunities for improved architectural designs by exposing characteristics in interpretable patterns. RCNN tried to find the CNN learning process in addition to visualizing the features. During the training phase, the performance was evaluated layer by layer, and it was discovered that the convolutional can learn more generic features and transmit the majority of the CNN representational capacity, while the top fully-connected levels are domain-specific. Agrawal et al. examined the impact of several frequently used techniques on CNN performance, such as fine-tuning and pre-training, in addition to evaluating CNN features, and offered evidence-based intuitions for applying CNN models to computer vision issues. Despite advances in deep cognitive approach, there is still a lot of space for improvement in terms of developing and optimizing CNN structures to improve desired characteristics like invariance and class discrimination[10].

3. CONCLUSION

This article provides a thorough overview of deep learning and proposes a classification system for analyzing the current material. Convolutional Neural Networks, Restricted Boltzmann Machines, Autoencoder, and Sparse Coding are the four categories it classifies deep supervised learning under based on the fundamental model they are built from. The four classes' current state-of-the-art methods are thoroughly explored and evaluated. The article focuses on advances in CNN-based methods for computer vision tasks since they are the most widely used and appropriate for pictures. The accuracy of certain CNN-based algorithms has already surpassed that of human raters, according to several recent publications. Despite the encouraging outcomes to far, there is still a lot of opportunity for improvement. The underlying theoretical basis, for example, does not yet explain under what circumstances they would perform well or outperform other methods, or how to identify the optimum structure for a given job. This article discusses these issues and highlights current trends in deep neural network design and training, as well as potential future avenues that might be pursued.

REFERENCES

- **1.** Y. Guo, Y. Liu, A. Oerlemans, S. Lao, S. Wu, and M. S. Lew, "Deep learning for visual understanding: A review," Neurocomputing, 2016, doi: 10.1016/j.neucom.2015.09.116.
- **2.** H. Wang and D.-Y. Yeung, "Towards Bayesian Deep Learning: A Survey," arXiv Prepr., 2016.
- 3. W. Hao and D. Y. Yeung, "Towards Bayesian Deep Learning: A Framework and Some

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Existing Methods," IEEE Trans. Knowl. Data Eng., 2016, doi: 10.1109/TKDE.2016.2606428.

- **4.** R. Memisevic, "Learning to relate images," IEEE Trans. Pattern Anal. Mach. Intell., 2013, doi: 10.1109/TPAMI.2013.53.
- **5.** C. W. Tyler and L. T. Likova, "The role of the visual arts in the enhancing the learning process," Frontiers in Human Neuroscience. 2012, doi: 10.3389/fnhum.2012.00008.
- **6.** T. Molnar, "Spectre of the Past, Vision of the Future Ritual, Reflexivity and the Hope for Renewal in Yann Arthus-Bertrand's Climate Change Communication Film 'Home,'" M/C J., 2012, doi: 10.5204/mcj.496.
- **7.** Y. Zhang, "A foundation for the design and analysis of robotic systems and behaviors," 1994.
- **8.** J. A. Laub, "Assessing the servant organization; Development of the Organizational Leadership Assessment (OLA) model. Dissertation Abstracts International," Procedia Soc. Behav. Sci., 1999.
- **9.** M. Zahedi, "De-/reconstruction of geometrical forms," Int. J. Des. Objects, 2017, doi: 10.18848/2325-1379/cgp/v11i04/1-10.
- **10.** R. W. Zhao, Z. Wu, J. Li, and Y. G. Jiang, "Learning semantic feature map for visual content recognition," in MM 2017 Proceedings of the 2017 ACM Multimedia Conference, 2017, doi: 10.1145/3123266.3123379.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW STUDY ON BENEFITS OF TURMERIC

Dr. Bajrang Lal*

*Professor,

Department of General Medicine, Faculty of Medicine, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: dr.bajranglalbanthia52@gmail.com

DOI: 10.5958/2249-7137.2021.02653.7

ABSTRACT

Turmeric is a moderate digestive, as well as an aromatic, stimulating, and carminative spice. Turmeric is one of nature's most potent anti-inflammatories. Curcumin is the active component in turmeric. Turmeric has been used in India for about 2500 years, and it was probably originally employed as a color. Over the years, the therapeutic qualities of this spice have gradually emerged. Curcumin has been proven to kill Staphylococcus aureus bacteria (pusproducing infections). Anemia, cancer, diabetes, digestion, food poisoning, gallstones, indigestion, IBS, parasites, poor circulation, staph infections, and wounds are just a few of the conditions that may affect your health. Turmeric reduces Kapha and is thus used to clear mucus from the throat, watery discharges such as leucorrhea, and any pus in the eyes, ears, or wounds, among other things. Turmeric has been utilized in Unani medicine to treat diseases including liver blockage and jaundice, as well as ulcers and inflammation. A preparation for dysentery has used roasted turmeric as a component. Turmeric has also been utilized in the manufacture of tooth powder and paste. The rhizome is usually the most frequently utilized component of the plant. It comes in a variety of forms and is said to help with asthma and coughing. In Ayurvedic medicine, hot water extracts of the dried rhizome are used orally to alleviate inflammation. Turmeric is also known as a 'rasayana' plant, which is an Ayurvedic branch of medicine. Turmeric is utilized to slow down the aging process.

KEYWORDS: Ayurveda, Curcumin, Rasayan, Traditional Medicine, Turmeric.

1. INTRODUCTION

Turmeric is a South East Asian spice that has been used as a color and condiment since antiquity. It is mainly grown in Bengal, China, Taiwan, Sri Lanka, and Java. Peru. Australia and the West Indies are two of the world's most populous countries. Because it is natural, un synthesized, and inexpensive, it is still utilized in Hindu religious ceremonies and as a dye for sacred garments. Turmeric is one of the most affordable spices. Although it is used in the same way as saffron as a color, the culinary applications of the two spices should not be confused, and saffron should never be substituted in food preparations. Its usage may be traced back almost 4000 years to India's Vedic civilization, when it was utilized as a culinary spice and had religious importance. The term comes from the Latin terra merita, which refers to the color of powdered turmeric, which is similar to that of a mineral pigment. Turmeric (Curcuma longa) has been used to cure a range of illnesses for over 4,000 years. Turmeric has been shown to help treat a variety of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

diseases in many research trials. When hearing news stories regarding turmeric's therapeutic qualities, it's essential to keep a few things in mind[1]–[3].

For starters, many research have been conducted in test tubes and on animals, and the herb may not be as effective in people. Second, several research have utilized a curcumin injectable version (the active substance in turmeric). Finally, several research provide contradictory findings. Turmeric, on the other hand, may have promise in the battle against infections and certain malignancies, as well as in decreasing inflammation and addressing digestive issues. Turmeric is extensively used as a culinary dye and is responsible for the unique taste and golden color of Indian curry. It's also used to color butter and cheese, as well as mustard. Turmeric has long been used as an anti-inflammatory in Ayurvedic and Chinese medicine to treat digestive and liver disorders, skin illnesses, and wounds. Turmeric's curcumin has been proven to increase the gallbladder's production of bile. Curcumin is also an antioxidant, which scavenges harmful particles in the body known as free radicals, which may damage cell membranes, tamper with DNA, and even kill cells. Free radicals may be neutralized by antioxidants, which can help minimize or even prevent some of the harm they cause. Curcumin also prevents platelets from clumping together to create blood clots by decreasing the levels of two inflammatory enzymes in the body (called COX-2 and LOX). It is an effective home treatment for bronchial asthma. It's extremely beneficial to take a teaspoon of turmeric powder with a glass of milk twice or three times a day[4]–[6].

It works best when taken on an empty stomach. Turmeric is a powerful antibacterial for the intestines. Intestinal disorders, particularly persistent diarrhea, benefit greatly from the rhizome, its juice or dry powder, combined with buttermilk or plain water. It also aids in the prevention of flatulence. Taking 20 drops of fresh turmeric juice combined with a sprinkle of salt first thing in the morning every day is said to be an efficient way to get rid of worms. Turmeric is beneficial in the treatment of anemia due to its high iron content. Every day, a teaspoon of fresh turmeric juice combined with honey is consumed to cure this disease. Turmeric may help in measles therapy. The roots of turmeric are sun-dried and crushed into a fine powder. Those suffering from measles may consume this, combined with a few drops of honey and the juice of a few bitter gourd leaves.

Turmeric's antibacterial qualities make it an effective treatment for persistent coughs and throat irritations. In these cases, half a teaspoon of fresh turmeric powder combined in 30 mL warm milk works wonders. To make this, milk is put into a heated ladle containing turmeric and cooked over a low heat. Smoke from burning turmeric may be breathed in the event of a running cold. This promotes nasal discharge and provides faster relief. Turmeric, when combined with caraway seeds or ajwain, may help children and babies recover from colds. In boiling water, a teaspoon of turmeric powder and a quarter teaspoon of ajwain are added, then chilled. In order to cure such situations, 30 ml of this decoction sweetened with honey should be taken three times a day. Turmeric paste combined with lime and salt may be applied to sprains or the edema induced by sprains with good effects[7]–[10].

1.1. Turmeric's health advantages in our everyday lives:

- It's an antiseptic and antibacterial substance that may be used to treat wounds and burns.
- It has been proven to prevent prostate cancer and slow the progression of existing prostate cancer when coupled with cauliflower.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- In mice, it stopped breast cancer from spreading to the lungs.
- It has the potential to prevent melanoma and induce existing melanoma cells to self-destruct.
- Lowers the chances of pediatric leukemia.
- It's a natural liver cleanser.
- By eliminating amyloid plaque accumulation in the brain, it may help to prevent and delay the development of Alzheimer's disease.
- May help to prevent cancer metastases in a variety of cancers.
- It's a powerful natural anti-inflammatory that works much like anti-inflammatory medications but without the negative side effects.
- In mice, it has been found to delay the development of multiple sclerosis. Turmeric medicinal uses

Turmeric's popularity and usage as a medication has grown steadily throughout the years. Turmeric is a flowering plant in the ginger family that is widely used as a culinary colour and one of the primary components in curry powder. Turmeric has long been used in medicine as an anti-inflammatory to treat a variety of ailments such as liver issues, digestive disorders, skin illnesses, and wound healing. Turmeric's main component, curcumin, has been proven to have a variety of medicinal properties.

1.2. Digestive Disorders:

Turmeric is a digestive bitter that also acts as a carminative. It may be included into a variety of meals, including rice and bean dishes, to aid digestion and relieve gas and bloating. It's a cholagogue, which means it stimulates bile production in the liver and promotes bile excretion via the gallbladder. The body's capacity to absorb fats is improved as a result of this. Turmeric is suggested for persistent digestive weakness and/or congestion. Turmeric is available as a single extract or as digestive bitters, which mix turmeric with other bitter and carminative herbs. Turmeric may help individuals who feel fatigued after eating or who have gas and bloating. Turmeric is good for the digestive system and the liver in whatever form it is taken.

1.3. Liver Diseases:

Turmeric is helpful to the liver because of its anti-inflammatory properties. The liver may be strengthened by increasing the amount of herbs and foods consumed in the spring. Turmeric contains liver-protecting chemicals that are comparable to those found in milk thistle and artichoke plants. It is thought to reduce engorged hepatic ducts, making it helpful in the treatment of liver diseases including hepatitis, cirrhosis, and jaundice.

1.4. Cancer:

Recent scientific study has shown that turmeric may treat a variety of illnesses and that it can help slow the progression of certain cancers. Turmeric is a spice that is used to cure skin cancer and pre-cancerous skin problems. Both external and internal applications are useful.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.5. Turmeric as healing properties:

Turmeric is most often used in Ayurveda to cleanse the blood and treat skin problems, in addition to flavoring meals. The skin, heart, liver, and lungs are the major organs that turmeric helps. Turmeric is used to treat epilepsy and blood problems, as well as skin ailments, to cleanse the body and soul, and to aid in the expulsion of Kapha from the lungs. Alterative, analgesic, antibacterial, anti-inflammatory, anti-tumor, anti-allergic, antioxidant, antiseptic, antispasmodic, appetizer, and astringent; cardiovascular, carminative, cholagogue, digestive, diuretic, stimulant, and vulnerary; cardiovascular, carminative, cholagogue, digestive, diuretic, stimulant, and vulnerary; cardiovascular, carminative, cholagogue, digestive, diure Anemia, cancer, diabetes, digestion, food poisoning, gallstones, indigestion, IBS, parasites, poor circulation, staph infections, and wounds are among conditions that Turmeric may help with. Turmeric cleanses the uterus and breast milk in women, while it purifies and develops semen in men, which is paradoxical for a spicy bitter.

Turmeric helps with fevers, diarrhea, urinary difficulties, insanity, poisoning, coughing, and breastfeeding issues. Turmeric is used to treat external ulcers that have failed to respond to other treatment options. Turmeric reduces Kapha and is thus used to clear mucus from the throat, watery discharges such as leucorrhea, and any pus in the eyes, ears, or wounds, among other things.

1.6. Therapeutic uses of turmeric:

Turmeric is a wide, foot-long, lily-like leaves and yellow to yellowish white flowers that is native to India, Bangladesh and China. It has a strong taste and its yellow color is almost impossible to remove once it stained your clothes. The culinary and medicinal value of turmeric is in the root or rhizome; it is dried and ground into the spice.

Turmeric is beneficial in the treatment of Gallbladder problems, hepatitis, indigestion, infections, lack of appetite, scabies, Alzheimer's disease, arthritis, asthma, athlete's foot, boils, bursitis, breast cancer, colon cancer, cataracts, colic, dermatitis, diarrhea, eczema, fibrosis, gallstones, gas, hardening of the arteries, heart disease, high cholesterol, high triglycerides, inflammation, intestinal pain, irritable bowel syndrome, jaundice, lack of menstruation, lymph gland problems, menstrual pain, morning sickness, pain, psoriasis, sprains, ulcers, wounds, yeast infections. It is also being use for the treatment of bruises, for childbirth, eye inflammation, epilepsy, fever, hemorrhage, hemorrhoids, itching, and ringworm.

1.7. Turmeric use as traditional medicine:

Turmeric has been used as a medication in India, China, and Southeast Asia for hundreds of years. Turmeric is utilized as a cleaning herb for the entire body and as a treatment for small wounds, poor digestion, arthritis, jaundice, inflammation, and pain in Ayurvedic medicine, India's 5,000-year-old natural healing tradition. If you were told that eating only one teaspoon of a simple spice each day might help relieve arthritic pain, prevent ulcers, combat heart disease, prevent certain cancers, cure dysentery, and protect your liver, would you believe it? This is, after all, turmeric. Turmeric has been the focus of a lot of study, all of which has shown out to be extremely promising.

Turmeric has anti-inflammatory and antioxidant effects in spades. This would be enough to pique your interest, but turmeric has so much more to offer. It would be simpler to explain what

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

it couldn't accomplish, but that wouldn't be nearly as informative. Turmeric is a part of the ginger family, and it is the rhizome that is utilized, much like ginger. It is cured using a unique method that includes boiling, cleaning, sun drying, and polishing. India, unsurprisingly, is the world's largest producer of turmeric now, accounting for about 94 percent of global production. Turmeric's distinctive (and attractive) yellow hue is due to curcuminoids. Curcumin is one of the curcuminoids that has sparked a lot of interest in the scientific community. Curcumin, like the chemical capsaicin (found in cayenne pepper), decreases a molecule called "substance P," which prevents pain signals from being passed via nerve fibers. Turmeric has been proven to have powerful liver-protective effects. This kind of liver support may be essential in today's world of "pills for every ailment." Every medication we consume must be processed by our livers. This may have a negative impact. Acetaminophen (brand name Tylenol) may be particularly damaging to the liver, especially if used often or in high doses. Alcohol may do the same.

Turmeric may be an excellent way to preserve your liver. Arthritis may be a discomfort, but many of the medicines used to relieve the pain and inflammation caused by the disease can also be a source of suffering. A study of rheumatoid arthritis patients found that taking turmeric (curcumin 1,200 mg) per day reduced joint edema and stiffness while also improving walking capacity. The good news is that curcumin does not have the same level of toxicity as other anti-inflammatory drugs. Turmeric, like many other culinary herbs, aids in the preservation of food. Because it has an antibacterial effect, this is the case. Turmeric has also been proven to combat protozoa in lab experiments. This is a collection of nasties that, among other things, may cause dysentery. Turmeric has long been used to treat this kind of dysentery, and anecdotal evidence suggests that it is effective. Turmeric may also help to prevent heart disease and stroke by reducing blood clots, which are a common cause of these conditions. It has also been proven to decrease cholesterol levels. Please keep in mind that these are early findings, although they are extremely promising. Turmeric is also a powerful anti-inflammatory in the area of heart disease, because inflammation is the enemy of our arteries.

Only smokers were used in a human study. For one month, participants were given 1.5 grams of turmeric (about 1 teaspoon) each day. The results were encouraging. Mutagens are chemicals found in the urine of smokers. These mutagens are agents that may cause gene mutations. The mutagens have the potential to cause cancer. The smokers' urine exhibited a substantial decrease of these mutagens discharged in it at the conclusion of the trial. It's good for your arteries, may help prevent cancer and heart disease, and so many more. It's generally well tolerated as well. It may induce gastrointestinal discomfort if consumed in abnormally high quantities. If this happens, either stop using it or reduce the amount you're taking. Turmeric supplements should not be used by pregnant women. It is also not recommended for individuals who have gallstones or other bile duct obstructions, since it is a bile production stimulator. People who use blood thinners (for example, Coumadin) should see their doctor before using turmeric as a supplement.

2. DISCUSSION

Turmeric and curcumin have a range of biological functions, but they're difficult to research since curcumin is unstable (it quickly breaks down into various compounds) and has poor bioavailability (just a little amount of it enters the circulation) when taken orally. Curcumin products may also vary in composition or include more chemicals than anticipated, making study findings on these items difficult to comprehend and compare. Because the activities of turmeric

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and its components in humans are complicated and poorly understood, no definitive findings regarding whether these compounds have health advantages have been established.

When used orally or applied to the skin in the appropriate quantities, turmeric and traditionally manufactured curcumin preparations are probably safe. Many modified curcumin medications are currently on the market, and efforts have been undertaken to create curcumin compounds with improved bioavailability. Improving bioavailability may result in a rise in both detrimental and beneficial effects.

3. CONCLUSION

Turmeric has long been used in India as a delicious, vibrant spice as well as an Ayurvedic medication to increase appetite, serve as a carminative, and cure gallstones and other biliary issues, as well as dyspepsia. It's used as an ointment, paste, or poultice for scabies, boils, bruises, insect bites, and other skin lesions in India, China, and other Southeast Asian nations, as well as for asthma and colds. Turmeric is also used to treat menstruation difficulties, pain, epilepsy, respiratory tract infections, bleeding, diarrhea, jaundice, and rheumatic diseases when taken orally. It has lately acquired a reputation as an anti-inflammatory agent, a hypercholesterolemia therapy, an antioxidant, and a cancer preventive, as well as a claim to protect cardiovascular and other degenerative aging changes. There are additional claims that it may help with allergies, AIDS, cataracts, and other illnesses. Curcumin is used to prevent oxidation and enhance the color of foods like butter and margarine. Turmeric is a highly prized spicy spice that has long been used to aid digestion and cure dyspepsia and inflammatory conditions. Turmeric and its main component, curcumin, are also marketed as antioxidants, cancer, HIV, and hypercholesterolemia therapies, and heart disease prevention. Controlled clinical studies, on the other hand, are either missing or have not shown sufficiently favorable outcomes for these purposes. For peptic ulcer disease, no therapeutic benefit has been shown, and one trial for dyspepsia was inconclusive. Controlled studies for arthritis and inflammation have likewise failed to show that the treatments are effective. Other applications haven't been tested in a controlled clinical study.

REFERENCES:

- 1. V. Tweed, "10 Benefits of Turmeric and Curcumin," Better Nutr., 2018.
- **2.** "The Cure is in the Roots: Turmeric," J. Nutr. Disord. Ther., 2015, doi: 10.4172/2161-0509.1000163.
- **3.** E. Julianto and A. Yakpermas Banyumas, "Efektifitas Hidrokoloid Kunyit (Curcuma Domestika) Terhadap Proses Penyembuhan Luka Diabetik Stadium Ipada Tikus (Rattus novergitus)," 2015.
- **4.** U. N. Melin and T. U. Soleha, "Manfaat Kunyit Asam (Curcuma Domestica Val) terhadap Dismenore The Benefits of Turmeric Acid (Curcuma Domestica Val) for Dysmenorrhea," Univ. lampung, 2016.
- **5.** P. A. Lone, S. wakeel Ahmed, V. Prasad, and B. Ahmed, "Role of turmeric in management of alveolar osteitis (dry socket): A randomised clinical study," J. Oral Biol. Craniofacial Res., 2018, doi: 10.1016/j.jobcr.2017.08.005.
- 6. K. M. Trubilla, "Exploring the Molecular World of Turmeric: An Alternative in the Treatment

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

of Chronic Inflammation," MOJ Cell Sci. Rep., 2017, doi: 10.15406/mojcsr.2017.04.00077.

- **7.** A. H. Kusmiati Herliningsih, "Gambaran Pengetahuan Siswi Kelas X dan XI Terhadap Swamedikasi Menggunakan Obat Herbal Kunyit Dan Asam Jawa Untuk Keluhan Dismenorea Di SMKN 'X' Di Kabupaten Kuningan," J. FARMAKU (Farmasi Muhammadiyah Kuningan), 2018.
- 8. H. E. Marano, "Tweaking turmeric.," Psychol. Today, 2018.
- **9.** L. Labban, "Medicinal and pharmacological properties of Turmeric (Curcuma longa): A review," Int. J. Pharm. Biomed. Res., 2014.
- 10. T. Widiatami, M. N. Widyawati, and A. Admini, "Study Literature Tentang Pemberian Minuman Kunyit Asam Terhadap Tingkat Nyeri Menstruasi Pada Remaja Putri [Literature Study for Curcumin Tamarind on Menstrual Pain Levels in Young Women]," J. Kebidanan, 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PREPARATION OF FUTURE PRIMARY SCHOOL TEACHERS FOR INTELLECTUAL ACTIVITY

Turakulov X.A*; Toraqulova I.X**; Rakhmatova F.A***

*Professor,

Doctor of Technical Sciences, Academician of the International Academy of Pedagogical Sciences, JDPI, Republic of Uzbekistan, Tashkent, UZBEKISTAN

> **Associate Professor, Ped. Sciences named JDPI, Republic of Uzbekistan, Tashkent, UZBEKISTAN

> > ***PhD.

JDPI, Republic of Uzbekistan, Tashkent, UZBEKISTAN Email id: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02710.5

ABSTRACT

This article can be used by those who deal with the problem of preparing future professionals for intellectual and professional activities. This means defining the pedagogical and psychological basis for the preparation of future professionals for intellectual and professional activities, with a special focus on the development of creative and professional approaches of students to secondary education in the educational process. Each sequence of preparing this future primary school teacher for intellectual and professional activity requires a unique creative approach.

KEYWORDS: Science; Educational Content; Ability; Skill; Regularly; Educational And Methodical; Educational And Informative; Supply; Professional Knowledge; Creative Activity; Professional; Directions; Upgrade; Increase.

INTRODUCTION

It is known that the current intellectual development in the world requires regular intellectualization of the content of the training of future professionals. This means defining the pedagogical and psychological basis for the preparation of future professionals for intellectual and professional activities, with a special focus on the development of creative and professional approaches of students to secondary education in the educational process. An important factor in the implementation of this focus is the creative environment in higher education institutions and the improvement of innovative and integrative approaches in the professional activities of future professionals in preparing them for intellectual and professional activities and improving the quality of education.

In this regard, significant work is being done in our country, ie the educational process in improving the quality of higher education, modernization of the training system is being integrated with the latest achievements of science and technology [1]. As a result, a solid foundation is being laid for the training of innovative, competitive and modern personnel. As a

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

result, qualitative changes in the field of education and high efficiency in the training of future professionals, their compliance with the requirements of world education and the extent to which they find their place in practical and professional life will be identified. [2]

This article is also aimed at preparing future teachers for intellectual and professional activities, taking into account the requirements of world education, which provides an algorithmic sequence of preparation of future primary school teachers for intellectual and professional activities.

During this research, we focused on the potential and intelligence of future primary school teachers. In this regard, it should not be overlooked that the potential of a future primary school teacher is a **quality** that occurs after he or she has prepared himself or herself in a certain way to receive the inspiration that comes to him or her. Because through them, people become **enlightened**, intelligent, and those who have such intelligence and talent are called potential people. Considering the **intellect** in this direction, it is necessary to understand the result of man's ability to think in the expansion of his worldview. At the same time, the factors that shape the intellect of a future primary school teacher: mind, intellect, thought, idea, teaching, etc., are important motivating factors in the continuous development of their intellectual potential. [3]

The results of our research and observations in this area show that the **main goal** of preparing a future primary school teacher to be intellectually and professionally competent is to make them aware of the collected materials (compare, abstract, judge and etc.) consists of preparing existing knowledge for analytical (if necessary) critical study, and it is preferable to implement them in the following sequence [4]:

- Future primary school teachers should be familiar with the basics of the subjects to be studied in primary education and be able to effectively use their knowledge in describing the subject they are studying;
- The future primary school teacher must have a thorough knowledge of the basics of promising and effective pedagogical technologies, especially the ability to introduce innovative methods and technologies in the subjects to be mastered;
- make it a habit for a modern primary school teacher to dynamically improve their development, pedagogical ability and skills;
- A modern primary school teacher must also be socially literate, that is, he must be regularly aware of the socio-economic changes in our society and state;
- A modern primary school teacher must know foreign languages and be able to "dig" with the help of digital technologies;
- The future primary school teacher must be familiar with the state legal and regulatory documents on primary education and have the skills to use them in practical professional activities;
- The modern primary school teacher has the ability to create textbooks, manuals, teaching aids, handouts and slides (including virtual stands) in the specialty and special knowledge, as well as the latest knowledge in science and their practical significance must have a thorough knowledge of;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Prospective primary school teachers should be aware of the requirements of a full state education standard in the subject they teach in their future professional careers;
- The prospective primary school teacher must fully meet the requirements of knowledge, skills and competencies in the state education standard for primary education, etc.

Each sequence of preparing this future primary school teacher for intellectual and professional activity requires a unique creative approach. In carrying out weighty and prospective research work on them, it is necessary to conduct research work with a certain algorithmic logical sequence, otherwise the planned result in the research work will not be guaranteed.

The results of our research in this area show that it is expedient to solve such problems on the basis of a certain algorithmic sequence [5].

LIST OF REFERENCES:

- **1.** Turakulov XA, Jabborov NS. Theoretical and methodological bases of preparing future teachers for innovative activities. Monograph. T.: Science and technology, 2019, 152 p.
- **2.** Turakulov HA, Bultakov SH, Pedagogical bases of training of future primary school teachers on the basis of civilized pedagogical systems. Monograph. T.: Innovative development publishing house printing house, 2020, 144 p.
- **3.** Turakulov HA, Turakulov OX, Urozboev SE. Preparation of future teachers for intellectual activity on the basis of intelligent teaching systems. Monograph. T.: Innovative development publishing house printing house, 2020, 224p.
- **4.** Turakulov XA, Abdullaeva BS, Turakulova IX. Methodology of primary education. T.: Innovative development publishing house printing house, 2020, 476p.
- **5.** Hasanboev J, Turakulov HA, Khaydarov MH, Hasanboeva O, Usmonov NU. Annotated dictionary of pedagogy. T.: Science and Technology, 2009, 672p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

PROBLEM EDUCATION IS A WAY TO ACTIVATE EDUCATIONAL **ACTIVITY**

Dobronravova E.A*; Vetlugina A.V**; Fomenko N.N***

*Associate Professor,

Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN

**Associate Professor,

Candidate of Architectural Sciences,

Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN

***Associate Professor,

Candidate of Architectural Sciences,

Department of Interior and Landscape Design, Tashkent Institute of Architecture and Construction, Tashkent, UZBEKISTAN

Email id: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02711.7

ABSTRACT

A problem situation is a state of intellectual difficulty, the ways of overcoming which require the search for new ways of activity and the acquisition of new knowledge. If a person realizes what is causing the difficulty and accepts it for a solution, it develops into a problem. On this issue this is a problem situation accepted for solution.

KEYWORDS: Problem-Based Teaching, Traditional Teaching, Pedagogical Technology, Problem Situation, Problem, Sub-Problem.

Ask the scholars what they do not know, And by doing so, you are proving that you have really learned. And if you don't ask them, then - cry, don't cry - You die ignorant: you are your own executioner.

Alisher Navoi

INTRODUCTION

One of the main tasks of the educational process at the university is to form the creative abilities and critical thinking of students. The solution to this pressing problem has led to the search and development of various technologies that can help activate educational activities. The study of the nature of scientific creativity, the application of scientific research methods, and their convergence with the methods and techniques of teaching at the university have created a unique system called problem-based learning. [1]

Problem-based education is a special didactic system. The activities developed on its basis have different goals than reproductive education. The choice of special organizational and teaching methods, as well as special training and methodological assistance are required to conduct them. Classes are distinguished by their unique structure and, to a certain extent, the specially

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

developed content of the teaching material. These lessons also change the way teachers interact with students.

The concept of problem-based learning has a much longer history. Even Socrates and Plato knew that mental activity leads to a deeper penetration into the essence of processes and events. It also helps to better remember the information received. Ya.A. such as many well-known foreign teachers.

K.D. Ushinsky's pedagogical concept is very close to the basics of problem-based education. He believed that in the process of education, "it is necessary not only to give the learner certain knowledge, but also to develop in him the desire and ability to acquire new knowledge independently without a teacher."[2]

In the new style schools of Uzbek Jadids (Behbudi, Munavar Qori, Avloni, Fitrat, Cholpon, etc.) we find many interesting things related to the study of world achievements and the development of national culture. American psychologist and educator John Dewey is the founder of problem-based learning technology. The ideas of the American philosopher predetermined the creation of basically theoretical foundations. His "instrumental pedagogy" or "practical study" was not only an experience for students in the process of independent research, but also the acquisition of knowledge, finding answers to controversial questions.

The search for an alternative to mass normative education in Russia began in the mid-20th century. The concept of problem-based learning was originally based on the need to increase the student's learning activity and develop his personality. The theory of learning was later presented in the works of M.I.Makhmutova, Yu.K.Babanskiy, T.V.Kudryavtseva, I. Ya.Lerner, J. Bruner, V. Okonya, T. Novatsky and others Theoretical substantiation and introduction of problem-based learning technology in the educational process in general and higher education institutions in Uzbekistan N.H. Lerner, J. Bruner, V. Okonya, T.Novatsky and others. In general and higher education in Uzbekistan theoretical substantiation and introduction of problem-based learning technology in the educational process N.H. Avliyaqulov, N.N. Azizkhoʻjaeva, M.G. Voinova, F.A.Jumabayeva, B. Ziyamuhamedov, S. Ziyamuhamedova, R.G.Musina, S.R.Radjabav, M.Kh.Tokhtahojaeva, B.L.Farberman and others.

The main difference between problem-based learning and traditional teaching is the understanding of the purpose and principles of organizing the pedagogical process. [3]

METHODS AND RESEARCH

The goal of traditional education is to master the ready-made results of scientific knowledge, to equip students with the knowledge of the basics of science and, accordingly, to form the necessary skills and competencies. The purpose of problem-based learning is not only to master the results of the scientific activity of the enlightened. The key is to find a specific way to acquire this knowledge, to shape the student's exploration and cognitive activity. So, his ability for an independent creative process develops.

The organization of explanatory and illustrative teaching is based on the principle of conveying ready scientific conclusions to students. The basis for achieving the goal of problem-based learning is the principle of searching for learning and cognitive activity. This allows the student to independently explore scientific conclusions and laws, to discover new, sometimes unexpected ways to apply knowledge in their own practice. In problem-based learning, the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

teacher's job is to explain the meanings of the most complex concepts, to systematically create a variety of problem situations, and to organize and direct students' learning activities.

M.I. Mahmutov gives the following definition of problem-based learning: "Problem-based learning is a process of understanding students' explanations in a problem situation, independent analysis of problem situations, the formation of problems and the acquisition of knowledge and skills of students. By making suggestions, hypotheses, substantiating and proving them, as well as verifying the correctness of the decision. "[2]

The use of problem-based learning is well covered in a practical lesson with the 4th year group in the field of design (landscape) 5150900.Discipline - "Design of Planned Landings".For clarity, it is suggested to consider teaching methods in a practical lesson - "Designing Planned Planting in a Preschool (DOW)".The lecture course of science is developed using elements of innovative teaching technologies: lecture-conference, lecture-visualization, problem-based lecture, as well as active methods and techniques of teaching.



Figure 1. Topics of the course on the subject "Planning of planned crops"

Planned landing for 7 different objects (theme park, community center, recreation center, preschool, secondary school) on a theoretical basis formed in the process of joint work of teacher and students (Figure 1) and present the material in the form of sketch drawings and specifications of the plant materials collected in the album (Figure 2).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Figure 2. Topics of practical assignments on the subject "Design of planned landings"

The activity level describes a student's ability to use previously acquired knowledge, skills, and abilities (ZUN) in a fundamentally new practical environment. The work is carried out mainly for soil and climatic features of Tashkent. Placement of facilities in different regions of the country is encouraged. Each student chooses these objects from the actual design for themselves. The work is done in the classroom and independently.

From the beginning, the teacher, together with the students, identified the problem situation and shaped the problem. Because a problem situation is a state of intellectual difficulty, ways to overcome it require the search for new ways of doing things and the acquisition of new knowledge. If the student understands what is causing the difficulty and accepts it to solve it, it becomes a problem. So, the problem is the problematic situation adopted for this solution.

Problem situation: it is necessary to design a planned planting in a specific institution that has strict requirements for the assortment of plants located in a particular area with specific soil and climatic conditions.

Problem: taking into account the given soil and climatic conditions, the development of a scheme of planned planting (sketch) of green areas of limited use in the territory of preschool education (DOU), the practical application of knowledge gained in the course, as well as "Soil Science and Decorative Dendrology" As obtained from the course "Landscape Design 1-2 courses".

Final conclusion: to solve a structured problem, a 4th year student of the 7th semester must have certain knowledge, skills, and abilities (ZUN) previously acquired. In the process of analyzing the adopted ZUN, the following minor problems specific to this type of public institution were formed - (DOU).

1 small problem - predicted object - children's educational institution (DOU), where plants have a cognitive function in addition to protective and decorative functions.

Intermediate removal: the need to develop the child's knowledge, his ecological literacy, the development of visual and tactile channels of perception of the environment requires the inclusion of material in the assortment of plants that meet the established requirements.

Tip: oak, maple, linden, Canadian red, chitalpa, sineraria, marigolds and others.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2 small problems – the projected object is a children's educational institution (preschool) where the plants must be safe [4].

Intermediate removal: remove thorny, poisonous plants from the assortment of plants, as well as plants that cause an allergic reaction of the body.

Tip: poplar (female), berry yew, Cossack spruce, mackerel, aconite, doping, etc. (Fig. 3).

3 small problems - The designed object - children's educational institution (DOU), where the plants must have phytoncide properties.

Average conclusion: inclusion of plants with phytoncide properties in the assortment.

Tip: most conifers, linden, poplar, and others.



Figure 3. Results of independent research for students (2 small problems)

RESULTS

According to the nature and results of educational activities, teaching methods can be divided into the following groups as methods of joint activities of the teacher and the student to achieve educational goals:

- Receptive learning activities and methods to ensure the acquisition of knowledge by Level 1 students;
- Reproductive education activities and methods to ensure the acquisition of knowledge and skills by students in Phase 2;
- methods of discussion, development and creative characterization of learning that provide effective, partially exploratory learning activities and knowledge acquisition by Level 3 students;
- in Stage 4, independent learning by students, understanding and solving a problem, methods that stimulate, activate their research learning activities and the acquisition of knowledge.[1]

Level 3 and 4 methods are pedagogical activities that require a lot of work and a special approach. But working at these levels makes it possible to connect theory with practice. It helps

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

to update the lesson, helps to understand the practical advantages of the material being studied, increases motivation.

CONCLUSION

Based on the results of the implementation of the considered example, it can be concluded that innovative pedagogical technologies, in particular problem-based learning technology, increase motivation, create an environment of creative cooperation and healthy competition. At the same time, self-esteem and respect for the opinions of others are nurtured, a sense of creative freedom is born, and most importantly, it all brings satisfaction.

An analysis of the use of elements of problem-based learning technology in "Designing Scheduled Landings in a Preschool (DOU)" in a practical lesson will allow us to conclude that this technology is one of the most advanced varieties. Its main distinguishing feature is the convergence of the psychology of learning with the psychology of human thinking. This set of interrelated methods and tools allows students to participate independently in the acquisition and acquisition of new knowledge, to form creative thinking, to develop cognitive aspirations, and to expand the interest of the creative individual. The research nature of students 'learning activities is reflected in the problem-solving process using different types of their independent work.

It can be said that problem-based learning technology is fully compatible with the tasks of maximal development of creative thinking of students in the field of "Design" at the University of Architecture and Construction.

REFERENCES

- 1. Golish LV. Design and planning of educational technologies. Tashkent: TDIU, 2012.
- **2.** Stupina SB. Interactive Learning Technologies in Higher Education: A Textbook. Saratov: Publishing House "Fan", 2009.
- 3. Cherkasova II, Yarkova TA. Interactive pedagogy: textbook. SPb.: NOU "Express", 2012.
- **4.** Adilov Z, Matniyozov Z, Vetlugina A, Xudoyarova D. Educational building typical landscape design solution. International Journal of Scientific & Technology Research. 2020;9 (04):2825–2828.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

SOME ASPECTS OF THE PROJECT-BASED ANALYSIS OF PUBLIC **FACILITIES**

Matniyazov Zafarbek Erkinovich*; Makhmadiyarova Aziza Umar kizi**

*Associate Professor, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN

**Master's Degree Student, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN Email id: holiqovm99@gmail.com

DOI: 10.5958/2249-7137.2021.02712.9

ABSTRACT

The article is devoted to the study of important aspects of the design of public transport stops in modern cities. The article discusses the existing problems in the implementation of pre-design work and identifies the main aspects of the preliminary analysis of the environmental situation that must be taken into account when developing the terms of reference and designing such facilities.

KEYWORDS: Public Transport Stops, Climate, Autopavillon, Wind Load, Architectural Environment, Visual Communications

INTRODUCTION

Shaping the architectural image of modern cities is one of the most pressing tasks of professional architects and designers. The urban area is created due to the interaction of architectural ensembles, residential and public building complexes, city parks, sidewalks and roads, sidewalks. One of the most important elements influencing the formation of the urban environment are small architectural forms, which many professionals include public transport stations in their structure. The network of passenger routes has increased 1.4 times compared to 2006, there are 117 passenger bus stations and bus stations in the country, and measures are being taken to ensure traffic safety. Resolution of the President of the Republic of Uzbekistan dated March 6, 2018 No PP-3589 "On measures to further improve the management system of road transport" Indication of the establishment of independent specialized enterprises in the form of unitary enterprises engaged in road transport and transport and logistics, construction, reconstruction, repair of bus stops and other road transport, in recent years, the economy and population of the republic Improving service delivery, as well as the large-scale work on the design of public transport stations, shows the urgency of this issue.

RESEARCH RESULTS

According to the methods of production, all small architectural forms are divided into two groups:

- Specially designed and manufactured on individual projects;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Manufactured on the basis of standard designs from standard elements and structures.

More than 850 bus stations have been relocated in accordance with the general technical requirements of the "Bus Stations on Highways" developed by the Agency "Uzstandard" and regional departments in accordance with the technical regulation "Oz DSt 3196: 2017" in the regions. It has been studied. According to the results, 771 stops and 91% as a percentage, the necessary schemes of bus routes and public transport schedule are not available.

Convenience at stations is very important for public transport passengers. The "Bus Stations on Highways" document clearly shows the equipment needed for passengers while waiting for vehicles. Thus, depending on the category of roads, bus stops should consist of the following elements: For roads of categories I-III, the bus stop should consist of the following elements (for roads of categories I-III), crossings, landing area, waiting area (for category I-III roads), crossing lanes, exit pocket (at the intersection or intersection of highways), dividing line (I- For category III roads), pedestrian crossings, car pavilions, benches, containers and bins (only urns for category IV roads), means of traffic organization (road signs, markings, barriers)), lighting (at stations in settlements).

According to the standard, the car pavilion is designed to protect passengers waiting for the arrival of the bus from the adverse effects of weather and climatic factors. The car pavilion can be in the form of an indoor or outdoor type umbrella. The size of the car pavilion is determined on the basis of 4 people / sq.m, taking into account the number of passengers at a time during the bus stop.

The list of these elements may vary and be supplemented depending on the environmental conditions or the utilitarian-functional requirements identified as a result of the pre-project analysis and described in the terms of reference. Ignoring environmental conditions can lead to the fact that the intended parking complex does not meet the requirements for it and is aesthetically incomprehensible, functionally inefficient and may even pose a risk to potential consumers. The small size of the stations and the shops and fast food cafes that occupy their space often cause passengers to wait for traffic in the sun or in the rain.

The most important aspect to consider when designing public transport stations is the climatic conditions specific to the region. The formation of the continental climate in the territory of our country is influenced by its geographical location and related solar radiation, atmospheric circulation. It consists of long dry and hot summers, rainy springs and incredible winters.

In this regard, it is necessary to identify some aspects of the environment that should be considered first in the design of public transport stops.

Environmental conditions:

1. Climate

Therefore, it is necessary to take into account the influence of many factors on the design process and the final result of the stations. Among the specific features of the climate can be identified several that are very important in design:

- The change in the average daily temperature typical of this region - this factor can affect the design of pavilions of the open or closed type. It should be noted that the temperature varies from very hot to very cold.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- The angle of incidence of sunlight not only affects the temperature regime, snowmelt or radiation background, but also the angle at which the sunshade should be placed.
- The type and amount of precipitation is important not only in terms of shaping the person from their aggressive effects, but also to calculate the design characteristics of the load-bearing elements of the structure. For example, in the plains of Uzbekistan it rains 35-40 days a year, while in the mountains it is 70-90 days.
- Wind load and prevailing winds. The winds blow from the north-west, north and west of Uzbekistan throughout the year. In winter, the wind direction is influenced by the Siberian anticyclone and cyclones south of the Turan plain. Therefore, the winds in the northern part of Uzbekistan are northwest. blows in a northerly and northeast direction. In the south, cyclones move mostly in a southwesterly direction. The wind load affects how the structure can be shaped to effectively resist lateral wind pressure].
- Extreme weather conditions typical of this region. Depending on the region, there are different climatic conditions that can be specific and unique to a particular region. For example, the sudden appearance of thunderstorms is common in high mountainous areas. In some places, large hail is rare. In the event of a sharp deterioration in weather, stations can be the only means to protect a person from extreme weather events.

2. Urban architectural environment

When designing stations, it should be taken into account that they are part of the urban architectural environment, which should be present in the stylistic and functional context of the city. There are several key aspects to designing public transportation stops in an urban environment:

Functional scheme

A city with a complex infrastructure is made up of a skeleton and fabric that form the functional structure of interconnected elements. Therefore, public transport stations should be included in the functional structure of the city and ensure the efficient operation of public transport in the city.

Roads are key elements of the urban area. Urban Framework - The establishment of sustainable, spatially-planned urban systems is done primarily in ways that are defined as the main axes and networks of transport infrastructure with the appropriate areas. In this frame is the urban area of the city covered with fabric, i.e. occupied by residential, public and industrial buildings. There are several standard schemes for locating bus stops on different categories of roads and equipping them with technical means of traffic management. The classification of roads is governed by SHNK 2.05.02-07.

Historical style context

In addition to the functional structure of the city, the principles of methodological visual cooperation between the developed object and the surrounding city should be guided in the development of the appearance of the stations [1]. The style of the city is usually different. This is especially true for older cities that are in an active growth phase. In such cities, you can observe gradual changes in style and compositional context, depending on major architectural styles and trends, the socio-cultural and economic situation of the country, ideology, and so on.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In such cities one can see classical styles (classical, baroque, etc.) and modern trends (functionalism, postmodernism, etc.) [2; 3].

Typically, the creation of a new object of spatial-spatial environment is based on one of three compositional principles: identifier, nuance, contrast. Depending on the principle chosen, the station may fit perfectly into the context of the historical style, interpret it, or be the complete opposite. Each of the principles should be based not only on theory, but also on visual-plastic. Depending on the reliability of the introduction of a new object to the existing fabric of the city, its historical stability is ensured [4; 5; 6].

Availability of visual information

Public transport stations, in addition to the main function, include a number of additional functions, one of which is its visual presence and informativeness [7]. In this regard, a number of important factors affecting the efficiency of the station can be listed:

- Spatial accent stations should be clearly visible from a distance and have a unique spatial location that helps to control the space.
- Visual communications To facilitate human interaction with urban infrastructure, the parking complex should be easily recognizable from a distance, which should also be quickly identified by road and pedestrians. In addition, safe approaches should be provided to inform passengers about their stay in and out of the area [8].
- Information support is an important place for passengers to get additional information, along with the main visual signs of the public transport stop. This can be a timetable, news and weather report, social and entertainment videos, advertising information [9]. To do this, station complexes can be additionally equipped with electronic information screens and boards for placing information on paper carriers.

The data obtained from the pre-project analysis determine the formula of the project assignment and the design conditions described in the terms of reference. This article first discusses some aspects of pre-project work related to environmental analysis. Pre-project work involves the analysis of many aspects, including the potential consumer, ergonomics, functionality, and more.

CONCLUSION

Thus, the success of designing urban environmental facilities such as public transport stations depends primarily on the quality and scope of pre-project analysis. Inadequate quality analysis of the designed environmental conditions leads to design errors and significantly reduces the quality of the developed object. Today, bus complexes are a long-term destination for many people around the world who do not have private transportation. In this regard, each year the budget allocates funds for the improvement of public parking, replacement of old and obsolete pavilions, installation of new structures, pre-design analysis by architects and designers, and convenient parking complexes for the population. concepts are developed. All of these measures have a positive feature because they are primarily aimed at ensuring that people are comfortable and safe.

REFERENCES

1. Qodirova SA, Aripova NA. Cultural Education Center Classification of Buildings and General Concepts. Academicia Globe: Inderscience Research. 2021;2(4):143-147.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 2. Reyimbayev S. The Urban Regeneration and Stability. The American Journal of Engineering and Technology, 2020;2(08):100-105.
- **3.** Shukhrat R, Zarif A, Zafar M. (2021). Role of the design code in improving the quality of the urban environment. Academicia: An International Multidisciplinary Research Journal, 2021;11 (1):1805–1812.
- **4.** Adilov ZX, Matniyazov ZE, Tadjibaev DM, Tadjibaev JX, Elmurodov SS. Landscape Design Projects for 4r-173 Call-Mountain Road Side. International Journal of Advanced Research In Science, Engineering And Technology. 2020;7(12);16238-16245.
- **5.** Aliyeva MX. "Environmental Issues and Their Impact in the Industrial Area. International Journal of Advanced Research in Science, Engineering and Technology. 2019;6(11).
- **6.** Salimovich ES, Shamilevich ST, Iskandarovna KD, Ziyodullayevna SU. Methods of Improving Green Walls on the Territory of Uzbekistan", Annals of R.S.C.B., 2021;25(4): 1253 1260.
- **7.** Erkinovich MZ, Himmatovich AZ, Hamrayevich TJ, Olimovna DU, Saidxonova Umida Ziyodullayevna SU. Improvement of the Environmental Situation of the Aral Region Through Landscape Design. International Journal of Scientific & Technology Research. 2020;9(4):3450-455.
- **8.** Saidov AA. The Planning Solution and Landscape Design of Courtyard Spaces in Multi-Storey Residential Buildings of Uzbekistan. International Journal of Advanced Research in Science, Engineering and Technology, 2018;5(11):7243–7248.
- **9.** Khasanov AO. About Several Infrastructure Constructions of the Great Silk Road. International Journal of Innovative Science, Engineering & Technology, 2016;3(6):295-299.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW STUDY ON EGG & EGG-DERIVED FOODS

Kuldeep Mishra*

*Assistant Professor,
Department of Agriculture Science, Faculty of Agriculture Science,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: mishraypikuldeep@gmail.com

DOI: 10.5958/2249-7137.2021.02655.0

ABSTRACT

Eggs are sources of protein, lipids and micronutrients that play an essential role in basic nutrition. However, eggs are historically linked with unfavorable aspects in human health, primarily owing to their cholesterol content. Nowadays, however, it is recognized that the reaction of cholesterol in human blood levels to dietary cholesterol intake relies on many variables, such as ethnicity, genetic composition, hormonal factors and the nutritional condition of the consumer. Eggs being a traditional food having nutrients that perform essential functions beyond basic nutrition, their promotion as functional foods should be addressed. Additionally, in recent decades, there has been a growing demand for functional foods, which is anticipated to continue to rise in the future, due to their ability to reduce the risks of certain illnesses and socio-demographic variables such as the growth in life expectancy. This article provides a short review of the benefits and drawbacks of egg consumption and the potential market of functional eggs, and it examines the possibilities of the creation of functional eggs via technological techniques.

KEYWORDS: Cholesterol, Egg, Egg-Derived, Foods, Technological Elaboration.

1. INTRODUCTION

Human nutrition in industrialized nations is characterized by an excessive intake of protein, cholesterol, saturated fatty acids (SFA), n-6 polyunsaturated fatty acids (PUFA), calories or salt, while consumption is inadequate in n-3 PUFA, fiber and antioxidants. These imbalances are partially responsible for the high prevalence of both obesity and the development of chronic or degenerative non transmissible illnesses, from which cardiovascular diseases (CVD) are the main cause of death and morbidity worldwide. The consumption of a lower fat diet is generally accepted in all clinical guidelines on CVD prevention, and is based on total fat consumption of 25 percent –35 percent of total calories, of SFA should be no more than 7 percent –10 percent, trans fatty acids less than 1 percent , unsaturated fats, mainly monounsaturated fats (MUFA) and n-3 PUFA) should represent the rest of the calories from fat and cholesterol, for a total of less than 300 mg/day[1]–[4].

In order to improve public health, nutritional experts and related organizations, such as the U.S. Department of Agriculture and U.S. Department of Health and Human Services of the Spanish Society of Community Nutrition (SENC), has persistently recommended a reduction in the intake of foods that are related to the occurrence of chronic diseases, and am increased

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

consumption of fruits and vegetables, grains, legumes, low-fat dairy products, lean meats and fish, especially fatty fish species that are high in n-3 PUFA. Owing to the persistence of these recommendations, there is a significant degree of awareness of this issue in the populations of industrialized nations, and, luckily, nutritional content is already a key consideration in the choice of meals by the customer. However, while there is a huge demand for healthy food, people are hesitant to alter their eating patterns. This indicates that there is tremendous potential for meals that are eaten frequently when they are transformed to functional foods by altering the composition to incorporate specific components that are good to health. Another method to produce functional meals is to alter the amount of specific components in the food to make it more suited to the recommendations of nutrition experts.

In this respect, since eggs are a traditional food having elements that perform essential functions beyond basic nutrition, their promotion as functional foods should be addressed. Eggs are of special importance from a functionality point of view, since they provide a moderate calorie supply (approximately 150 kcal/100 g), a protein of high quality, significant culinary diversity and low economic cost, which put eggs within reach to most of the population. Eggs are also relatively high in fat-soluble compounds and may, therefore, be a healthy addition in the diet for individuals of all ages and at various phases of life. In particular, eggs may play a particularly beneficial function in the diets of individuals at risk of low-nutrient intakes such as the elderly, pregnant women and children. Additionally, it must be noted that eggs may be eaten across the globe, having no usage limitations on religious grounds[5]–[10].

However, eggs are a problematic item for nutritional experts and health authorities, because of the saturated fat level (approximately 3 g/100 g) and cholesterol content (around 200–300 mg/100 g). Owing to these two features, over the last 40 years, the public has been cautioned against frequent egg intake owing to the high cholesterol level in eggs and the possible connection with CVD. This was predicated on the premise that excessive dietary cholesterol intake is linked with high blood cholesterol levels and CVD. Afterwards, further research indicates that, in contrast to SFA and TFA, dietary cholesterol in general and cholesterol in eggs in particular have minimal impacts on the blood cholesterol level and on CVD.

However, the amount of eggs and egg yolk utilized by food businesses in their formulations is continuously rising. Nowadays, egg-yolk products are widely utilized by the food industry as a consequence of three extremely essential properties: manufacturing and stabilization of emulsions, foaming stability and thermal relation, as it is a key component for the elaboration of many food items. Unfortunately, eggs and egg-derived items are responsible for a significant number of food-borne diseases each year, primarily caused by Salmonella. For this reason, as well as for their reduced price and convenience of handling and storage compared to shelled eggs, the food service sector and commercial food producers have demonstrated a growing interest in the use of liquid pasteurized egg products instead of fresh whole eggs.

Thus, it would be of significant importance to create egg-derived goods, suitable for food businesses, with a changed nutritional content that helps preserve the health of customers. Nowadays, retail markets for functional eggs are accessible, primarily enhanced with n-3 PUFAs or with reduced cholesterol content. However, in most instances, these eggs are produced via alteration of layer-hen's diet and administration, while considerably less attention has been given to the creation of functional eggs by means of technological techniques In this article, the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

potential creation of functional pasteurized liquid eggs by technical techniques and their benefits in the food business and from the point of view of nutritionists are also addressed..

1.1.Advantages of Egg Consumption for Human Health:

Important nutritional component from eggs is phosvitin, a phosphoglycoprotein found in egg yolk that comprises approximately 7 percent of yolk proteins. It has a particular amino-acid makeup, consisting of 50 percent serine, and 90 percent of which are phosphorylated. This particular structure makes phosvitin a powerful metal chelator and, through this method, it serves as an essential melanogenesis inhibitor to limit excessive melanin production in the melanocytes of animal and human skin. It was claimed that egg-yolk phosvitin has the potential to be utilized as a natural bioactive molecule as a hyper-pigmentation inhibitor for human skin.

Other noteworthy egg components from the nutritional point of view are the carotenoids. Carotenoids are natural pigments in hen egg yolks that give its yellow hue, which may vary from extremely light yellow to dark bright orange. Egg carotenoids comprise less than 1 percent of yolk lipids, and are primarily composed of carotene and xanthophylls. The total concentration of lutein and zeaxanthin is 10 times higher than of cryptoxanthin and carotene, combined, and are not endogenously produced by the human body and tissue levels thus rely on dietary intake. These natural chemicals present in the bodies of animals, and in dietary animal products, are ultimately obtained from plant sources in the diet, primarily from dark green leafy vegetables. Lutein and zeaxanthin concentration in eggs relies on various variables, such as the diet provided to laying hens, or the husbandry method. Thus, varied levels of these carotenoids in non-enriched eggs were recently observed, ranging approximately $167-216~\mu g/yolk$ for lutein and about $85-185~\mu g/yolk$ for zeaxanthin.

Additionally, a higher serum response to lutein was observed after the intake of eggs compared with the consumption of dietary lutein supplements or vegetables. This may be linked with the fact that carotenoids rely on a lipophilic environment for effective gastrointestinal absorption. Consequently, eggs are a highly significant dietary source of these carotenoids, particularly in the case of individuals who eat modest quantities of plants with a high concentration of these compounds (as happens in western industrialized nations) (as occurs in western developed countries). Taking into consideration the existence of all these components, eggs may be regarded a healthy inclusion in the diet for individuals of all ages and at various phases of life, but they may play a particularly beneficial function in the diets of those at risk of low-nutrient intakes.

Owing to their great nutritional content, eggs are also an essential item that should be included in the design of menus for patients, and are particularly useful in feeding individuals with gout, since it is a source of protein that does not contribute purines. Additionally, for individuals in sports training, egg proteins may have a significant impact on the training outcomes, since, by its inclusion in the diet, it may be able to increase skeletal muscles synthesis. It is widely known that necessary amino acids promote skeletal muscle protein synthesis in animal and human models, and the protein in egg has the greatest biological value. Fifteen grams of egg white protein contain approximately 1300 mg of leucine (the third most prevalent amino acid in egg, after glutamic and aspartic acids), and is also an abundant source of branched amino acids and aromatic amino acids. Recent studies revealed that leucine produces a maximum skeletal muscle protein anabolic response in young individuals, which indicates that egg white protein consumption may have a major impact on body mass accretion. Specifically, leucine promotes

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

skeletal muscle synthesis independently of all other amino acids in animal models and is a strong activator of the cell hypertrophy mammalian target of rapamycin complex pathway. Additionally, leucine reduces muscle protein breakdown and breakdown-associated cellular signaling and mRNA expression.

1.2. *Undesirable Effects of Egg Consumption:*

Despite its abovementioned nutritional advantages, egg intake was historically linked with unfavorable effects for human health and nutrition. In this regard, egg whites include antinutritional agents, among which are proteins such as ovomucoid that may block trypsin or avidin, which can bind biotin. However, these components are thermo-labile and, thus, these compounds are typically eliminated while boiling eggs, after which they do not produce additional negative effects. Additionally, eggs have been the topic of many suggestions from nutrition experts in orderto limit egg intake, due to its high cholesterol and saturated-fat content. Decreasing saturated-fat intake is the main dietary approach advised for reducing blood cholesterol levels, and this strategy has frequently led to a decrease in the consumption of eggs. Nevertheless, replacing eggs for other animal-protein items in the diet may result in modest modifications to low-density lipoprotein cholesterol (LDL) and, therefore, egg intake should be evaluated in a similar manner to other protein-rich meals.

Although metabolic studies have indicated that dietary cholesterol is a significant predictor of serum cholesterol concentrations, other investigations failed to find changes in the serum total-cholesterol concentration when eggs were added to diets that already included modest levels of cholesterol. In this respect, extensive research efforts, and even meta-analyses, have been performed to examine the effects of eggs on blood cholesterol levels and cardiovascular health, with widely diverse results. Several experts suggest that dietary cholesterol from eggs may be a significant risk factor for cardiometabolic illnesses like CVD and diabetes. Furthermore, lecithin (about 250 mg in a big egg yolk) is transformed by intestinal bacteria to trimethylamine, which is in turn oxidized by the liver to trimethylamine oxide, which is pro-atherosclerotic. In this respect, a meta-analysis showed that a consumption augmentation of four eggs per week may potentially raise the risk of CVD by 6 percent and diabetes by 29 percent. Nevertheless, a recent systematic analysis revealed no apparent connection between egg intakes with CVD among diabetes people.

However, for a significant number of studies, conventional beliefs that dietary cholesterol intake translates directly into increased plasma cholesterol levels and the development of CVD in all people were considered to be incorrect. First, a conservative assessment indicates that about 30 percent of the population would hyper-respond to dietary cholesterol, while around 70 percent of people are hypo-responsive to high dietary cholesterol intake. Therefore, clinical investigations have clearly demonstrated that plasma compartment changes, resulting from dietary cholesterol intake, are affected by many variables such as ethnicity, genetic composition, hormonal factors and body mass index. All of these factors decide who will hyper-respond to dietary cholesterol and those who are hypo-responsive to consumption. In addition, those people who hyper-respond to dietary cholesterol consumption typically exhibit elevated LDL and high-density lipoprotein cholesterol (HDL), allowing for the preservation of the LDL/HDL ratio, an essential marker for CVD risk. This indicates that, for healthy people, the nutritional advantages substantially exceed the worry around the dietary cholesterol supplied by one big egg.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.3. Recommendations and Worldwide Consumption of Eggs:

Guidelines from such like the U.S. Department of Agriculture and U.S. Department of Health and Human Services or the SENC encourage healthy people to restrict dietary cholesterol consumption to fewer than 300 mg per day. However, due to the increasing amount of scientific research demonstrating a lack of connection between egg consumption and CVD, current dietary recommendations advise healthy individuals may eat one egg a day as part of a balanced diet. Other recommendations have produced various results, ranging from no limit to advising frequent consumption of eggs. Despite the advice to reduce egg consumption, the global production of eggs grew in recent decades and surpassed 64 million tons in 2009, with China as the biggest world producer, with 36 percent of the world's output. For consumers, Mexico is the biggest consumer per capita, achieving an average consumption of 355 eggs per person each year, followed by China (344) and Japan (325). (325). The rise in global egg production and consumption is logical, since egg protein is of high quality and cheap economic cost, while a large demand for protein sources are required in emerging nations, in which a third of the population are poorly fed.

Additionally, the fact that eggs are a healthy dietary option for the elderly plays a significant part in their consumption growth, since it is anticipated that, by the year 2020, the number of persons worldwide over the age of 60 may reach one billion. Although higher total seric cholesterol levels have been found to predict CVD in middle-aged people, this measure does not appear to be significant for the older population. Unfortunately, in the elderly, the limitation of fat and cholesterol from the diet frequently leads in the following addition of foods that are rich in simple carbohydrates. This shift in food composition may be harmful, producing increases in seric triglycerides (TG), which are usually accompanied with low HDL levels, which has been recognized as the best lipoprotein predictor of CVD risk in older people. Furthermore, it has been hypothesized that the intake of a low-fat diet by older people may induce insulin resistance as a result of increasing levels of LDL and TG and reduced HDL levels in blood.

Furthermore, another important factor that could raise egg consumption in the near future is the fact that typical factors of modern life, such as frequent travel, busy schedules, little time to cook and eat at home and the inability to eat together as a family, play an important role in the increased consumption of pre-cooked and processed foods. As eggs are frequent components used by the food business for their thickening, gelling, emulsifying, foaming, coloring, and flavoring characteristics, it is also anticipated that the global consumption of eggs contained in food industry formulations would rise in future years.

However, in the case of pre-cooked and processed meals, the usage of pasteurized liquid eggs and egg powders are more frequently utilized than fresh eggs. Food industries primarily make use of the liquid egg products produced from the shelling and pasteurization of shelled eggs, while whole egg products are used as components for the production of egg pasta, mayonnaise, pastry or baked meals. The pasteurization procedure may increase interactions between lipids and molecular oxygen, resulting in losses of nutritional and sensory characteristics of the egg products. Besides the potential effect of processing on lipid oxidation, the initial composition of raw materials may affect the behavior throughout processing.

Thus, there is a huge potential market for functional egg products enriched with bioactive substances by means of technical techniques. Fortification is typically the most cost efficient and feasible method to deliver micronutrients to populations in need, particularly if the technology

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

already exists and if an adequate and fair food-distribution system is in place. It is generally feasible to add numerous micronutrients without significantly raising the overall cost of the food product at the time of production, particularly when they produce big quantities of foods.

1.4.Potential Markets for Egg-Derived Functional Foods:

The growing demand for functional foods over recent decades may be explained by the increasing expense of healthcare, the constant rise in life expectancy and the desire for a better quality of life in later years. Functional meals may enhance the overall health of the body, reduce the risk of certain diseases and may even be used to treat specific ailments. Taking into consideration the increasing aging of the population of industrialized nations, functional meals are a viable option for reducing health expenses, since medical services for the elderly population are quite costly.

Although the phrase "functional food" has previously been defined many times, there is no unitarily recognized definition for this category of meals. In most countries, there is no legal definition for the word and establishing a boundary between conventional and functional meals is difficult, even for nutritionist or food specialists. The European Commission's Concerted Action on Functional-Food Science in Europe (FuFoSE), coordinated by International Life Science Institute (ILSI) Europe stated that "a food product can only be considered functional if, together with the basic nutritional impact, it has beneficial effects on one or more functions of the human organism, thus either improving the general and physical conditions or/and decreasing the risk of the evolution of diseases.

2. DISCUSSION

Eggs are a cheap and extremely nutritious meal, containing 18 vitamins and minerals, the composition of which may be influenced by many variables such as hen diet, age, strain as well as environmental conditions. Nevertheless, while various compositions have been recorded by many authors, on average, the macronutrient content of eggs contain minimal carbohydrates and approximately 12 g per 100 g of protein and lipids, most of which are monounsaturated and provide the diet with several important elements. Some of these minerals, such as zinc, selenium, retinol and tocopherols, are low in individuals eating a western diet, and given its antioxidant activity, may protect humans from various degenerative processes, including CVD. Eggs constitute a highly essential dietary item, particularly for certain groups such as the elderly, pregnant women, children, convalescents and individuals who are sports training. The amount of both fresh eggs and eggs utilized by food businesses in their formulations rises continuously.

3. CONCLUSIONS

Owing to its greater security, cheaper price and simpler handling and storage characteristics, food producers choose to utilize pasteurized egg products rather than raw eggs. Additionally, the number of functional-food markets has also grown in recent decades and, due to certain reasons such as the increasing aging of the population of developing nations, are anticipated to continue to increase in the future years. Nevertheless, the availability of functional eggs in the market and awareness of such goods by the customers are lower than other categories of foods. Consequently, the creation of functional egg-derived foods via technological techniques may be an attractive approach to increase revenue for egg farmers and the food business, in addition to improving the general conditions of public health. This may be particularly intriguing for the inclusion of bioactive chemicals that need to be kept at refrigeration temperatures, since egg-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

derived products such as pasteurized liquid eggs must be stored under refrigeration throughout the commercialization process. Additionally, these goods are safer from the microbiological point of view, cheaper, simpler to carry and store, and because of the heat treatment performed, in certain instances are less allergic than fresh eggs. Thus, functional egg-derived goods produced via technological techniques are a highly intriguing alternative for food producers.

REFERENCES:

- **1.** J. M. Miranda et al., "Egg and egg-derived foods: Effects on human health and use as functional foods," Nutrients. 2015, doi: 10.3390/nu7010706.
- **2.** C. Nimalaratne and J. Wu, "Hen egg as an antioxidant food commodity: A review," Nutrients. 2015, doi: 10.3390/nu7105394.
- **3.** N. Naderi, J. D. House, Y. Pouliot, and A. Doyen, "Effects of High Hydrostatic Pressure Processing on Hen Egg Compounds and Egg Products," Compr. Rev. Food Sci. Food Saf., 2017, doi: 10.1111/1541-4337.12273.
- **4.** S. C. De Campos Zani, J. Wu, and C. B. Chan, "Egg and soy-derived peptides and hydrolysates: A review of their physiological actions against diabetes and obesity," Nutrients. 2018, doi: 10.3390/nu10050549.
- **5.** C. A. Alvarez Rojas, A. Mathis, and P. Deplazes, "Assessing the Contamination of Food and the Environment With Taenia and Echinococcus Eggs and Their Zoonotic Transmission," Current Clinical Microbiology Reports. 2018, doi: 10.1007/s40588-018-0091-0.
- **6.** E. D. N. S. Abeyrathne, X. Huang, and D. U. Ahn, "Non-Invited Review Antioxidant, angiotensin-converting enzyme inhibitory activity and other functional properties of egg white proteins and their derived peptides A review," Poultry Science. 2018, doi: 10.3382/ps/pex399.
- **7.** S. Van Vliet et al., "Consumption of whole eggs promotes greater stimulation of postexercise muscle protein synthesis than consumption of isonitrogenous amounts of egg whites in young men," Am. J. Clin. Nutr., 2017, doi: 10.3945/ajcn.117.159855.
- **8.** M. Netting, M. Gold, P. Quinn, A. El-Merhibi, I. Penttila, and M. Makrides, "Randomised controlled trial of a baked egg intervention in young children allergic to raw egg but not baked egg," World Allergy Organ. J., 2017, doi: 10.1186/s40413-017-0152-5.
- **9.** A. Wolc et al., "Genetic parameters of egg defects and egg quality in layer chickens," Poult. Sci., 2012, doi: 10.3382/ps.2011-02130.
- **10.** S. Wang, Y. Ding, S. Zhou, X. Jiang, R. Li, and Q. Han, "Comparison among inkjetting eggs and normal eggs of Sepia pharaonis," J. Fish. China, 2017, doi: 10.11964/jfc.20160510421.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

EDUCATION AND YOUTH CRIME: A REVIEW OF THE EMPIRICAL LITERATURE

Mohita Verma*; Ruby Sharma**

*Assistant Professor,
Department of Education, Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA
Email id: mohitav.education@tmu.ac.in

**Assistant Professor,
Department of English, Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA

DOI: 10.5958/2249-7137.2021.02656.2

ABSTRACT

By using Technologies of Skill Formation (Cunha & Heckman, 2007) as a theoretical framework, this article conducts a comprehensive literature evaluation on the connection among education and criminal activity in young people. Adult criminality is not the same as juvenile crime. We look at research that look at the impact of schooling on young people's criminal conduct, as well as studies that assess childhood and adolescent treatments. The first indicates that education and juvenile criminality are linked. The latter demonstrates that education lowers the likelihood of criminal activity in adolescence and young adulthood, while early criminal participation is likely to have a detrimental effect on educational achievement. In general, the underlying mechanisms of these effects are unknown, and they may include a variety of factors such as incapacitation, skill development, and peer effects.

KEYWORDS: *Education, Criminal Behavior, Interventions, Youth, Causal Evidence.*

1. INTRODUCTION

Early school dropout and adolescent criminal conduct are two major issues in any society, since both may result in personal and societal losses. Dropping out of school is linked to poorer economic growth, young unemployment, lower gross income, and greater crime rates (see Psacharapoulos, 2007). Calvó-Armengol & Zenou (2003) found that crime may raise community unemployment and have a detrimental effect on regional economic development (Detotto & Otranto, 2010). Through criminal justice system spending, security expenses, costs to repair damages, victimization costs, and health-care costs, crime produces significant societal costs. Criminals incur expenses connected with criminal charges, may face social stigma or social isolation (Hannon, 2003), and may witness a drop in wages and employment as a result of their arrest or incarceration (see Lochner, 2004).

Criminal conduct in youth has been linked to a variety of bad consequences in adulthood, including adult criminality, poor academic performance, and early school exit. At the same time, dropping out of school may inspire young people to engage in criminal activity. Lower educational attainment and criminal participation, on the one hand, may create a dynamic

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

connection. On the other hand, a large number of mutually confusing variables may influence both education and criminal conduct, making it impossible to identify a single causal chain.

Understanding how education and juvenile criminality are linked may point to potential solutions for reducing crime and educational disparity in society. The goal of this research is to offer a thorough and clear assessment of the literature on the connection between education and young people's criminal conduct. The words "youth," "young people," "adolescents," and "juveniles" are all interchangeable in this context. The term "education" is used in a wide meaning to refer to educational achievement, school attendance, and academic success, depending on the context. Finally, adolescent crime encompasses all contacts with the criminal justice system as a consequence of criminal conduct, as well as antisocial or hazardous juvenile behavior including drug misuse and premature sexual behavior.

From a theoretical and empirical standpoint, we examine how education and juvenile criminality are related. This connection is studied using the Technology of Skill Formation as a theoretical framework. This theory encompasses all major approaches to criminal behavior [1–8].

This research makes a two-fold contribution. It begins by documenting and analyzing the available data on the connection between education and young people's criminal conduct. The majority of prior research in this area has focused on the impact of schooling on adult criminal conduct. It's worth noting that the nature of juvenile and adult criminality may vary.

Preventing criminality in youth may have a long-term effect on behavioral and educational results in adulthood.

From a policy standpoint, causal data on the connection between schooling and juvenile criminality is particularly essential. It is critical to depend on causal data in order to create successful strategies targeted at decreasing school dropout and juvenile crime rates. As a result, we try to differentiate between causal and correlation studies that examine the connection between education and juvenile criminality in the second contribution. The following is a breakdown of the paper's structure. The nature of juvenile criminality is discussed in Section 2.

Section 3 explains the theoretical underpinnings of criminal conduct in relation to schooling. The search method and selection criteria for empirical research utilized in this review are described in Section 4. Section 5 discusses the impact of childhood interventions, early school age treatments, and adolescent interventions on educational and criminal behavior outcomes. Section 6 delves into actual research on the relationship between education and juvenile criminality. Finally, Section 7 summarizes the study's results and makes recommendations for further research.

2. THE NATURE OF YOUTH CRIME

The age-crime curve indicates that adolescence, between the ages of 15 and 19, is the peak period for criminal activity (Farrington, 1986; Piquero et al. 2007; Bosick, 2009). Juveniles that engage in criminal conduct throughout their teens are typically dealt with via the juvenile justice system (see Goldson and Muncie, 2006; Loeber et al., 2013).

The overwhelming bulk of current research on the link between education and crime ignores age differences and uses a mixed-age study sample. However, as demonstrated below, adolescent criminality differs from adult crime in a number of ways, and therefore its connection to education may vary as well. To begin with, young people seem to be engaged in a wider range of criminal activity than adults, but also in less severe and sophisticated crime (Junger)[9–12].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Minor property offenses, vandalism, drug selling, disorderly conduct, and obstruction of justice are among the most common arrests among young people in the United States (Puzzanchera et al., 2010). Group fighting, weapon carrying, drug selling, theft, vandalism, and computer hacking are the most common crimes in European nations (Junger-Tas et al., 2009). Second, the motivations of young people and adults for engaging in criminal conduct may vary. Adults have a financial incentive to participate in criminal activity, according to economic theory (see Becker, 1968; Lochner& Moretti, 2004; Lochner, 2011). Although the primary motive for teenagers' criminal activity is to obtain economic and financial advantages, there are many additional motivations for their illegal behavior, including fun, excitement, entertainment, and pleasure (Goldson & Muncie, 2006; Farrington, 2001). According to Luallen (2006), adolescent mischief acts are typically the consequence of boredom rather than deliberate criminal intent (p. 88). Similarly, Scitovsky (1999) thinks that classroom violence is mainly caused by boredom and a lack of school activities. Juvenile offending conduct may be influenced by peer group pressure, mood fluctuations, and a lack of contemplation on emotional circumstances. Finally, a criminal act is often regarded by young people as a high-risk adventure that confers prestige and respect among peers (Cohen, 1955). The third distinguishing feature of juvenile crime is that, as compared to adults, adolescents are more prone to commit crimes in groups or with others (Zimring, 1981; Greenwood, 1995; Reiss, 1988). Unlike adult criminal organizations, juvenile offender groups are generally established through geographical affinity, and they are often random and less stable over time (Reiss, 1988). As a result, it seems that social contacts at school and on the street have a significant effect on young people's conduct. When compared to adults, juveniles are more likely to commit crimes with others of the same gender and age (Reiss, 1988). Young men, like adult criminals, are more likely than young girls to engage in criminal activity (Levitt &Lochner, 2001).

Finally, the onset of juvenile criminality differs depending on the kind of crime (see Gottfredson&Soulé, 2005; Taylor-Butts, 2010). After-school crimes against people are most common between three and six o'clock in the afternoon (Snyder &Sickmund, 1999). (Newman, 2000; Taylor-Butts, 2010). The most common violent crimes, according to Gottfredson and Soule (2005), occur during school hours. Adults, on the other hand, are most likely to commit violent crime between the hours of midnight and three a.m. (Taylor-Butts, 2010). Youth violence is also on the decline.

Weekends are when young people contact less with their peers (see Jacob &Lefgren, 2003), yet violent adult offenses are on the rise (see Falk, 1952; Briscoe & Donnell, 2003).

The distinctions between juvenile and adult crime described above indicate that the connection between youth criminality and education may also be different. Furthermore, young people's criminal participation may affect their educational achievement, while adult criminality has a lower effect on educational attainment.

Theoretical literature on the fundamental causes of criminal conduct differentiates between biological, psychological, social, and economic factors (see Reid, 2011). (Becker, 1968; Freedman, 1999). Cunha and Heckman (2007)'s Technology of Skill Formation encompasses these many theoretical processes. The following equation is a modified version of their model:

$$\theta = \theta \theta - \theta - t = 1,...,T$$

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Here where t denotes the abilities learned during a certain time period. The equation demonstrates that t1 influences the learned skills in period t1. The dynamic character of cognitive and socio-emotional development is implied by this framework: various skills and the same skill at different times are highly linked. As a result, abilities connected to schooling and skills related to criminal activity may be linked and affect one another over time. Self-productivity is defined as the ability of one stage of the life cycle to increase the ability of another stage of the life cycle.

Furthermore, skills investments made at various phases of the life cycle may be complimentary, since later investments can build on the success of previous investments (Cunha & Heckman, 2007). During the first phase, the model shows that learned abilities are affected by 0 (which reflects inherent child traits), which represents innate child characteristics. Biological theories postulate that criminal conduct is the consequence of biological abnormalities. Genetic propensity to criminality, brain abnormalities (such as brain injury and poor brain function), and neurotransmitter malfunction are all examples of biological aberrations (see Raine, 2002). We added Xt, a factor, since biological aberrations may happen at any point in one's life. This suggests that certain life situations may have an impact on the abilities gained during that time.

Criminal behavior is linked to an individual's emotional and intellectual development, information processing, and personality characteristics, according to psychological and psychoanalytical theories.

The importance of early childhood experiences is highlighted in particular (see, for example, Bartol, 2002). As a result, 0 also represents innate psychological traits, whereas Xt represents psychological development elements that occur throughout time. The t I functions show that parents, peers, and schools (s), as well as governments (g), invest in the development of their children. The T investment functions occur in the skills production function because the amount of investments changes across time periods. T1 captures how investments are based on past performances, such as skills and social conduct.

Cunha and Heckman (2007) suggest that present investments are more promising when earlier investments, t1, have been made. Also, if previous investments were successful, the investments are more likely to be undertaken. We use the easy assumption that investments (acquired skills) in period t are only affected by investments (learned skills) one period before, while in fact, all previous investments and acquired skills are likely to be significant.

The importance of sociological background elements (s) is highlighted in sociological theories. The viewpoints of social organization and social process are used to understand criminal conduct (see, Reid, 2011). The former believes that criminal conduct and acquired skills are influenced by social structure factors (e.g. school social bonds, school climate).

The latter (see Reid, 2011) connects criminal conduct to social learning, labeling, and social control.

Criminal actions, according to economic theories, are the result of a rational decision-making process in which costs and benefits are properly weighted (Becker, 1968; Freedman, 1999). As a result, one of the variables that affects the quantity of investment in a given time is effort, e. Individuals will evaluate the costs (effort) of skill development (and the rewards produced by these abilities) against the costs (and benefits) of illegal conduct, according to economic models.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

To summarize, the Technology of Skill Formation paradigm allows us to examine the dynamic connection between schooling and young people's criminal conduct.

3. The Effects Of Interventions On Educational And Criminal Behavior Outcomes

Several social interventions have been undertaken in recent decades with the goal of developing skills and preventing problem behavior among at-risk children, mostly from low-income households and ethnic minority groups (see Blau and Currie, 2006; Olds, 2007; Decovic et al., 2012; Durlak et al., 2011). We look at a variety of intervention studies to see whether there is a connection between schooling and young people's criminal conduct. The interventions that have been chosen, as well as the studies that have been conducted to assess them, are included below, as well as in the tables that accompany this section. The tables detail early childhood interventions, early school-age treatments, and adolescent interventions. The columns show when and where an intervention took place, the target group of the intervention, the age of participants, the substance of the intervention, the length of the intervention, the assessment design, and the age of participants at follow-up in order from left to right. The impact of the treatments on educational outcomes (i.e. academic performance, educational attainment) and criminal behavior outcomes are shown in the final columns.

4. CONCLUSION

This research uses the Technology of Skill Formation as a theoretical framework to conduct a comprehensive literature review on the connection between schooling and juvenile criminality. This approach allows us to examine the dynamic relationship between schooling and juvenile criminality. We started with research that looked at the impact of interventions in childhood and adolescence on educational and criminal behavior outcomes. We discovered that early-childhood initiatives that target children from low-income households enhance educational results and decrease juvenile criminal behavior. Early childhood and adolescent interventions have favorable impacts on educational achievements, but their effects on juvenile criminality are equivocal. In general, research indicates that for disadvantaged children, early interventions are more successful than later ones (Cunha et al. 2006).

The mechanisms behind these effects are mostly unknown. Although numerous intervention studies indicate that interventions may improve education and reduce juvenile criminality, many research do not disclose whether these effects are caused by distinct pathways or are the consequence of a complex interplay. As a result, we compile research on the impact of education on juvenile crime as well as research on the link between early criminal conduct and education.

According to research examining the impact of education on juvenile criminal behavior, being in school prevents adolescents from engaging in crime, particularly property crime. Second, not going to school raises the chances of getting arrested.

REFERENCES

- **1.** Gwyn, R.J., Ball-Rokeach, S.J., and Cantor, M.G., "Media, Audience, and Social Structure," Contemp. Sociol., 1987, doi:10.2307/2071596.
- **2.** Juan Sebastian Melo Camacho, "Propuestas Estrategicas De Sensibilización En Seguridad Y Salud En El Trabajo Para Los Empleados De Las Pymes Del Sector Manufacturero En Cundinamarca, Colombia.," World Dev., 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **3.** Gordillo, V.J. And Ospina, J.D.Q., "Diseño De Una Propuesta Metodológica Que Facilite La Detección Temprana De Alteraciones En Extremidades Inferiores Asociadas A Lesiones En El Miembro Contralateral Mediante El Uso De Imágenes Infrarrojas," World Dev., 2018.
- **4.** Dewi Murwati, "Pengaruh Kepemilikan Institusional, Leverage, Ukuran Perusahaan, Likuiditas, dan Profitabilitas terhadap Manajemen Laba," World Dev., 2018.
- **5.** Popescu, I., Xu, H., Krivelyova, A., Ettner, S.L., Jolles, M.P., Wells, R., Nielsen, S.S., Norredam, M., Christensen, K.L., Obel, C., Krasnik, A., Hedemann, E.R., Frazier, S.L., Edge, D., Sentell, T., Shumway, M., Snowden, L., Bear, L., Finer, R., Guo, S., Lau, A.S., Bryson, S.A., Akin, B.A., Paula, C.S., Bordin, I.A.S., Mari, J.J., Velasque, L., Rohde, L.A., Coutinho, E.S.F., et al., "Editorial.," Child. Youth Serv. Rev., 2010.
- **6.** Ri, P., "Peraturan Presiden Republik Indonesia Nomor 16 Tahun 2018 Tentang Pengadaan Barang/Jasa Pemerintah Dengan," World Dev., 2018.
- 7. Higginson, A., Benier, K., Shenderovich, Y., Bedford, L., Mazerolle, L., and Murray, J., "Factors associated with youth gang membership in low- and middle- income countries: a systematic review," Campbell Syst. Rev., 2018, doi:10.4073/csr.2018.11.
- **8.** Mutarubukwa, P., "the Role of Entrepreneurship in Combating Youth Unemployment and Social Crime in Tanzania," Bus. Educ. Journal, 2015.
- **9.** Papalia, N., Thomas, S.D.M., Ching, H., and Daffern, M., "Changes in the prevalence and nature of violent crime by youth in Victoria, Australia," Psychiatry, Psychol. Law, 2015, doi:10.1080/13218719.2014.937476.
- **10.** Barn, R. and Tan, J.P., "Foster youth and crime: Employing general strain theory to promote understanding," J. Crim. Justice, 2012, doi:10.1016/j.jcrimjus.2012.01.004.
- **11.** Wolak, J. and Finkelhor, D., "Are crimes by online predators different from crimes by sex offenders who know youth in-person?," J. Adolesc. Heal., 2013, doi:10.1016/j.jadohealth.2013.06.010.
- **12.** Zlotnick, C., Goldblatt, H., Shadmi, E., Birenbaum-Carmeli, D., and Taychaw, O., "A qualitative study assessing cardiovascular risk factors: The accumulative stressors influencing societal integration of teenage African immigrants," BMC Public Health, 2015, doi:10.1186/s12889-015-2122-6.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

HEMODYNAMIC PROFILE OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND OBSTRUCTIVE SLEEP APNEA SYNDROME

Radjabova Gulchekhra Bahodirovna*; Ganieva Shakhzoda Shavkatovna**

* Scientific Applicant,
Department of Pediatrics,
Bukhara state medical institute City of Bukhara,
Republic of Uzbekistan, Bukhara, UZBEKISTAN
Email: aptekachi63@gmail.com

**Associate Professor,
Department of Pediatrics,
Bukhara state medical institute City of Bukhara,
Republic of Uzbekistan, Bukhara, UZBEKISTAN
Email id: doctor.ganieva@gmail.com

DOI: 10.5958/2249-7137.2021.02717.8

ABSTRACT

Chronic obstructive pulmonary disease (COPD) is one of the most common diseases and one of the leading causes of death worldwide. The progressive course of the disease is accompanied by worsening of respiratory symptoms, a decrease in pulmonary functional parameters, quality of life, a decrease in working capacity and leads to terminal respiratory failure.

KEYWORDS: Obstructive Sleep Apnea Syndrome, Respiratory Failure, Chronic Obstructive Pulmonary Disease

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is one of the most common diseases and one of the leading causes of death worldwide. The progressive course of the disease is accompanied by worsening of respiratory symptoms, a decrease in pulmonary functional parameters, quality of life, a decrease in working capacity and leads to terminal respiratory failure [1,2].

Recently, the concept of hypopnea has also become widely used in clinical practice - a decrease in airflow or thoracoabdominal movements by 30% or more compared to the basal level for 10 c or more, accompanied by a decrease in oxygen saturation of blood hemoglobin (desaturation) by 4% or more [3,4].

Obstructive sleep apnea syndrome (OSA) is a life-threatening respiratory disorder, defined as a period of asphyxia during sleep, leading to the development of excessive daytime sleepiness, hemodynamic disorders and instability of cardiac activity. OSA and COPD are two fairly common diseases in clinical practice, and cardiovascular comorbidity is very often present in each of them. The development of COPD predisposes to the occurrence of nocturnal hypoventilation, especially in the stage of rem sleep, and even contributes to increased resistance of the upper respiratory tract during sleep. Patients with a combination of OSA and COPD have

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

worse indicators of nocturnal hypoxemia and hypercapnia, accelerated development of pulmonary hypertension and chronic respiratory failure [5].

In patients with COPD, OSA significantly worsens the course of the main suffering, increases hypoxemia, promotes the development of secondary erythrocytosis, pulmonary hypertension and the formation of a chronic pulmonary heart with right ventricular insufficiency. The so-called overlap syndrome - a combination of COPD and OSA, in fact, is a state of mutual aggravation. The prevalence of this syndrome among people with COPD is estimated at 2%, and among patients with OSA – at 10% [6,7].

Pathophysiological factors that develop in patients with COPD during the course of the disease can negatively affect the state of the cardiovascular system. Currently, it has been proven that the development of sleep apnea syndrome in humans increases the risk of cardiovascular catastrophes [8].

Objective of the study: To assess the functional state of the cardiovascular system in patients with COPD, depending on the degree of risk of OSA

Materials and methods: On the basis of the Bukhara regional multidisciplinary medical centre (BOMC) examined 84 patients aged 45-70 years, 1-the control group consisted of 24 healthy individuals, held a planned medical examination and does not make any complaints at the time of the survey, 2-group consisted of 32 patients with COPD without OSA and 3 group consisted of 28 patients with COPD with OSA. All patients underwent general clinical, functional and laboratory methods of examination (general blood test, biochemicalblood test), analysis of blood gas composition, pulse oximetry, measurement of morning blood pressure, EchoCG, determination of respiratory function, 6-minute walking test. The obtained results were processed statistically usingExcel 7.0 and Statistica 6.0 programs using nonparametric and parametric criteria. The average values and standard deviations were calculated. The differences were considered significant at p<0.05.

RESULTS AND DISCUSSION

In our study, all patients with COPD were at the II-38 (63.3%) and III-22 (36.7%) clinical stages of the disease. Measurement of blood gas composition and respiratory function in patients tended to significantly decrease all parameters of groups 2 and 3 compared to the control. The determination of the initial dyspnea index before and after the 6-minute walk test was based on summing up the answers to questions assessing: • functional disorders associated with the presence of dyspnea; • the complexity of the activity causing dyspnea; • the degree of effort causing dyspnea. The severity of each symptom is assessed on a five-point scale (from 4 to 0); the maximum number of points is 12 (characterizes the most pronounced shortness of breath).

Hypoxemia is known to play an important role in the pathogenesis of COPD, in particular in the development of pulmonary hypertension, hypertrophy of the right heart, systemic inflammation and myocardial damage.

In our study, the greatest severity of dyspnea was observed in the group of COPD patients with OSA 4.30 ± 0.56 compared to the group of COPD without OSA 3.94 ± 0.57 . Pulse oximetry of patients performed to evaluate the 6-minute walk test indicated a decrease in blood oxygen saturation by 2% after the test in all groups of subjects, however, the lowest values were in Group $3.91.7\pm3.81$ (Table 1).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 1 THE MAIN FUNCTIONAL INDICATORS OF THE RESPIRATORY SYSTEM

Functional indicators		1 group, (n=24)		2 group, (n=32)		3 group, (n=28)		
FEB	VCL,%	M	σ	M	σ	M	σ	P
Blood gases	TFE1,%	82,10	14,36	78,93	13,86	76,40	12,87	P>0,05
6-minute	TFE1,%	47,50	14,36	46,80	16,36	45,90	9,56	P>0,05
walk test	pO2, mmHg.	68,43	7,88	66,52	6,23	64,43	4,52	P>0,05
	pCO2, mmHg.	38,00	2,94	41,60	3,17	43,91	3,33	P>0,05
	Distance traveled, m	376,40	61,09	353,05	84,35	332,70	95,67	P>0,05
	Shortness of breath on the Borg scale before the test	1,49	0,51	1,40	0,49	1,22	0,42	P>0,05
	Shortness of breath on the Borg scale after the test	4,09	0,82	3,94	0,57	4,30	0,56	P>0,05
	SpO2 before the test,%	96,20	1,99	94,70	0,98	93,10	1,06	P>0,05
	SpO2 after the test,%	94,40	2,56	93,10	2,35	91,70	3,81	P>0,05

As a result of basal blood pressure measurement, morning hypertension was detected in 18 (64.2%) patients of group 3 and in 15 (46.8%) patients of group 2, which is 4 times more common than in the control group (Table 2).

TABLE 2 FREQUENCY OF MORNING HYPERTENSION

Study groups	Morning a	Total				
	Abs	M(%)	m	Total		
Group1	4	16,7	7,85	24		
Group 2	15	46,8	6,34	32		
Group 3	18	64,2	10,34	28		
P	Pearson's Chi-square = $3,603$; p = $0,058$					

Of considerable interest for assessing the state of the cardiovascular system was the study of echocardiographic parameters of the chambers of the heart, with a quantitative assessment of the following parameters: pulmonary artery pressure (PAP), interventricular septum thickness (IST in systole (c) idiastole (d)), finite-diastolic size (FDS), finite-systolic size (FSS), finite-diastolic volume (CDR), finite-systolic volume (FSV), ejection fraction (EF), myocardial mass index (MMI).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE 3 THE MAIN ECHOCARDIOGRAPHIC PARAMETERS OF THE HEART CHAMBERS

Indicators	1 group, (n=24)		2 group, (n=32)		3 group, (n=28)		
	M	σ	M	σ	M	σ	P
FDS,sm	5,10	0,56	5,11	0,52	5,21	0,67	P>0,05
FSS,sm	3,20	0,34	3,20	0,47	3,40	0,63	P>0,05
IST,sm	1,18	0,13	1,24	0,17	1,24	0,23	P>0,05
TS,sm	1,13	0,10	1,09	0,12	1,15	0,19	P>0,05
REL,u	0,46	0,11	0,45	0,09	0,46	0,07	P>0,05
MMI, g/m2	109,00	16,03	111,30	17,52	117,90	18,81	P>0,05
LVF according to Simpson, %	60,20	5,76	57,40	5,33	55,70	12,19	P>0,05
SLP, cm2	15,50	3,36	18,60	5,88	19,50	4,96	P<0,01
PAP, mmHg.	19,89	7,15	20,11	5,68	21,70	6,03	P>0,05

In COPD, the response of the cardiovascular system to hyperactivation of the respiratory system and compensation for respiratory failure can be used as an additional factor in assessing the functional state of the patient. However, according to the results of echocardiography, signs of left ventricular hypertrophy and an increase in the mean pressure in the pulmonary artery were found only in COPD patients with OSA, and expansion of the left atrium cavity was observed in both groups of COPD patients, compared to the control group. A difference in myocardial mass indices was revealed, which indicates changes mainly in the left chambers and may cause a worsening of the course of coronary artery disease in patients with COPD (Table 3).

CONCLUSION

COPD patients with OSA had significantly higher scores for assessing the degree of dyspnea on the Borg scale after the test and low blood saturation values were observed after the 6-minute walk test of 91.7±3.81 (P<0.01).

The development of morning hypertension in COPD patients with OSA is associated with hypoxia, hypercapnia, changes in the state of blood gas composition, features of central and peripheral hemodynamics, endothelial function. A higher level of predictors of the development of chronic pulmonary heart disease (DLA and TMJ) was established in patients with COPD with OSA compared with patients without apnea, which indicates the need for more activemonitoring in patients with COPD with OSA.

REFERENCES

1. Ganieva ShSh, Radzhabova GB. Clinical And Laboratory Assessment Of The Health Status Of Patients With Chronic Obstructive Pulmonary Disease Who Have Undergone Coronavirus Infection. CAJMNS. 2021;76-80.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **2.** Juraeva FR, Kolesnikova NV, Ganieva ShSh. Modern aspects of immune mechanisms in the pathogenesis of arterial hypertension. Eurasian Bulletin of Pediatrics. 2021;3(10):7-13.
- **3.** Kalinkin AL. Diagnosis of obstructive syndrome sleep apnea/hypopnea by cardiorespiratorymonitoring. Functional diagnostics. 2014;(3):54-62.
- **4.** Yuryevna KM, Vladimirovich GV, Aleksandrovna AT, Anatolyevna SO, Anatolyevich LS. Some ventilation disorders in patients with chronic obstructive pulmonary disease, depending on the presence of obstructive sleep apnea syndrome. Siberian Medical Review, 2015;6(96):55-58.
- **5.** Markin AV, Martynenko T I, Tseymakh IYa, Naumovich SY. Obstructive sleep apnea syndrome in patients with chronic obstructive pulmonary disease. Clinical Medicine, 2012;90(7):4-8.
- **6.** Lapitsky DV, Ryapolov AN, Ermolkevich RF, Pupkevich VA, Trukhan MP, Mitkovskaya NP. Disorders of nocturnal arterial blood oxygenation in patients with chronic obstructive pulmonary disease. Russian Journal of Cardiology, 2019;4(2):27-28.
- 7. Rozhnova EA, Fedorovich EM, Shapoval MA, Sukhanova GI, Danilets AV, Naumova IV, Khairzamanova TA. Sleep apnea syndrome in patients with chronic obstructive pulmonary disease. Pacific Medical Journal, 2013;3(53):22-24.
- **8.** Ganiyeva ShSh, Rustamov BB, Panoyev XSh. Regional features of the frequency and clinic of respiratory allergy. New Day in Medicine. 2021;3(35):194-197.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

METHODS OF APPLICATION OF MULTIMEDIA TECHNOLOGIES AND INTERACTIVE METHODS IN THE CLASSROOM OF THE UZBEK **LANGUAGE**

Elmuradova Mahbuba Juragobilovna*

*Teacher,

Uzbek Mother Tongue and Literature at school of the Uchtepa district of Tashkent, **UZBEKISTAN**

Email id: elmuradova@gmail.com

DOI: 10.5958/2249-7137.2021.02721.X

ABSTRACT

Innovative pedagogical technologies and multimedia in teaching have led to the emergence of new technologies and forms of teaching for the processing and transmission of educational information. The article examines the main problems and ways of effective application of innovative pedagogical technologies, multimedia technologies in the Uzbek language classes in secondary schools of Uzbekistan.

KEYWORDS: Innovation, Pedagogical Technology, Multimedia, Teaching, Uzbek Language And Literature.

INTRODUCTION

Evidence of this is that education in our country is carried out in seven languages (Uzbek, Karakalpak, Russian, Kazakh, Kyrgyz, Tajik and Turkmen).

Speaking about the state language, it is worth remembering the wise words of the great enlightener Abdullah Avloni: "Language and literature is a mirror of the life of every nation, which demonstrates its existence to the world."

Indeed, language is the spiritual wealth of a nation. It is not only a means of communication, but also culture, traditions, way of life, history of the people. And respect for the languages of different peoples, in turn, creates an opportunity for mutual understanding and dialogue.

The dynamic development of society and technology leaves its mark on all spheres of human activity, including the study of languages. The educational process can be brought to a qualitatively new level by significantly expanding the information space of its participants, updating its content and structure, and providing free access to information sources.

All this becomes achievable subject to the active use of the colossal advantages that the use of computer technology provides. The innovative processes taking place in Uzbekistan today are not just about introducing something new, they are called upon to radically change the way of thinking, lifestyle and human activity. The introduction of innovations in the study of languages is accompanied by a qualitative renewal of the education system, a rejection of a number of norms and rules that have lost their relevance, a revision of the roles of a student and a teacher [1]. The crucial importance of equipping the classrooms of universities with the latest computer technology and the introduction of ICT is noted in the decree of the President of the Republic of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Uzbekistan No. PP-2909 dated 20.04.2017 "On measures for the further development of the higher education system." It sets the task of gradually updating the computer hardware park, including servers, devices for wireless connection, various multimedia equipment, introducing database management systems and other information systems in accordance with the uniform requirements for higher educational institutions [2].

The active development and introduction of ICT in the higher education system is also due to the fact that the study of the opinions of students and the experience of teaching practice confirms the higher interest of students in the educational process, if it takes place using innovative technologies compared to traditional forms of information presentation. The use of ICT in the learning process increases the motivation of students to learn new information, contributes to their interest in acquiring knowledge.

The use of multimedia computer programs of the educational type today is an affordable means for teaching students the Uzbek language both in the classroom and for their self-education in their free time. Programs designed for students to work on grammar and phonetics cover the following main linguodidactic goals: reading, writing, listening, speaking [1], setting pronunciation and intonation, as well as conducting individual tests on the grammatical topics covered, distributed by difficulty levels. In order for students to learn how to conduct an oral dialogue, the following types of exercises are used:

- Simultaneous listening and reading of the dialogue, with each spoken sentence highlighted in color.
- listening to dialogues, while giving several answers to the question, from which the student must choose one.
- Dialogue in which you can freely construct a response. The tutorial provides such a dialogue and contains all possible answers to the question posed. In order to master grammar, vocabulary and syntax, the following types of exercises can be used:
- Exercises in which you need to fill in the gaps;
- Exercise games in which you need to make sentences. During the game, the student alternately hovers over the desired word, then the word is inserted into the constructed sentence;
- programs that offer lists of words from which you need to choose one to complete a sentence correctly, or choose a verb in the correct form;
- in the training programs lists of words and their definitions are presented.

During the exercise, the student must combine words with their corresponding definitions. Practice exercises for mastering grammar in multimedia format may include tasks for making sentences with substitution of words, with spaces, exercises for making sentences from suggested words, interrogative, affirmative, negative and other forms.

In principle, there is nothing unusual about such training exercises, but the advantage is that students do them not on paper, but on a computer monitor. At the same time, the student can immediately see whether he completed the task correctly, receive a hint or move to the next level of difficulty. During the listening process, each student can hear Uzbek speech. When teaching spoken language, students can pronounce phrases in Uzbek into the microphone and check the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

sound. When teaching writing, the student solves crosswords, performs exercises in a playful way, enters words from the keyboard and immediately checks the correctness of the assignments.

Multimedia programs offer a fairly large selection of all kinds of exercises and ways of working. They have an attractive design that arouses students' interest and desire to complete assignments. During the testing of students' knowledge by the programs, the progress achieved by them, the speed of solving the tasks, can be noted, if necessary, tips can be given. Means and technologies of multimedia provide an opportunity to intensify learning and increase motivation for learning through the use of modern methods of processing audiovisual information [3].

Thus, the methods of using multimedia educational programs in the lessons of the Uzbek language are characterized by variety and fun. They contribute to the effective development of various communication skills of students, faster formation of reading skills, improvement of written speech, replenishment of vocabulary and, importantly, sustainable motivation to learn the Uzbek language.

In the Uzbek language classes, you can use the following types of collaboration:

- 1. Team training. This method pays special attention to "group goals" and the success of the whole group, which can only be achieved as a result of the independent work of each member of the group (team) in constant interaction with other members of the same group while working on the topic / problem / question to be studied. Thus, the task of each student is not only to do something together, but to learn something together, so that each team member will acquire the necessary knowledge, form the necessary skills and, at the same time, so that the whole team knows, what each student has achieved. It is advisable to apply this method to topics such as: "Speech", "Connection of words", "Vocabulary", "Constructions of words for the purpose", "Spoken words", "Cut", "Simple and simple words", "Undalmaligaplar".
- 2. Another approach to organizing training is collaborative. In pedagogical practice, this approach is abbreviated as "saw". Students are organized into groups of 6 people to work on educational material, which is divided into fragments (logical or semantic blocks). The specificity of this method allows it to be applied on the following topics: "Dunyotillarivauzbektili", "Boglangankushmagap", "Zidlovboglovchilariyorida boglangan kushmagap", "Ergashgankushmagap".
- 3. A variant of the learning method in collaboration "Learning Together". The class is divided into heterogeneous (according to the level of training) groups of 3-5 people. Each group receives one assignment, which is a subset of a larger topic that the entire class is working on. As a result of the joint work of individual groups and all groups as a whole, the assimilation of all the material is achieved. The basic principles rewards for the whole team, individual approach, equal opportunities work here as well. The group receives awards based on the achievements of each student. According to the developers of this method, the teacher should pay great attention to the issue of completing groups (taking into account the individual and psychological characteristics of each member) and the development of tasks for each specific group. It is desirable to use such a method in high school, because the specific of this method allows you to work on complex topics. These topics include topics such as «Мустакилсўзтуркумлари», "Сўзларнингмуносабатшакллари", "Ёрдамчисўзтуркумлари" and etc.
- 4. Student research in groups is also a form of collaborative learning. In this version, the emphasis is on independent activity. Students work either individually or in groups of up to 6

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

people. They choose a general topic under the topic, which is scheduled for study by the whole class. Then, in small groups, this sub-topic is broken down into individual tasks for an individual student. Everyone, therefore, must contribute to the overall task. Discussions, group discussions provide an opportunity to get acquainted with the work of any student. Based on the tasks completed by each student, a single report is jointly drawn up, which is subject to presentation in the lesson to the whole class.

When organizing group discussions, in the process of working on projects, cognitive activity based on learning technology in cooperation becomes, as it were, an initial, elementary particle of the independent collective activity of students in the classroom. And the successes achieved, on the one hand, affect the result of group and collective work, and on the other hand, they absorb the results of the work of other members of the group, the entire team, since each student uses what is obtained both in independent group work and in collective, but already at the next stage, when summarizing the results, discussing them and making a common decision, or when performing the next new task / project / problem, when students use the knowledge gained and processed by the efforts of the entire group. It is advisable to entrust students with such topics on the Uzbek language as students' research work in groups:«Мураккабқушмагаплар», "Кўчирмагапликўшмагап", "Нуткуслублари", "Сўзлашувуслуби", "Публицистикуслуб", "Бадиийуслуб", "Расмийуслуб" etc. And one more method that gives a good result in teaching the Uzbek language is business games (integrated lessons). In a business game, several players interact, making decisions in a situation that simulates a real one, and the teacher guides the game, analyzes and evaluates the actions of the players. Each of the participants plays a role, he makes decisions and can quickly see the result, thus gaining his own experience.

Business games when studying the Uzbek language provide directed activity of students' mental processes: they stimulate thinking when using problem situations, ensure memorization of the main thing in the classroom, arouse interest in the studied discipline and develop the need for independent acquisition of knowledge. To increase the motivation of the educational process, the use of the project method is one of the most successful ways in teaching the Uzbek language.

The project method is a flexible model of the organization of the educational process, focused on the self-realization of students by developing their intellectual and physical capabilities, creative abilities in the process of studying the educational material. When studying the Uzbek language, students carry out various projects, such as the creation of crosswords, cartoons, educational and developmental games, etc. planning classes, increasing motivation when studying the content of the subject.

In the process of teaching the Uzbek language, students develop the ability to work with information to complete the assigned task, put forward their ideas, analyze educational material.

Computer training technologies. In the educational process, new information and innovative technologies do not separate from each other, since the widespread introduction of new innovative technologies will change the paradigm of education and only modern information technologies ensure the effective use of new innovative technologies. In the conditions of multilingualism in the Republic of Uzbekistan, the use of innovative technologies in teaching the Uzbek language is due to modern trends in teaching, implying a communicative orientation (working with text, analyzing current problems, mastering the rules in the process of completing assignments); text-centric approach (multifunctionality of the text: text as a standard for your own text; text as a basis for organizing conversations and discussions); functional approach

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

(what, how and why is used in the text); cultural approach (expanding students' knowledge with the help of textual material on the relationship of Uzbek culture with the cultures of other peoples); comparison (one of the most important methods of teaching in a multilingual environment). Effective use of multimedia technologies is possible at the stage of explaining a new topic. For example, when studying any topic, you can use a hypertext document created by WORD. A blank sheet is taken, the text of the proposal is typed on it, from which links to other documents are made. If the student does not remember, for example, what "parts of speech" are, then the link provides information about this. This work is good because you can independently repeat almost all the material with the help of a computer. A favorable psychological climate is created in the lesson, since the student does not become complex due to ignorance of the topic, but independently obtains knowledge using hypertext. Observations show that after classes in a computer class, students begin to take spelling and punctuation more seriously, they are convinced that spelling or punctuation illiteracy creates real obstacles to communication. So, the computer is a good helper along with other teaching aids for such sections of the Uzbek language as: word formation: "research laboratory" (analysis of the structure of words); "Parse the word" (find part of the word); "Assembly shop" (form new words from these morphemes); "Collect the word" (compose words according to the model); "The fate of words" (to analyze the etymology of words in the Uzbek language); morphology: "Song" (find the given parts of speech in a song piece); lexicology: "Textologist" (among the three versions of the text with a synonymousantonomical replacement, find the author's), etc. Summarizing thoughts, it should be emphasized that the introduction of innovative pedagogical technologies in teaching has led to the emergence of new technologies and forms of teaching for processing and transferring educational information. Technologies should be used taking into account the specifics of the age, knowledge of students. In this article, we have tried to show exactly what modern pedagogical technologies should be used in the Uzbek language lessons in secondary schools of Uzbekistan.

REFERENCES

- 1. Rakhimova KN. The sphere of application of information computer technologies in the study of the Uzbek language. Science and education today. 2018; 27(4):64-65.
- **2.** Kilicheva FB. The use of multimedia technologies in education. Scientific journal, 2017;(16(3):4-45.
- **3.** Sidorova LV, Afanasyeva NA. Multimedia technologies in education and teaching students of pedagogical directions. Concept, 2017;(1).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PEDAGOGICAL INNOVATIONS IN THE MODERN EDUCATION SYSTEM

Hasanova Gulixan Beshimovna*; Murodova Shaxlo Sattorovna**

*Teacher,

Department of Preschool Education of Bukhara Pedagogical College, UZBEKISTAN

Email id: hasanova@gmail.com

**Teacher,

Department of Preschool Education of Bukhara Pedagogical College, UZBEKISTAN

Email id: muradova@gmail.com

DOI: 10.5958/2249-7137.2021.02722.1

ABSTRACT

The article reveals the content of the concept of "pedagogical innovation" and its transformation over time. The authors focus on the differentiation of innovative transformations, innovative technologies and methods of their implementation, as well as the consideration of the difficulties associated with the introduction of innovative technologies in the education system.

KEYWORDS: Pedagogical Innovation, Innovative Technology, Education, Training, Innovative Activity, Method.

INTRODUCTION, LITERATURE REVIEW AND DISCUSSION

Development is an integral part of any human activity. Accumulating experience, improving methods and methods of action, a person is constantly evolving. This process is applicable to any human activity, including pedagogical.

One of the means of such development is innovative technology. Innovation - an innovation in the field of engineering, technology, education, organization of labor or management, based on the use of science and best practices, providing a qualitative increase in the efficiency of the production system or product quality. Innovation is not every innovation or innovation, but only one that seriously increases the efficiency of the current system [1].

Pedagogical innovation is a form of social innovation. Pedagogical innovations are fundamentally new ways, methods of interaction between teachers and students, ensuring the effective achievement of the result of pedagogical activity. Pedagogical innovations can be carried out both at the expense of the educational system's own resources (intensive development path), and through the attraction of additional capacities (investments) - new means, equipment, technologies, capital investments, etc. (extensive path of development).

The main directions and objects of innovative transformations in pedagogy are: development of concepts and strategies for the development of education and educational institutions; updating educational content; change and development of new technologies for training and education; improving the management of educational institutions and the education system as a whole;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

improving the training of teachers and their qualifications; designing new models of the educational process; ensuring psychological and environmental safety of students, developing health-saving learning technologies; ensuring the success of training and education, monitoring the educational process and the development of students; the development of textbooks and teaching aids of a new generation, etc. [2].

The main goals of innovative activity is the formation from childhood, taking into account the individual natural abilities of each person, the ability to think, avoiding patterns, analyze the information received, clearly define tasks and goals and find ways to solve them, based on the latest research and practical development, Innovations in education provide transformation of all existing types of practices in society. Correspondence of education to the realities of the modern world is possible only in the case of modernization, which is based not so much on organizational innovations as on substantive changes, which implies the content and technology of training personnel and scientific projects. Education bears a huge social burden, because thanks to it, the intellectual property of the country is formed, without which cultural material and scientific development and growth of the state is impossible. In this connection, it should have the ability to accelerate development, meet the interests of society, a specific individual and potential employer.

The use of information and communication technologies makes it possible to significantly speed up the process of searching and transmitting information, transforming the nature of mental activity, and automating human labor. It is proved that the level of development and implementation of information and communication technologies in production activities determines the success of any company. The basis of information and communication technologies is information and telecommunication systems built on computer tools and representing information resources and hardware and software tools that provide storage, processing and transmission of information over a distance. A modern school should become an advanced platform in terms of information technology, a place where a person receives not only the necessary knowledge, but also imbues with the spirit of the modern information society. Without the use of information and communication technologies, an educational institution cannot claim innovative status in education. Indeed, an educational institution is considered to be an educational institution that widely introduces organizational, didactic, technical, and technological innovations into the educational process and, on this basis, achieves a real increase in the pace and volume of assimilation of knowledge and the quality of specialist training. Interactive teaching methods and real-time technologies require significant telecommunication resources that can provide the necessary interconnection between the participants of the educational process, support for multi-service technologies. high performance telecommunication equipment and the bandwidth of data networks.

Innovations are the result of scientific research and advanced practical developments of teachers and teaching staff. In the light of the innovative strategy of the pedagogical process, the importance of the participation of the school principal, teachers and educators in it as innovators implementing the latest educational programs in practice increases sharply. With all the variety of possibilities and methods of training, the practice is left to the teacher.

With the introduction of modern technologies in the educational process, the teacher is forced to expand his functions as a consultant, adviser, educator. In this connection, the need arises for

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

special modern psychological and pedagogical training of the teacher, which would contribute to the formation of readiness for perception and the desire to implement pedagogical innovations.

Innovation in pedagogy is the introduction of the latest and best in the goal, content, methods and forms of the educational process, the organization of joint activities of the student and teacher.

Innovative processes involve the merging of scientific developments and practical education, that is, their result should be the use of innovations both theoretical and practical in a single educational process.

A teacher who uses innovative technologies in his work can act as an author, developer, researcher, user and promoter of the newest and most advanced theories, technologies and concepts. The management of the innovation process allows for the targeted selection, evaluation and application of the experience of colleagues or new ideas and techniques proposed by science in their activities.

The need for an innovative orientation of pedagogical activity in modern conditions of development of society, culture and education is determined by a number of circumstances.

Firstly, the ongoing socio-economic transformations necessitated a radical update of the education system, methodology and technology for organizing the educational process in educational institutions of various types. The innovative orientation of teachers and educators, including the creation, development and use of pedagogical innovations, acts as a means of updating educational policy.

Secondly, the strengthening of the humanization of the content of education, the continuous change in the volume and composition of academic disciplines, the introduction of new academic subjects require a constant search for new organizational forms and educational technologies. In this situation, the role and authority of pedagogical knowledge in the teaching environment increases significantly.

Thirdly, a change in the approach of teachers to methods of mastering and practical application of the latest techniques in pedagogy. Earlier, in the strictly limited standards of the content of the educational process, the teacher was deprived of the opportunity not only to independently choose new programs, textbooks, but also to use new techniques and methods of pedagogical activity. If earlier innovations were introduced exclusively as innovations, introduced according to the recommendations from above, now innovations in education are becoming more and more selective, research in nature. That is why an important direction in the work of school leaders and education management bodies is the analysis and evaluation of pedagogical innovations introduced by teachers, the creation of conditions for their successful development and application.

Fourth, the entry of general educational institutions into the conditions of market relations, the emergence of various types of educational institutions, including non-state ones, create a real situation of their competitiveness. We can say that education, in principle, is already an innovation. Using new techniques in innovative learning, the teacher makes him noticeably more fulfilled, vivid and memorable. At the junction of various fields of the natural sciences, such integration is necessary in order to form a holistic worldview and worldview. In conclusion, we can conclude that educational innovations nowadays bring the educational process in schools to a whole new level in terms of accessibility, breadth and depth of knowledge covered.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

And so, in the context of educational reforms, innovative activity, aimed at introducing various pedagogical innovations, has acquired special significance in vocational education. They covered all aspects of the didactic process: the forms of its organization, the content and technology of instruction, educational and cognitive activity.

The consequence of the constant development and improvement of pedagogical methods has become innovative technologies, i.e. technologies through which the integration of new ideas into education.

However, the introduction of such technologies is fraught with a number of difficulties (financial resources, the conservatism of some officials in the educational sphere, insufficient development of technologies). In addition, despite the obvious need for innovation, they should still be implemented with caution. Otherwise, careless innovation can lead to a crisis in the educational system. Nevertheless, it is important to understand that pedagogical innovations are an integral part of the development of pedagogy, and they are necessary for improving the education system.

REFERENCES:

- **1.** B.P. Martirosyan Pedagogical innovation: object, subject and basic concepts // Pedagogy, 2004. No. 4. P. 12-14.
- **2.** Andreev V.I. Pedagogy: a training course for creative self-development. Kazan, 2000.S. 440-441.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW STUDY ON ANTIOXIDANT POTENTIAL AND HEALTH BENEFITS OF CUMIN

Dr. Bajrang Lal*

*Professor,

Department of General Medicine, Faculty of Medicine, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: dr.bajranglalbanthia52@gmail.com

DOI: 10.5958/2249-7137.2021.02654.9

ABSTRACT

Cumin (Cuminumcyminum) is a significant and popular spice locally called as 'zeera' that is utilized for culinary purpose owing to its unique fragrant impact. Cumin is a classic and widely used spice from Middle Ages since it was a symbol of love and loyalty. Cumin (Cuminumcyminum) seeds are derived from the plant Cuminumcyminum, native from East Mediterranean to South Asia belonging to the family Apiaceae-a part of the parsley family. The proximate analysis of the cumin seeds shows that they include fixed oil, volatile oils, acids, essential oils, protein and other components. Cumin includes several essential components such as pinene, cymene, terpinene, cuminaldehyde, oleoresin, thymol and others that have proven their effectiveness against different illnesses. It is a vital source of energy, boosts immune system, provides protection against various illnesses. The total phenolic content of methanolic extracts of various cumin types (cumin, black cumin and bitter cumin) vary from 4.1 to 53.6 mg/g dry weight. In this thorough study, emphasis is on the nutritional, antioxidant and pharmacological characteristics of cumin.

KEYWORDS: Antioxidant potential, Cumin, Cuminumcyminum, health benefits, Seed.

1. INTRODUCTION

Spices have been recognized for centuries as excellent medicinal food. The ability of spices to impart biological activity is currently slowly reemerging as an area of study for human health. The seed spices form an important category of agricultural commodities and have a major role in our national economy. The crops covered as main seed spices are coriander, cumin, fennel and fenugreek, while ajowan, dill (sowa), celery, nigella (kalonji), caraway (siahjeera) and anise form small group of seed spices. Cumin seeds are oblong and yellow-grey. Cumin seeds are widely utilized in many cuisines of many diverse culinary cultures from ancient times, in both whole and powdered forms. In India, cumin seeds have been utilized for thousands of years as a traditional component of countless meals like kormas and soups and also constitute an ingredient of many other spice mixes. Besides culinary usage, it has also numerous uses in traditional medicine. In the Ayurvedic system of medicine in India, cumin seeds have great therapeutic potential, especially for digestive problems[1]–[5].

They are used in persistent diarrhoea and dyspepsia. Black seed is an annual flowering plant belonging to the family Ranunculaceae and is a native of Southern Europe, North Africa, and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Southwest Asia. Black cumin is grown in the Middle Eastern Mediterranean area, Southern Europe, Northern India, Pakistan, Syria, Turkey, Iran, and Saudi Arabia. Nigella sativa seeds and their oil have a long history of folkloric use in Indian and Arabian culture as food and medicinal. The seeds of N. sativa have a strong bitter flavor and fragrance and are used as a spice in Indian and widely in Middle Eastern cuisines. The dry-roasted nigella seeds spice curries, veggies, and legumes. Black seeds are used in cuisine as a flavor ingredient in breads and pickles. It is also utilized as an ingredient of the spice combination (panchphoron) and also independently of various dishes in Bengali cuisine. Cumin was historically employed as a preservative in mummification in the ancient Egyptian culture. Black cumin has a long history of usage as medicine in the Indian traditional system of medicine like Unani and Ayurveda[6].

Cumin (Cuminumcyminum) is a flowering plant in the family Apiaceae, native from the east Mediterranean to East India. In India cumin is known in as 'jeera' or 'jira' while in Iran it is called 'zira'. Indonesians call it 'jintan' (or jinten) and in China it is called 'ziran' while in Pakistan it is known as 'zeera'. Cumin is a herbaceous annual plant, having a thin branching stem 20-30 cm tall. The leaves are 510 cm long, pinnate or bipinnate, thread-like leaflets. The blooms are tiny, white or pink, and borne in umbels. The fruit is a lateral fusiform or oval achene 4-5 mmlong, bearing a single seed. Cumin seeds are similar to fennel and anise seeds in appearance, but are smaller and darker in color. The English cumin was obtained from the French cumin, which was acquired indirectly from Arabic 'Kammon' through Spanish 'comino' during the Arab reign in Spain in the 15th century. The spice is native to Arabic speaking Syria where cumin flourishes in its hot and dry regions[7]–[10].

1.1.Nutrition:

Cumin seeds are nutritionally dense; they offer significant quantities of oil (particularly monounsaturated fat), protein, and dietary fibre. Vitamins B and E and many nutritional elements, particularly iron, are also significant in cumin seeds. Cuminaldehyde, cymene, and terpenoids are the main volatile components of Cumin has a unique strong taste. Its pleasant fragrance is attributable to its essential oil concentration. Its major component of fragrance molecules are cuminaldehyde and cumin alcohol.

1.2. Cumin essential oil contents:

The most significant chemical component of cumin fruits is essential oil content, ranging from 2.5 percent to 4.5 percent which is pale to colorless depending on age and geographical differences. The ripe seeds of cumin are utilized for essential oil manufacturing, whether as whole seeds or coarsely crushed seeds. If readily alcoholsoluble oil is needed, the entire seed must be utilized. Hydro distillation is used for essential oil extraction, yielding a colorless or light yellow oily liquid with a distinct dour. The yield for oil production ranges from 2.5 to 4.5 percent, depending on whether the whole seed or the coarsely crushed seed is distilled. In a research, the essential oil content of cumin seeds after exposing them to heating by microwaves and traditional roasting at various temperatures was examined. The circumstances were standardized in both approaches. The volatile oils distilled from these samples were examined by GC and GC-MS. The findings revealed that the microwave-heated samples exhibited greater preservation of distinctive taste components, such as aldehydes, than did the traditionally roasted samples.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A total of 19 components were discovered through direct similarity searches for cumin oil. This number was expanded to 49 components, with the assistance of chemo metric techniques. Major components in cumin include gamma-terpinene (15.82 percent), 2methyl-3-phenyl-propanal (32.27 percent) and myrtenal (11.64 percent). (11.64 percent). In addition to volatile oil cumin also includes nonvolatile chemical components like tannins, oleoresin, mucilage, gum, protein compounds and malates. The oleoresins are produced by exposing the ground cumin to various organic solvents such as nhexane, ethanol, methanol etc. The extract obtained is then treated to rotational evaporation to remove the solvent. The micro encapsulations of cumin oleoresin by spray drying utilizing gum arabic, maltodextrin, and modified starch and their ternary blends as wall materials for its encapsulation efficiency and stability under storage. The microcapsules were tested for the content and stability of volatiles, and total cuminaldehyde, γ -terpinene and p-cymene content for six weeks.

1.3. Antioxidative properties of cumin:

Cumin has also been investigated for its antioxidative effects. The total phenolic content of methanolic extracts of various cumin types (cumin, black cumin and bitter cumin) varied from 4.1 to 53.6 mg/g dry weight. Cumin (Cuminumcyminum) methanol extract was discovered to have a total phenolic content of 9 mg/g dry weight. It has been also demonstrated that the methanolic extracts of cumin exhibit greater antioxidant activity compared with that of the aqueous extract. In another research the antioxidant activity and the phenolic components of 26 spice extracts including cumin was evaluated. Antioxidant activity was reported as TEAC (mmol of trolox/100 g of dry weight). Cumin exhibited a value of 6.61 mmol of trolox/ 100 g of dry weight whereas the total phenolic content of cumin was 0.23g of gallic acid equivalent/ 100 g of dry weight.

The antioxidant activity of cumin (Cuminumcyminum) has been evaluated on Fe2+ ascorbate induced rat liver microsomal lipid peroxidation, soybean lipoxygenase dependent lipid peroxidation and 1, 1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging techniques. The total phenolic content of methanolic extract of cumin was 9 mg/g dry weight. IC50 values of the methanolic extract of cumin seeds were 1.72±0.02, 0.52±0.01 and 0.16±0.30 on the lipoxygenase dependent lipid peroxidation system, the DPPH radical scavenging system and the rat liver microsomal lipid peroxidation system, respectively. The results also revealed that cumin is a strong antioxidant capable of scavenging hydroxy, peroxy and DPPH free radicals and therefore prevents radical mediated lipid peroxidation. In another research the antioxidant activity and the phenolic components of 26 spice extracts including cumin was evaluated. Antioxidant activity was reported as TEAC (mmol of trolox/100 g of dry weight). Cumin exhibited a value of 6.61 mmol of trolox/ 100 g of dry weight whereas the total phenolic content of cumin was 0.23g of gallic acid equivalent/ 100 g of dry weight.

1.4.Digestive Stimulant Action:

In the context of cumin seeds being claimed in home remedies and traditional medicine, to help digestion, an animal research has investigated if they have any stimulatory impact on the digestive enzymes. The effect of cumin seeds on the digestive enzymes of the rat pancreas and intestinal mucosa has especially been studied as a consequence of both continuous food consumption and single oral administration. Dietary (1.25 percent) cumin reduced the activity of pancreatic lipase, while the activities of pancreatic trypsin, chymotrypsin, and amylase were substantially increased by the same. When administered as asingle oral dosage, cumin exhibited

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

a decreasing impact on pancreatic lipase, amylase, trypsin, and chymotrypsin. Among the terminal digestive enzymes, a modest intestine maltase activity was substantially increased in mice fed with cumin, while lactase and sucrose were unaffected.

Dietary cumin had a strong stimulatory impact on bile flow rate, the amount of increase in bile volume being 25 per cent, while its single oral dosage did not have any influence on bile secretion rate. Dietary consumption of cumin had a significant effect on bile acid production (amount secreted per unit time), bile acid secretion being as high as 70 per cent above the control. Similar substantial increases in bile acid secretion were observed in the case of cumin when given as a single oral dosage. Since bile juice provides a major contribution to the entire process of digestion and absorption, primarily by providing bile acids needed for micelle production, it is anticipated that cumin, which has a digestive stimulant effect, may do so by boosting biliary secretion of bile acids. Another research has investigated if this digestive stimulant spice cumin similarly influences the length of residency of food in the gastrointestinal system of experimental rats. Cumin caused a substantial reduction of the food transit time by 25 per cent. The decrease in food transit time caused by dietary cumin approximately corresponds with their positive effect either on digestive enzymes or bile secretion.

1.5. Cardio-protective influence through hypolipidemic and hypotensive effects:

Cuminumcyminumis historically used for the treatment of dyspepsia and hypertension. The antihypertensive efficacy of aqueous extract of cumin seed and its involvement in arterial endothelial nitric oxide synthase production, inflammation, and oxidative stress have been investigated in renal hypertensive rats. Cumin given orally (200 mg/kg body) for 9 weeks increased plasma nitric oxide and decreased the systolic blood pressure in hypertensive rats. This was followed by the up-regulation of the expression of inducible nitric oxide synthase (iNOS), Bcl-2, TRX1, and TRXR1 and down regulation of the expression of Bax, TNF-α, and IL-6. These results indicate that cumin seeds enhance endothelial functioning and alleviate inflammatory and oxidative stress in hypertensive rats Gastro protective Effect

The anti-ulcer potential of N. sativa aqueous suspension on stomach ulcers experimentally produced with different unpleasant chemicals (indomethacin, 80 percent ethanol, and 0.2 M NaOH) in Wistar rats was investigated. Nigella sativa substantially reduced stomach ulcer development caused by necrotizing agents by significantly refilling the decreased gastric wall mucus content and gastric mucosal nonprotein sulfhydryl concentration. The antiulcer effect of N. sativa was exerted via its antioxidant and anti-secretary properties. Both N. sativa (2.5 and 5.0 ml/kg, p. o.) and TQ (5, 20, 50, and 100 mg/kg, p. o.) were shown to exhibit gastro-protective effect against stomach mucosal damage caused by ischemia or reperfusion in Westar rats. Lipid peroxidation and lactate dehydrogenize, elevated by the ischemia or reperfusion insult and decreased glutathione and activity of SOD accompanied by an increased formation of gastric lesions, were countered by N. sativa or TQ treatment, indicating their gastro protective effect, probably by conservation of the gastric mucosal redox state.

1.6. Pulmonary-protective activity and anti-asthmatic effects:

Nigella sativa has been studied for the potential therapeutic effects on experimental lung damage in rats following pulmonary aspiration and discovered that N. sativa therapy suppresses the inflammatory pulmonary responses. Nigella sativa treatment resulted in a substantial decrease in the activity of iNOS and an increase in surfactant protein D in the lung tissue of various

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

pulmonary aspiration models. It is concluded that N. sativa therapy may be helpful in lung damage that warrants prospective therapeutic application. The ameliorative effect of N. sativa oil in rats with hyperoxiainduced lung damage has also been observed.

1.7. Chemo Preventive Effects:

Cancer chemo preventive potentials of dietary 2.5 and 5.0 per cent cumin were tested against benzo (a) pyrene-induced carcinogenesis in forestomach and 3-methylcholanthrene (MCA)-induced tumorigenesis in uterine cervix in mice. Cumin caused a substantial suppression of stomach tumour. The impact on carcinogen/ xenobiotic metabolizing phase I and phase II enzymes, antioxidant enzymes, and lipid peroxidation in the liver was also investigated. Cytochrome P450 and cytochrome b5 were substantially increased bydietary cumin. The phase II enzyme glutathione-S-transferase (GST) was enhanced by cumin, while the specific activity of superoxide dismutase (SOD) and catalase were substantially raised. Lipid peroxidation was reduced by cumin, indicating that the cancer chemo preventive effect of cumin may be related to its capacity to regulate carcinogen metabolism. The anti-cancer activity of N. sativa has extensively been investigated in various in vitro and in vivo settings.

Nigella sativa is ableto exhibit antioxidant, anti-mutagenic, cytotoxic, proapoptotic, antiproliferative, and anti-metastatic actions in different primary cancercells and cancer cell lines. The existing results clearly indicate that N. sativa may serve as an effective agent to reduce cancer start, development, and metastasis alone or in conjunction with standard chemotherapeutic medicines. Nigella sativa extract ameliorated the benz (α -) pyreneinduced carcinogenesis in the forestomach in mice. This is partially due to the capacity to affect phase II enzymes. Orally given N. sativa oil (14 weeks) interfered with the development of aberrant crypt foci (ACF) by 1, 2-dimethylhydrazine, suspected preneoplastic lesions for colon cancer in rats. This inhibition may be linked, in part, with the reduction of cell growth in the intestinal mucosa. Nigella sativa aqueous solution substantially reduced gastric ulcer development experimentally generated by necrotizing agents and also considerably ameliorated the severity of ulcer and gastric acid production in pylorus-ligated Shay rats.

2. DISCUSSION

The immunomodulatory characteristics of N. sativa and its main active component, TQ in terms of its experimentally proven abilityto influence cellular and humoral adaptive immune responses have thoroughly been examined. The molecular and cellular processes underpinning such immunomodulatory actions of N. sativa and TQ are emphasized, and the signal transduction pathways involved in the immunoregulatory activities are proposed. Experimental data indicates that N. sativa extracts and TQ may therapeutically be used in the control of immunological responses in infectious and noninfectious diseases such as allergies, autoimmune, and cancer. The potential immunomodulatory effects of aqueous extract of N. sativa investigated in BALB/c mice and C57/BL6 primary cells with respect to splenocyte proliferation, macrophage function, and anti-tumor activity demonstrated that N. sativa significantly enhancesplenocyte proliferation in a dose-responsive manner.

3. CONCLUSION

The overall assessment of this review indicates that cumin has a strong antioxidant potential. The essential oils contained in this spice have strong antioxidant activity and its nonvolatile extracts also have excellent inhibitory capabilities against the free radicals. Multiple research performed

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

in the past decades confirm its health positive benefits especially in diabetes, dyslipidemia, hypertension, respiratory disorders, inflammatory illnesses, and cancer. These seeds also exhibit immune stimulatory, gastro protective, hepatoprotective, nephroprotective, and neuroprotective properties. Therefore, this research indicates that cumin in addition to its function as a taste ingredient, has excellent antioxidant potential and has numerous associated health advantages as well.

REFERENCES:

- 1. S. S. Rathore, S. N. Saxena, and B. Singh, "Potential health benefits of major seed spices," Int. J. Seed Spices, 2013.
- **2.** M. Ahmadi et al., "Nigella sativa a Plant with Personality in Biochemistry and Experimental Medicine Researches," Bull. Univ. Agric. Sci. Vet. Med. Cluj-Napoca. Vet. Med., 2016, doi: 10.15835/buasvmcn-vm:12297.
- **3.** D. M. Mostafa, S. H. Abd El-Alim, and A. A. Kassem, "Nanoemulsions: A New Approach for Enhancing Phytonutrient Efficacy," in Nanotechnology Applications in Food: Flavor, Stability, Nutrition and Safety, 2017.
- **4.** N. Vutakuri and S. Somara, "Natural and herbal medicine for breast cancer using Elettaria cardamomum (L.) Maton," Int. J. Herb. Med., 2018.
- **5.** E. Aali, R. Mahmoudi, M. Kazeminia, R. Hazrati, and F. Azarpey, "Essential oils as natural medicinal substances: Review article," Tehran University Medical Journal. 2017.
- **6.** R. A. Martinez III, "Examining food additives and spices for their anti-oxidant ability to counteract oxidative damage due to chronic exposure to free radicals from environmental pollutants," 2014.
- **7.** Z. Oskouei, M. Akaberi, and H. Hosseinzadeh, "A glance at black cumin (Nigella sativa) and its active constituent, thymoquinone, in ischemia: A review," Iranian Journal of Basic Medical Sciences. 2018, doi: 10.22038/ijbms.2018.31703.7630.
- **8.** P. Farshi, M. Tabibiazar, M. Ghorbani, and H. Hamishehkar, "Evaluation of antioxidant activity and cytotoxicity of cumin seed oil nanoemulsion stabilized by sodium caseinate-guar gum," Pharm. Sci., 2017, doi: 10.15171/PS.2017.43.
- **9.** H. V. Gangadharappa, K. Mruthunjaya, and R. P. Singh, "Cuminum cyminum -A popular spice: An updated review," Pharmacognosy Journal. 2017, doi: 10.5530/pj.2017.3.51.
- **10.** N. B. Thippeswamy and K. A. Naidu, "Antioxidant potency of cumin varieties-cumin, black cumin and bitter cumin-on antioxidant systems," Eur. Food Res. Technol., 2005, doi: 10.1007/s00217-004-1087-y.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A CLINICAL REVIEW OF MICRONUTRIENTS IN HIV INFECTION

Dr. Chinky Sharma*

*Assistant Professor,
Department of General Medicine, Faculty of Medicine,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: chnkysharma2011@gmail.com

DOI: 10.5958/2249-7137.2021.02658.6

ABSTRACT

The current research on the function of micronutrients in human immunodeficiency virus (HIV) infection is reviewed in this article. Nutritional deficiencies are prevalent in HIV-positive people. They develop as a result of malabsorption, abnormal metabolic, gut infections, and a weakened gut barrier. In HIV infection, there is a strong link between micronutrient shortages and immunological insufficiency, fast disease progression, and death. In addition, a vitamin A deficit increases the chance of vertical HIV transmission from mother to child, and a vitamin B12 deficiency increases the risk of neurological disability. Micronutrient research has been exciting in the past five years, and there is hope that certain micronutrients may be important contributors in preserving health and decreasing death in HIV immunodeficiency. Selenium seems to have a role in lowering HIV virulence and delaying disease progression. Vitamin A supplementation may decrease maternal mortality and enhance birth outcomes in HIV-positive pregnant women. Supplementation in HIV-positive youngsters may help them develop faster. Supplementing with carotenoids is being studied. Vitamin B12 may help to halt the development of HIV immune deficiency illness and restore neurological damage. In the context of a preexisting deficit, the clinical effect of supplementing with certain minerals may be detectable. Apart from better overall diet, the effect of micronutrient supplements on health and the best way to utilize them in HIV infection is debatable due to the scarcity of controlled clinical studies. More study is required to better understand the function of micronutrient deficiencies in the progression of HIV infection, as well as the preventative and therapeutic significance of supplementing in HIV treatment. Nonetheless, recent evidence supports the use of regular multivitamin and mineral content supplements as a relatively low-cost adjunct to standard antiretroviral medication therapy.

KEYWORDS: AIDS, HIV, Micronutrients, Trace Elements, Vitamins.

1. INTRODUCTION

The significance of diet in human health has gotten a lot of attention in recent times. Vitamins supplement has been used effectively for a long time to treat and prevent a variety of clinical disorders. Vitamin A is used to maintain eyesight, beta-carotene is used to treat erythropoietin protoporphyria, vitamin C is used to treat scurvy, and niacin is used to treat pellagra, among other things. Numerous micronutrients have been found to have immunostimulatory and anti-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

cancer effects in vitro and in animals, prompting several major epidemiological trials of micronutrient supplementation[1]. These studies, however, had no impact on the incidence or outcomes of cancer, stroke, or heart disease. Nonetheless, a protective effect of combination carotene, vitamin A, and selenium supplements on stroke risk was seen in a Chinese undernourished group[2].

Vitamin A supplementation has been shown to decrease morbidity and mortality in children suffering from infectious illnesses including measles, diarrhea, and acute respiratory infections. Significant decreases in the severity of diarrhea, respiratory illness, and malaria were seen in zinc supplementation studies. Selenium has been proven to defend against some malignancies, especially in the case of inadequate dietary intake[3].

Nutritional status assessment and corrections in HIV infection is becoming more widely acknowledged as an essential component of comprehensive HIV management. This article analyzes the function of supplementation with specific and combination micronutrients in HIV infection, evaluates the existing published literature on micronutrients in HIV infection, and makes recommendations for future study to further define the role of nutrition in HIV infection[4].

1. Micronutrients

1.1 Deficiency of micronutrients:

Micronutrient deficits are prevalent in HIV infection, and they may happen at any stage of the disease, including asymptomatic illness[5][6]. Serum levels of fat-soluble micronutrients and selenium are lower than other micronutrients, while serum carotene levels are lower than any other. There was no change in the frequency of micronutrient deficiencies in patients with CD4 cells more than 500, between 200 and 500, and less than 200 cells/L, according to Tomaka et al. Supplementing with micronutrients Among North America, multivitamin and trace element supplementation is prevalent in 63 percent to 73 percent of HIV-positive people. Despite the fact that multivitamin and trace element supplementation increased micronutrient levels at all phases of the illness, levels in HIV-positive patients were lower than in HIV-negative controls. Even with supplementation, 29 percent of HIV-positive people had one or more micronutrient deficiencies[7].Disease progression and mortality: Multivitamin use and intake of vitamin E, riboflavin, vitamin C, thiamine, and vitamin A were associated with slower disease progression in HIV. Tang et al observed slower progression of disease with moderate increase in intake of vitamins B1, B2, B6, and C, and reduced risk of mortality with all of these except vitamin C. Benefit was not significant with a great increase in intake of these micronutrients. These studies were observational in design, and residual confounding cannot be excluded as an explanation of results.

Birth outcomes: in HIV-positive mothers were investigated in a randomized, placebo-controlled study in Tanzania. In a factorial research design, the women were given vitamin A and/or multivitamins (vitamins B1, B2, B6, B12, C, and E, as well as niacin and folate, but not vitamin A). They were given ferrous sulphate and folate supplements on a regular basis, as well as preventive chloroquine once a week. Multivitamin supplementation was shown to reduce the chance of fetal loss by 39 percent, as well as the risk of low birth weight, severe preterm delivery, and small-for-dates birth by 40 percent[8]. There was also a substantial increase in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CD4, CD8, and CD3 cell counts. A modest therapeutic effect of vitamin A supplementation was seen, although it was not statistically significant[9].

1.2 Vitamin A:

Deficiency of vitamin Vitamin A insufficiency is prevalent at different phases of HIV infection, according to studies, even in 12 percent to 19 percent of asymptomatic HIV-positive people[10]. Levels seem to decrease as the illness develops, are more common in women than men, and may occur even when sufficient nourishment is provided. When compared to age-matched maternal controls, 63% of 474 HIV-positive pregnant women in Malawi had inadequate vitamin A levels, and 70% of their infants born with or without HIV infection had deficient vitamin A levels[11]. In one research, children were shown to have insufficiency before developing AIDS. Fat malabsorption, general malabsorption, diarrhea, gut infection, decreased gut barrier function, and altered metabolism all contribute to fatsoluble micronutrient deficits in HIV infection.

2. CD4 lymphocytes, disease progression and mortality:

Over an 18-month period, Baum et colleagues discovered a link between the development of vitamin A insufficiency and a substantial reduction in CD4 cell count. Low vitamins A levels were shown to be an independent predictor of mortality from AIDS-related causes. They also discovered that vitamin A insufficiency occurred in 20% of individuals who died from AIDS or infection during a 4-year period, while only 7% of HIV-positive control survived. 31 Serum retinol (vitamin A) levels were shown to be inversely related to the risk of death in HIV-infected intravenous drug users in another research.

3. Vertical HIV transmission:

A cross-sectional research found a strong negative association between prenatal vitamin A levels and viral load in breast milk of women with CD4 cell counts < 400 cells/mm3. Another research found a link between low vitamin A levels and increased viral shedding in vaginal secretions. Women who've been vitamin A deficient prenatal period were shown to be 3.69 considerably more probable to spread the virus to their offspring in an observational study of 133 HIV-infected mothers. With declining levels of vitamin A in the HIV-infected mother, there was a progressive increase in HIV transmission rates. A three- to four-fold increase in the probability of transmission was discovered using multiple regression. Infants born to mothers with the lowest levels of vitamin A perished within a year of birth. Vitamin A deficiency was linked to a greater chance of viral transmission, as well as having a dead or HIV-positive infant. Two observational studies involving 334 and 95 HIV positive expectant mothers found no link between low vitamin A levels and the likelihood of infected patients.

4. Vitamin A supplementation:

Viral load: In a small placebo-controlled trial of vitamin A and beta-carotene in HIV-infected pregnant women, no effect was seen on viral load. Similarly, no effect was seen on viral load with vitamin A and beta-carotene supplements in HIV-infected patients in two separate studies Vertical viral transmission, maternal mortality, and birth outcomes: Supplement vitamin A in expectant mothers at different stages of HIV infection had no overall impact on vertical viral transmission in randomized controlled studies. In a randomized, placebo-controlled study in 700 HIV-infected pregnant women in Malawi, prenatal supplementation with 10,000 IU of vitamin A or placebo showed no impact on viral transmission at six weeks or 12 months. 47 In 750 women

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

in South Africa, prenatal supplementation with 5,000 IU of vitamin A and 30 mg beta-carotene or placebo had no impact on virus infection, but there was a modest but statistically insignificant decrease in preterm deliveries. Mothers who took supplements were less likely to spread the virus to their preterm babies than women who took a placebo. Vitamin A and multivitamins (except vitamin A) were given prenatally in a large randomized, placebo-controlled study in Tanzania. In comparison to controls on placebo, there was no impact on vertical transmission in the prenatal or intrapartum periods, or for up to six weeks after nursing.

20,000 pregnant women in Nepal were given a weekly dosage of 23,300 IU vitamin A or beta-carotene in a placebo-controlled study. Both HIV-positive and HIV-negative women saw a 50% decrease in maternal mortality. Supplementation with the two micronutrients had no impact on outcomes related to birth weight, preterm, or newborn children in the same group.

I. Vitamin A supplementation in children:

Vitamin A was administered in single age-adjusted dosages to children of HIV-positive mothers in a randomized, placebo-controlled study in Durban at one and three months (50,000 IU), six and nine months (100,000 IU), and 12 and 15 months (100,000 IU) (200,000 IU). At 16 months, the treated group had 28 percent fewer episodes of diarrhea, 40 percent fewer bouts of diarrhea, and 77 percent fewer hospitalizations for diarrhea. Multivariate analysis revealed that the treatment effect was limited to children who tested HIV-positive. In a randomized, placebo-controlled trial from Tanzania, 687 children aged 6 to 60 months were hospitalized with pneumonia and given 200,000 IU vitamin A supplementation (half that if under 12 months old). The dosage was given again the following day, as well as at four and eight months. This resulted in a substantial increase in linear growth in HIV-positive children, ponderal growth in malaria-affected children, and stunting reduction in children with chronic diarrhea.

II. Oxidative stress and antioxidants:

Antioxidant imbalances in the host are linked to apoptosis, which may contribute to HIV development. 5 Reactive oxygen species (ROS) damage to lipid membranes, intracellular proteins, and DNA causes apoptosis. 17 By activating oxygen-responsive transcription factors, particularly NF-kB, ROS may awaken the latent HIV state, causing HIV replication in the infected Tlymphocyte. Antioxidant vitamins may help to prevent HIV replication and decrease ROS.

III. Safety of vitamin A:

Lengthy and large dose vitamins A usage has been linked to toxicity, as well as the possibility of HIV-1 expression.58 Toxicity appears as hypervitaminosis A and an increase in bone fractures.59 However, the risk of toxicity in the presence of HIV infection is unknown.

2. DISCUSSION

Because of the different research designs, dosages, durations of follow-up time, and study outcomes, the findings of micronutrient therapy studies are difficult to evaluate. Micronutrients levels in the blood are used to diagnose micronutrient deficits, however they may not accurately represent nutritional status. Gender, measurement time of day, acute illness, liver disease, technical characteristics, and recent consumption all affect micronutrients levels. There may be interactions between micronutrients and concurrent antiretroviral medication treatment therapy, making extrapolation of results to other populations problematic. It's still uncertain if

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

vitamin supplementation has any effect on the clinical course of HIV illness. Supplementation's therapeutic efficacy in various clinical situations and with different micronutrients requires further study. Nonetheless, there is substantial evidence that dietary deficiency has a negative impact on the course of HIV illness. Micronutrient supplements have also been proven to relieve symptoms, postpone the onset of AIDS, reduce mortality, accelerate child development, enhance birth outcomes, and reduce maternal mortality.

3. CONCLUSION

A number of interrelated variables affect the progression of HIV infection from the fusion of the initial virion with a CD4+ T-cell to AIDS and death. However, by better understanding the prognostic importance of a few of these factors, it may be feasible to enhance patient treatment and long-term outcomes. Although unchangeable, host variables are nonetheless significant in determining the patient's prognosis and directing therapeutic regimens. Furthermore, studying the interaction between the host and the virus has the potential to aid in the development of novel treatment methods. Immunological markers such as CD38 expression and the variety of HIV-specific cytotoxic lymphocyte responses provide information on the virus's antilogous control. Virological surveillance, particularly medication resistance supervision, will continue to play an important role in HIV infection management. Furthermore, as global access to antiretroviral treatment increases, the value of the need for low-cost, easily accessible disease indicators becomes clear. As with any disease of this size, a slew of variables must be considered in order to achieve the best possible quality of life and treatment outcomes.

REFERENCES

- 1. N. Singhal and J. Austin, "A clinical review of micronutrients in HIV infection," Journal of the International Association of Physicians in AIDS Care. 2002, doi: 10.1177/154510970200100205.
- **2.** J. H. Irlam, N. Siegfried, M. E. Visser, and N. C. Rollins, "Micronutrient supplementation for children with HIV infection," Cochrane Database of Systematic Reviews. 2013, doi: 10.1002/14651858.CD010666.
- **3.** H. Steinbrenner, S. Al-Quraishy, M. A. Dkhil, F. Wunderlich, and H. Sies, "Dietary selenium in adjuvant therapy of viral and bacterial infections," Advances in Nutrition. 2015, doi: 10.3945/an.114.007575.
- **4.** N. Siegfried, J. H. Irlam, M. E. Visser, and N. N. Rollins, "Micronutrient supplementation in pregnant women with HIV infection," Cochrane Database Syst. Rev., 2012, doi: 10.1002/14651858.cd009755.
- **5.** M. E. Mccauley, N. van den Broek, L. Dou, and M. Othman, "Vitamin A supplementation during pregnancy for maternal and newborn outcomes," Cochrane Database of Systematic Reviews. 2015, doi: 10.1002/14651858.CD008666.pub3.
- **6.** C. Duggan and W. Fawzi, "Micronutrients and child health: Studies in international nutrition and HIV infection," Nutrition Reviews. 2001, doi: 10.1111/j.1753-4887.2001.tb06963.x.
- **7.** C. A. Teasdale, B. J. Marais, and E. J. Abrams, "HIV: prevention of mother-to-child transmission," BMJ clinical evidence. 2011.
- 8. A. Campa and M. K. Baum, "Micronutrients and HIV infection," HIV Therapy. 2010, doi:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

10.2217/hiv.10.36.

- **9.** R. D. Semba, "Vitamin A and human immunodeficiency virus infection," Proc. Nutr. Soc., 1997, doi: 10.1079/pns19970046.
- **10.** L. Grobler, N. Siegfried, M. E. Visser, S. S. Mahlungulu, and J. Volmink, "Nutritional interventions for reducing morbidity and mortality in people with HIV," Cochrane Database of Systematic Reviews. 2013, doi: 10.1002/14651858.CD004536.pub3.
- **11.** M. E. Visser, S. Durao, D. Sinclair, J. H. Irlam, and N. Siegfried, "Micronutrient supplementation in adults with HIV infection," Cochrane Database of Systematic Reviews. 2017, doi: 10.1002/14651858.CD003650.pub4.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CONSTRUCTIVE APPROACH TO DIFFICULT PEDAGOGICAL CONFLICTS

Burieva Nilufar Rasulovna*

* Lecturer,
Department of Preschool Education, Karshi State University,
UZBEKISTAN
Email id: sharopovr@bk.ru

DOI: 10.5958/2249-7137.2021.02713.0

ABSTRACT

Modern psychology is characterized by the recognition of the secondary nature of the conflict, including its positive role. The main positive function of the conflict is that it can be a signal for change, rapprochement, the emergence of tension, "healing" and a source of development of relations, that is, conflicts.

KEYWORDS: Conflicts, Emotions, Discomfort, Pre-Conflict Situation, Self-Expression, Self-Affirmation

INTRODUCTION

School work involves rapidly changing situations, which in turn can lead to conflicts. As soon as a conflict arises, emotions immediately "work", people experience tension, discomfort, which can harm the health of all parties to the conflict. [1]

Therefore, it is important for the homeroom teacher to have elementary ideas about the conflict, to prevent conflict that can lead to a violation of good relations between children, how to behave during the conflict, reduce its intensity, how to end the conflict with the least loss or resolve it in the interests of both parties. [2]

One of the most important tasks of a teacher is to develop in children the ability to form relationships in the process of interacting with others on the basis of interaction and mutual understanding, readiness to accept other people, their point of view, habits. It is very important to teach children communication skills and, if necessary, correct their behavior, otherwise the child may acquire a form of behavior that will interfere with his interaction with others and become detrimental to his own development. [3]

Modern psychology is characterized by the recognition of the secondary nature of the conflict, including its positive role. The main positive function of the conflict is that it can be a signal for change, rapprochement, the emergence of tension, "healing" and a source of development of relations, that is, conflicts - with the right approach to them - can become an effective factor in the pedagogical process. for children, but you need to create a friendly atmosphere. [4]

I. Pre-conflict situation.

In the first quarter, difficulties arose due to the aggravation of interpersonal relations: constant complaints of children, whom classmates did not understand, did not hear or listen to, bullying, naming names, shouting at them, mutual reproaches, claims to each other, isolated cases were

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

observed. quarrels are also based on misunderstanding. All these actions are a chain (amplification) of conflicting genes that played a large role in the origin of the conflict. There were the following types of opposite genes: the desire for domination (7 people with the status of "cool"), the manifestation of aggression (in some cases there were fights) and the manifestation of selfishness (it was believed that not everyone listened to him, although he himself did not try to listen to this opinion). environment). It was obvious that a conflict situation had arisen in the class. [5]

Yes, before the conflict there were objective life situations in which there were children. The origins of conflict relationships were children's needs for safety, communication, contacts, interaction, respect, self-expression and self-affirmation.

And, of course, the kids were too worried. They reacted sharply to petty insults and accusations. According to my observations, about 80% of the guys were on the verge of a "psychological breakdown", they could not calmly talk to each other, shouted, and when I began to talk to them in order to understand the situation (this happened every day), most of them "passed out", Began to cry, but the resentment against each other did not pass, but only intensified. At this stage, my task was to prevent the impending conflict. To this end, I conducted daily individual, group conversations in which I used the method of persuasion. I tried to show attention and respect to each child, to understand his condition, to put myself in his place, to give the opportunity to talk with everyone, to focus on his positive qualities. But during the "showdown" with the children, I used authoritarian methods. It would seem that the conflict has been resolved, but during the next incident, of course, there will be a quarrel. The situation escalated day by day. It was clear that such communication could not be continued. The "last straw" of my patience was the "nature" contest, which simply "broke" due to disagreements between the teams. All the guys quarreled again, the mood soured. [6]

II. Direct conflict.

It really was a conflict, because there was a conflict-directed, conflicting, contradictory process of interpersonal relations of children associated with negative emotional experiences.

By type m, there was a personal conflict, since it arose due to a mismatch of opinions, interests, goals, needs between the students in the class.

The reasons for the conflict were: lack of understanding of personal characteristics in the process of communication of children in the class (60% of children in the class have the ability and desire to be leaders, this group of children seeks to dominate, to be the first, to say the last word; the class teacher, a girl, is so principled that sometimes she incites other children to "hostile" actions, many children of this class are characterized by excessive accuracy in statements, judgments, the desire to speak the truth in the face, persistence (by the way, I like these qualities in the guys, but not everyone likes it, increased emotionality, insufficiently developed T quality personality - tolerance, inability to control a separate group of indecent emotional states of children). [7]

I knew for sure other reasons for this wonderful conflict in the classroom. The fifth grade is a period of adaptation to new learning conditions. Children are included in a new system of relationships and communication with adults and friends. Moreover, this is the early adolescence. Physiological factors in development make themselves felt, the restructuring of the harmonious system begins, which leads to changes in well-being and mood. As a teenager, the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

child often loses psychological balance. These factors contribute to the strengthening of interpersonal relationships in the team. The need for self-affirmation becomes dominant, which manifests itself in an increased degree of certainty in relation to others, in an increased sensitivity to the injustice of others, in an increased need for recognition and respect from peers and adults. In addition, a teenager develops insufficient self-esteem, inferiority complexes associated with experiencing difficulties that are very painful. High self-esteem leads to the manifestation of frivolity, painful pride, resentment and underestimation - it causes anxiety, insecurity, fear. [8]

So I decided to spend some cool hours that are important to me:

Informing children about class conflicts,

- Discussion of various strategies for intervention in the conflict;
- bringing them to an understanding of the negative consequences of using a destructive strategy prevailing in their relationship, and the importance of using a constructive strategy;
- I needed the children to find out the reasons for this situation themselves in the classroom;
- Determination, together with them, of ways to resolve the conflict,
- My job was to resolve this conflict and served to identify and resolve contradictions.

Preparing for school, he consisted of an in-depth study of interpersonal relationships in the classroom. In addition to observing and communicating with each child individually, I conducted sociometric research that supplemented my understanding of the emotional structure of the class. I conducted a survey, among which there were questions like "Do you like the way Odnoklassniki communicate with you? What do you dislike about interacting with your classmates? What do you like about communicating with classmates? What kind of communication do you dream of? moments that you don't understand?"

For the classroom hours, I created a presentation in which there is a short video from the life of the class. (One of the parents that day "on the phone" captured some moments of the children's rest during the trip, and even a small part of the competition, where the scandal occurred, was filmed. But, unfortunately, this was a much quieter stage of the scandal). Again, this plot was good class material. [9]

My strategy of conflict behavior.

According to the method of conflict resolution, I chose a constructive path, giving preference to two methods of conflict resolution: cooperation and compromise.

Since partnership with involves finding a solution that meets the interests of children of all grades. This includes the ability to get your feelings back, explain your decisions, and listen to the other side. Together with cooperation, work experience is gained and the ability to listen is developed.

A compromise is the resolution of differences through mutual concessions. Communication partners agree on a "golden mean", that is, partial satisfaction of the interests of each child. I assumed that such a strategy would also be effective, since it was clear that all children want the same thing - to improve their relationships. Typically, a compromise allows you to have at least something without losing anything, and allows you to work out a temporary solution if there is no time to develop another.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

During the lessons, I used the techniques of constructive interaction: persuasion, argumentation, an attempt to agree.

The method of reasoned discussion is used, VM, which helps to resolve the conflict of opinions. I used all the positive aspects of such a popular technique as the interaction of constructive arguments C. According to Kratochvil. In the process of discussing the problem, we talked about a specific situation and discussed the specific actions of the children (originality), all the children were involved in the conversation (involvement). An open, open communication was demonstrated, where everyone spoke for themselves and thought what they would say, there were good "thoughts". It was fair play.

III. Conflict resolution stage

Consequences of the conflict.

Perhaps the conflict was the only way out of a tense situation.

Speaking about the positive aspects of the conflict, it should be noted that individual consequences of the conflict were the strengthening of group interaction.

Thus, there are integral consequences that determine the way out of a difficult situation, the conflict has led to the solution of problems, strengthening the unity of groups, mutual understanding.

The results of the constructive argument (S. According to Kratochvil) was also positive.

Each child learned something new, learned something new (informative) tension disappeared, bitterness subsided, claims became clearer (reciprocal) discussion of the situation led to mutual understanding, rapprochement. They were worried about the problem under discussion, the self-esteem of each participant in the conversation (rapprochement) was maintained, the situation was resolved, the problem was understood and solved in practice, apologies were made (at the end of the class hour everything was unexpected, the class teacher apologized to his classmate, made excuses for his behavior) and, finally, the rules were formulated interactions in the classroom (clarification). [10]

Preventing future conflicts

1) a series of class hours was held on this topic. The main idea was that children in a comic form "lose" various "conflict situations" from life and learn to restrain their emotions during a conflict. It was important for me to "convey" to them the idea that the conflict in a person is connected not with reason, but with feelings, this is when consciousness simply turns off and the person is not responsible for his words and actions.

Conflict management specialists have developed a code of conduct for conflict. (Samigin S.I., Stolyarenko L.D. Psychology of Management. - Rostov-on-Don, 1997. - S. 468-472).

In these conflicts, we are losing class hours. All of this was presented in a funny way, besides, various ways of behavior of children were prepared in advance. It was fun and fun. And the kids learned very important interaction skills.

REFERENCES

1. Grishina NV. The psychology of conflict. Saint Petersburg: Peter, 2005.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 2. Knyazev et al. Home teacher. Social studies for applicants. M.: Iris Press, 2007.
- **3.** Zhuravlev VI. Fundamentals of pedagogical conflict management. M., 1995.
- 4. Kan-Kalik VI. Educator about pedagogical communication. M.: Type. Education. 1992.
- **5.** Kozyrev GI. An introduction to conflict management. M., 1999.
- **6.** Rogov EI. Psychology of communication. M.: Type. Vlados, 2001.
- **7.** Rozhkov MI, Bayborodova LV, Kovalchuk MA. Education of tolerance in schoolchildren. Yaroslavl: Development Academy, Holding Academy, 2003.
- **8.** Rybakova MM. Conflict and interaction in the pedagogical process. -M., 1991.
- 9. Selevko GK. A guide to organizing students' self-study. School technology 1999, no. 6.
- **10.** Shelamova G.M. Business culture and psychology of communication. M.: Type. Academy, 2004.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DECODING GEOMETRIC PROPERTIES OF MUQARNAS BASED ON ARCHITECTURAL SCROLL

Shakhboz Mustafoev*

*Graduate Student,
Department of History and Theory of Architecture,
Tashkent Architecture and Construction Institute
Tashkent, UZBEKISTAN
Email id: 1993shaxboz3991@gmail.com

DOI: 10.5958/2249-7137.2021.02714.2

ABSTRACT

Understanding the mystery of muqarnas geometry and its complexity needs to have knowledge about the designing thought and designing methods of these geometrical decorative elements. This topic tries to reveal the architectural scrolls, geometrical properties of muqarnas, what we should know and how to researchtechnologies of creation of the muqarnases. Furthermore, in order to understand the structure of muqarnas, we going to study muqarnas structure in both two-dimensional plane projection which is a substitute for the muqarnas design, and three-dimensional muqarnas compositions and the way that are constructed as a volume. In this regard, all information is based on scroll and knowledge of traditional masters of Uzbekistan, Iran, Turkey, and so on.

KEYWORDS: Muqarnas, Karbandi, Rasmi bandi, Yazdi bandi, Kaseh sazi, stalactite, shamseh, toranj, taseh, parak, shaparak, tee, espar, takhts, scroll.

INTRODUCTION

Because of Islamic belief, architects and artisans started to use singly or combined motifs of geometric patterns instead of living creature figures in their architectural decoration. Such as adorning the surfaces or using complex arrangements.

According to the survey that is presented by The Metropolitan Museum of Art (2000), the first samples of geometric ornamentation already existed in late antiquity in the Byzantine and Sasanian empires. Islamic architects mostly tried to lay emphasis on unity, logic, and order in architectural decoration. Geometric patterns in Islamic world developed by mathematicians, astronomers, and other scientists, whose ideas reflected in works as *Abū al-Wafā Būzhjānī*, *Ghiyāth al-Dīn Jamshīd Mas ʿūd al-Kāshī*] and so on(*Fig. 1*). Compasses and Ruler were the first tools to draw these geometries and circle was the first geometric form of Islamic patterns.

According to Necipoglu and Al-Asad (1995)[20], the most interesting fact about Muqarnas is its geometry and the mystery behind it. Most of the scientists and architects, from *Ghiyāth al-Dīn Jamshīd Mas ʿūd al-Kāshī* (or al-Kāshānī) in the nineteenth to contemporary researchers, like Notkin[22,22], have tried to analyze it. Understanding the mystery of Muqarnas geometry and its complexity because of their mathematical relations is too much complicated so that researchers must have not only the mathematical knowledge but also has to analyze them as an artisan.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

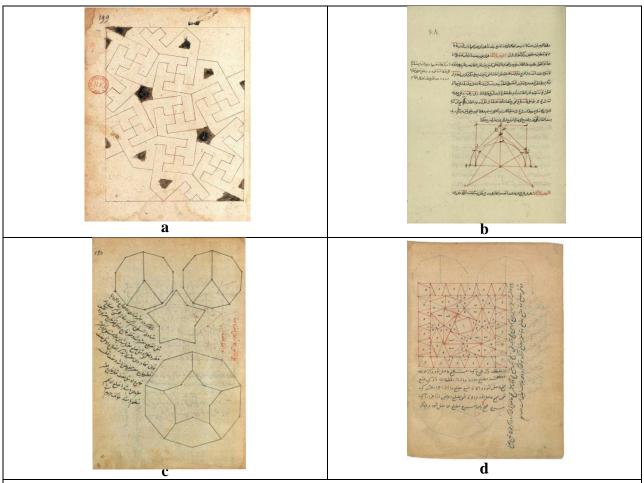


Fig 1.

- a Folio from Abū al-Wafā Būzhjānī's appendix, eleventh -thirteenth century, Bibliotheque Nationale de France.
- b A page of Ghiyāth al-Dīn Jamshīd Mas'ūd al-Kāshī's book, IV Manuscripts. Memarian. (1988).
- c A "dividing and assembling" construction in two stages, showing the transformation of a pentagonal star and two congruent decagons into a larger decagon containing a central pentagonal star. From the Anonymous Compendium. Paris, Bibliothèque nationale de France, Ms. Persan 169, fol. 180r [1]. (Photo: Bibliothèque nationale de France)
- d Fol. 180v [2]. Anonymous Persian Manuscript, Fi tadakhul al-ashkal al-mutashabiha aw mutawafiqa. Bibliothèque nationale de France, Ms. Persan 169, fols. 180r-199r. Nasta'lîq script, folio dim.190x270mm.Construction with parallel and rotating concentric squares, subdivided into trian-gular or trapezoidal pieces to be reassembled into polygons and star polygons.

Dadkhah, Safaeipour, and Memarian [5] state that one of the common methods of decoding a Muqarnas composition to its basic elements is the projection method, which is a Two-dimensional representation of the complex three-dimensional Muqarnas. This method presents us two fixed rules that are valid for all Muqarnas compositions:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 1. Using simple and uncompounded geometric elements in every Muqarnas projection.
- 2. Determining a geometric system for connecting muqarnas elements.

They are also refer to the definition that is expressed by the fifteenth century mathematician *Ghiyāth al-Dīn Jamshīd Mas ʿūd al-Kāshī* and note that the first category consists of two main geometry groups: its basic building blocks that are called cells and the primary elements or intermediate elements that are used between the cells to complete the geometric network (*Fig.*2).



Fig.2 Architecture details of muqarnas Shodi Mulk Oko Mausoleum at the Shah-i-Zinda, Samarkand, Uzbekistan. Photo and geometric analysis of Shakhboz Mustafoev.

Architectural Scrolls. Based on available resources, no architectural drawing survives in the Muslim world, predating the Mongol era, yet occasionally mention is made of patterns that were drawn on the ground(Fig. 3 This stucco plate shows one-quarter of a muqarnas pattern of a vault. Parts of the actual muqarnas were also unearthed from the ruins where the plate was found. The elements of the muqarnas seem to be pre-fabricated and then mounted on the wall. (Ghazarian & Ousterhout, 2001[11]; Harb, 1978[14]; Dold-Samplonius & Harmsen, 2005[8]; Harmsen, 2006[15]; Hoeven & Veen, 2010[17]).

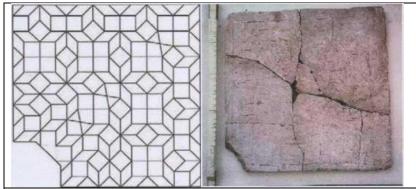
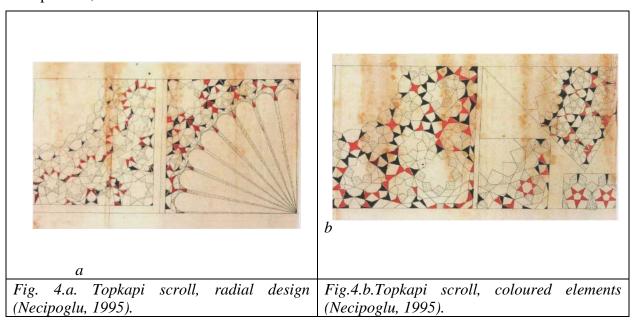


Fig.3. The oldest found example of a muqarnas pattern is the 13th century plaster tablet found in Takht-i Sulaiman, Nishapur, West Azarbaijan, Iran.(Harb, Ulrich. 1978.).

The *Topkapi Scroll* (16th century) and *Mirza Akbar Scrolls* (19th Century) are other samples in which two-dimensional pattern plans of muqarnas can be found.[20] The Topkapi Scroll contains a collection of 114 muqarnas patterns as documented in 1986. The valuable scroll is kept at the Topkapi Palace Museum, in Istanbul, it is the oldest available scroll of its kind which was discovered intact.[17]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Necipoglu is of the opinion that the plans of the Topkapi Scroll, as shown in (Fig.4.a.), are composed of radial orders adorned by intertwined stars and polygons in angular arrangements. She further explains that the patterns are drawn on the basis of the radial lines projecting from the comer of the design. In the drawings, black, red, and dotted lines are used to facilitate the reading of the plan by the builders. Further, as illustrated in (Fig.4.b.), elements such as toranj[Error! Reference source not found.], shaparak[Error! Reference source not found.] and parak[Error! Reference source not found.] are colored to distinguish them from other filling components, in addition to a clear distinction of the tiers.



The distinction of the elemental contours and tiers with different colors in the plans resemble very closely the designs of the *Tashkent scroll*, *Bukhara scroll* and *Mirza Akbar scroll*, and the drawings of *El-Bouri*. The other common factor among all of these scrolls and drawings is that they represent direct or inverted ceiling plans with all of the tiers present (*Fig.5.*).[20]



Fig.5. Tashkent scroll 2.1. (Photo by Shakhboz Mustafoev.)



Fig.5.Bukhara scroll 4429-16. Fig. 40.(Photo by Shakhboz Mustafoev.)

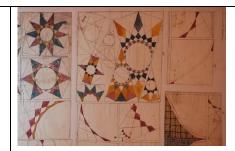


Fig.5.Mirza Akbar Scroll, coloured elements (Source: Patteminislamicart.com).

Christie describes the drawings found in the Mirza Akbar scrolls, as shown in (Fig.5.), as a set of stars and polygons intertwined by concentric circles and dissected by radiant lines, turning them into a complex system of radial symmetries.[3] This method in the latter's opinion enabled Muslim designers to redefine the pre-existing geometrical forms with their own inventive rules.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The scholar considers this discovery as the greatest achievement of Muslim ornamentation, with yet limited effects on Western decorative traditions. From this, Christie surmises that as the designers overcame the complexities of the designs, each pattern would degenerate into a repetitive module and passed around until the likes of scrolls in Mirza Akbar's possession would become indispensable tools at every significant work site.

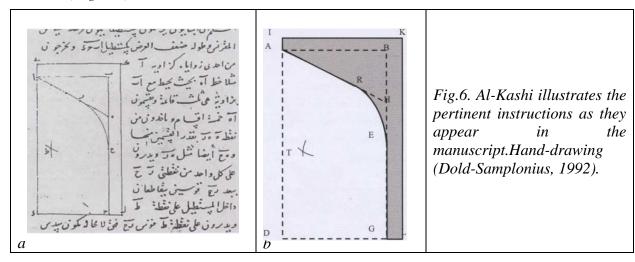
Referring to the similarities between 2DPPs of muqarnas and Arabesque knot work or interlace patterns, known as gerehs, Behrens-Abuseif writes:

"It is not clear whether the development of the mukarnas in Persia started from the planar into the three-dimensional, or vice versa, or that it developed in parallel directions. Since the excavations in Takht-i Sulaiman, the ornamental rather than the structural origin [for muqarnas] is being favored."

Behrens-Abuseif (1993).[1]

In addition, Bulatov believes that the direct interchange of patterns between the two dimensional gereh and the three-dimensional muqarnas has enriched the Islamic architecture of Iran and Central Asia, with a congruity that unites the symmetrical order of the plans, walls, and vaulted ceilings.[2]

Al-Kashi's Method of Drawing Muqarnas. The proposed method of drawing a simple muqarnas by Al-Kashi is very significant since all other extant drawings pertaining to muqarnas comprise of plans only, but this drawing comes with an explanation on how builders decide the curve of the arch. (Fig. 6.a.).



With reference to (Fig.6.b.) builders draw a rectangle (ABDG) to the width of the elemental profile and a height twice the width. From point A they draw a -30° angle. Then they divide AH into five, and mark the second division from H, hence R. Using a compasses they determine E on the vertical line BG, where HE=HR. using points R and E as the centers and RE as radius, they draw two curves to intersect at point T. now placing the needle of the compass on T, and with the same radius, they draw a curve to connect AR to GE.

Next, they extend DA and DG to the desired lengths at points I and L, constructing IKLGA. This profile will be used for a mold to reproduce as many similar shapes as needed by the plan. They

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

will then install each of these plaster profiles on the sides of an element at the workplace. It must be added that the height to width ratio is flexible since the depth of the muqarnas elements is not constant at all points. However, the height of the elements will be equal since the distances between the tiers are uniform. [Error! Reference source not found.]

Construction Characteristics. Clarke has been one of the earliest eyewitnesses to record the traditional method of constructing muqarnas in 1893. According to Clarke, the construction of a muqarnas vault commences with the execution of the plan on the actual scale on a flatbed of plaster poured onto the ground that is leveled with a layer of ash. Builders would then imprint the lines carving them into the plaster, lubricating the surface with lard, out of which they produce a plaster template roughly half an inch thick. They repeat this procedure for all of the tiers in the plan, after which they install them into place on the designated site. It noted that because Eastern muqarnas contain straight edges, manual construction is not very difficult (Clarke, 1893[4]. See also Notkin, 1961[22].). Forty-three years later, Myron Smith speaks of a trip to Isfahan in 1936, wherein he observes the construction of a muqarnas vault using basic tools like straight edges, strings, and needle compasses. At the site, as Smith explains,

"The builders had laid the real scale plan carved on a plaster bed using a pick."

Smith, 1947.[25]

This statement means that the techniques had not changed since Clarke's observation in the 19th century. In addition, Snelling speaks of a similar experience in 1995 in Turkey:

"I watched a local builder decorating the interior of a cafe and he made 30mm slabs of shaped Plaster of Paris "stucco" on a glass sheet bounded by wooden battens and with fresh plaster, he could both stuck slabs together and then onto walls."

Snelling, 1995.[26]

In fact, the spatial organization of muqarnas in a building and its pertaining construction technique depends on the location of the decorations in the building. This location is determined by the intersection either of two non-coplanar surfaces (i.e. cornices, corbels, and capitals) or at the transition zone between the rectangular quarter and the spherical vault (i.e. pendentives, squinches, portals, and ceilings).[10]

Wheeler Thackeston describes the methods applied by masons and craftsmen in constructing muqarnas, by using inverted plans. He illustrates how builders apply a vertical rectangle with a width equal to the projection of the muqarnas element, and a height twice the width, to construct the decoration. After explaining the method by which the vertical profile of the *taseh* is determined, he moves on to analyze the technique by which each muqarnas tier is laid out on a plasterboard and adjusted to the pertinent vault. Komaroff also believes that Al-Kashi wrote his treatises for a scientific audience rather than for artisans. She points to the fact that the scholar reiterates the otherwise alternative terms used by craftsmen for the mathematical phenomena he discusses, which indirectly hints to the fact that he is discussing this with and for a group of scholars.[18]

Necipoglu speaks of practical training by which builders would decipher the most complex plans of multi-layered stalactites for construction. In this craft, the masons would develop three-dimensional views of the relevant elements, eliminating the need for elevation drawings, by which they would project the working plans onto the actual surfaces, as well relying on their

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

practical expertise.[25] Pugachenkova posits that in the construction of complex vaults and arches, the old technique of drawing the plan on the floor in real scale, and without the need for elevations is still in practice. The elements of the muqarnas are constructed on the ground first and then, hung and attached to the structure by means of ribs.[24]

Sha'rbaf, who is a famous expert traditional architect in Iran, also mentions that in constructing a muqarnas suspended layer technique is used over the vault. [Error! Reference source not found.] For a better understanding of the building process of muqarnas, as illustrated in (Fig.7.), he always equips his muqarnas plans with line projections onto the elevations of the pertinent vaults. [Error! Reference source not found.] Al-Asad posits that the most important factor in the execution of the muqarnas plan is the equal division of the height into the number of component tiers. Each tier represents a set of elements with uniform height and contains a number of shaparaks. On the elevation, each set of shaparak elements is accompanied by a tier devoid of shaparak. Unlike other tetragonal elements, the shaparaks get narrower as they recede, and this lack of uniformity disables the formation of a rectangular row.[20]

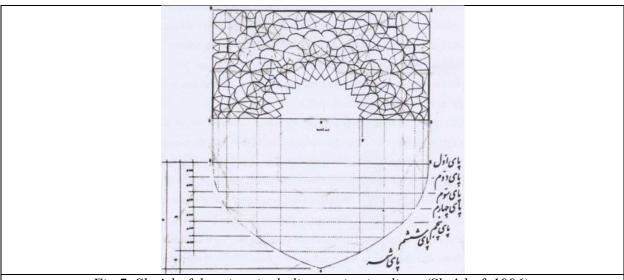


Fig. 7. Sha'rbaf drawing, including projection lines (Sha'rbaf, 1996).

Constituent Elements of Muqarnas. Different approaches were taken to describe the constituent elements muqarnas. Many scholars rely on Al-Kashi's definition of muqarnas elements (Dold-Samplonius, 1996[7]; Dold-Samplonius, [9], 2002; Hamekasi, 2011[12]; Harmsen, 2007[15]; Hoeven & Veen, 2010[17]; Kromker, 2007[19]), while some other professionals define the constituent elements of their own (Yaghan, 2001[28]). Al-Kashi's explains muqarnas to be comprised of tiers that are in turn divided into cells, in round stair-like arrangements on the vault, where each cell connects to the next with a predetermined angle. In addition, there are intermediate elements that connect the roofs of adjacent cells to each other. [Error! Reference source not found.]

The two-dimensional plans of Al-Kashi's described muqarnas cells are basically simple geometrical forms like *square*, *half-square* (right-angled triangle), *rhombus*, *half-rhombus* (isosceles triangle or equilateral triangle), *almond* (deltoid), *jug* (one-quarter of an octagon), *large biped* (complement to a jug), *small biped* (complement to an almond) and sometimes *rectangles*.[6] Since the Ilkhanid period, the above-mentioned elements are used for constructing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

muqarnas without any change. Although more advanced forms of muqarnas with four- to seven-pointed star elements were erected during the Ilkhanid period as well(Fig. 8. a.).

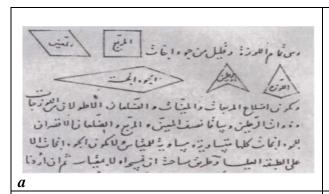


Fig.8.a. Constituent elements of muqarnas as introduced by Al-Kashi (Dold-Samplonius, 1992).

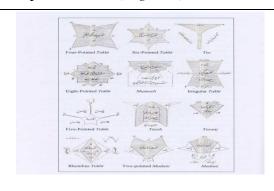


Fig.8.b. Constituent elements of muqarnas, from Lorzadeh's point of view (Source: adapted by Hamidreza Kazempour from (Lorzadeh, 1981)).

Vincenza Garofalo simply compares the constituent elements muqarnas to portions of vaults ranging from a few centimeters in Moroccan muqarnas to meters in Jame' Mosque of Isfahan, in dimension. She adds that material is one of the important factors that influence the size of the muqarnas. Big muqarnas can be made of stone, while the small ones can be made of wood. In addition to material, the historical periods can also affect the dimensional aspects.[10]

Among Iranian masters and scholars, Ustah Lorzadeh introduces a set of constituent elements for muqarnas, comprising of eleven elements that are explained below and shown in (Fig.8. b. see also Table 1.):

TABLE 1.

1.	Shaparak.	A three-sided element, responsible for connecting the tiers and units together.							
2.	Takht.	The regular horizontal star-shaped element maybe four-, five-, six- or more pointed.							
<i>3</i> .	Irregular Takht.	A horizontal element that has an irregular shape.							
4.	Shamseh	The medallion on the apex of vaults or iwans, responsible for finishing the ornament.							
5.	Toranj	The element that comes immediately after shamseh, as well as under regular Takhts.							
6.	Taseh	A famous element that always appears between shaparaks, and sometimes between two Toranjes.							
<i>7</i> .	Tee	A narrow element that appears between Tasehs.							
8.	Madani	An element that fills the space between two Takhts from two different tiers.							
9.	Double- Madani	This element is a Madani that has two legs instead of one.							
10.	Lozi	Equivalent to Darvazeh, meaning gate. A curved rhomboid is responsible for creating hanging components.							

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

11. Susan

A small Taseh, that looks like an isosceles triangle (Lorzadeh, 1981).

Sha'rbaf, on the other hand, adds two more elements to the collection, namely pabarik, and tanoureh, [Error! Reference source not found.] while Pirnia adds ahou-pa too and posits ahou-pa as the hanging portion of the muqarnas. [Error! Reference source not found.] In this collection, tanoureh is identical to Lorzadeh's madani element and pabarik is in fact an elongated toranj.

CONCLUSION

In spite of the vast amount of researches focusing on the subject of muqarnas over the past few decades, only a portion of the existing gap in the knowledge is filled. To obtain a comprehensive chronology of muqarnas, its origin, evolution and maturation process, its design and construction methods, as well as its meaning, reliance on the available information is still not enough and further investigation on the subject is demanded.

To overcome these shortcomings, not only do we need to survey, record, and document the

extant samples of ancient works, but we also need to pay attention to what may be found in poems and literary works of the past, which has less attracted the attention of the architectural historians of the Muslim world. Only kinds through these interdisciplinary research is it possible for a scientific investigation to come out of pure speculations and get closer to the truth. We could see increasing desire between the scholars to discover the

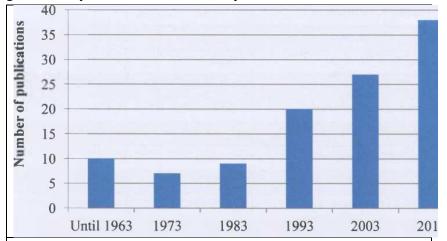


Fig.9. Number of publications about muqarnas, in each decade (Source: Hamidreza Kazempour, 2016.).

beauties behind the most complex decoration of traditional architecture, which is now a signature decorative element of Islamic architecture (*Fig.9.*).[13]

REFERENCES.

- **1.** Behrens-Abuseif D. Mukamas. In p. Bearman et al., eds. Encyclopaedia of Islam. 2nd ed. Leiden: E. L Brill, 1993. pp.501-06.
- **2.** Bulatov MS. Geometric harmonization in the architecture of Central Asia from the ninth to the fifteenth century. Moscow: Historical-theoretic research Nauka. 1988.
- **3.** Christie AH. Traditional methods ofpattern designing; an introduction to the study of the decorative art. New York: Cornell University Library. 2010.
- **4.** Clarke CP. The Tracing Board in Modem Oriental and Medieval Operative Masonry. Transactions of the Lodge Quatuor Coronati, 1893;20766:99-110.
- 5. Dadkhah N, Safaeipour H & Memarian G. Traditional complex modularity in Islamic and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Persian architecture: Interpretations in muqarnas and Patkané crafts, focusing on their prefabricated essence. In proceedings of 2012. ACSA fall conference-Offsite: Theory and practice of architectural production.

- **6.** Dold-Samplonius Y. Practical Arabic Mathematics: Measuring the Muqanas by ALKashi. Centaurus, 1992;35:193-242.
- 7. Dold-Samplonius Y. How Al-Kashi measures the Muqanas: A second Look. In M. Folkerts, ed. Mathematische Probleme im Mittelalter: Der lateinische und arabische sprachbereich. Wiesbaden: Wolfenbutteler Mittelalter-Studien.1996. pp.56-90.
- **8.** Dold-Samplonius Y, Harmsen SL. The muqarnas plate found at Takht-i Sulayman: a new interpretation. Muqarnas, 2005;22:85-94.
- **9.** Dold-Samplonius Y, Harmsen S, Kromker S, Winckler M. Magic of Muqanas, A Video About Muqanas In The Islamic World. Heidelberg: IWR. 2002.
- **10.** Garofalo V. A Methodology for Studying Muqanas: the Extant Examples in Palermo. Muqarnas: an Annual on Islamic Art and Architecture, 2010;27:357-406.
- **11.** Ghazarian A, Ousterhout R. Muqamas drawing from thirteenth-century Armenia and the use of architectural drawings during the middle ages. Muqarnas: an Annual on Islamic Art and Architecture, 2001;18:141-54.
- **12.** Hamekasi N, Samavati FF, Nasri A. Interactive Modeling of Muqanas. In Cunningham, D. & Isenberg, T., eds. Computational Aesthetics in Graphics, Visualization, and Imaging. Vancouver, 2011.
- 13. Kazempour H. The Evolution of Muqarnas in Iran. Supreme Century. 2016. p. 213.
- **14.** Ulrich H. Ilkhanidische Stalaktitengewölbe: Beiträge zu Entwurf und Bautechnik. Archäologische Mitteilungen aus Iran: Ergänzungsband, vol. 4. Berlin: D. Reimer. 1978.
- **15.** Harmsen S. Algorithmic Computer Reconstructions of Stalactite Vaults Muqarnas in Islamic Architecture, PhD Thesis, University of Heidelberg. 2006.
- **16.** Harmsen S. Jungblut D, Krdmker S. Seljuk Muqanas along Silk Road. Zentrum fur Wissenschaftliches Rechnen der Universitat Heidelberg, 2007. pp.1-11.
- 17. Hoeven SVD, Veen MVD. Mugamas. Mathematics in Islamic Arts, 2010. pp.l-21.
- **18.** Komaroff L. Review of the Timurid Architecture of Iran and Turan, by Lisa Golombek and Donald M Wilber. Journal of the American Oriental Society, 1991;111(3):609-11.
- **19.** Kromker S. Muqarnas Visualization in the Numerical Geometry Group. Heidelberg: Heidelberg University. 2007.
- **20.** Al-Asad NG. The Topkapi Scroll: Geometry and Ornament in Islamic Architecture. Topkapi Palace Museum Library. MS. H. 1995.
- **21.** Notkin II. Decoding sixteenth-century Muqarnas drawings. Muqarnas. An Annual on Islamic Art and Architecture. 1995;1.
- 22. Notkin II..Bukhara ganch carving in the works of Ust Shirin Muradov. State Publishing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

House of Fiction Uz SSR. Tashkent. 1961.

- **23.** Aydin N, Hammoudi L, Bakbouk G. Al-Kashi's Miftah al-Hisab, Volume II: Geometry: Translation and Commentary 1st ed. 2020 Edition. ISBN-13: 978-3030613297.
- **24.** Pugachenkova GA, Rempel LI. History of the art of Uzbekistan from ancient times to midnineteenth century. Moscow: Iskusstvo. 1965.
- **25.** Smith MB. The vault in Persian architecture: a provisional classification, with notes on construction. Baltimore: Johns Hopkins University. 1947.
- **26.** Snelling FJ. Upon culture, logic and aesthetics. Istanbul: Archnet.org. 1995.
- **27.** Thackeston WM. A century of Princes: Sources on Timurid History and Art. Cambridge: The Aga Khan Program for Islamic Architecture at Harvard University. 1989.
- **28.** Yaghan MA. The Islamic Architectural Element "Muqarnas": Definition, Geometrical Analysis, and a Computer Generation System. Vienna: Phoibos Verlag. 2001.
- **29.** Mavlyuda Y. Material and Spiritual Culture. Architecture. Bukhara an Oriental Gem. Tashkent: Sharq. (In collaboration with G. A. Pugachenkova). 1997. pp.81-98.
- **30.** Dold-Samplonius Y. 1977. Dissertation: Book of Assumptions by Aqatun (Kitab al-Mafrudat li-Aqatun), Amsterdam. 1977.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

STUDY OF FARADEY'S LAW OF ELECTROMAGNETIC INDUCTION IN PHYSICAL EXPERIENCE

Muminov Bahriddin Saidumarovich*; Sattorov Murodbek Rustamovich**

*Lecturer, Department of Physics, Termez State University, Tashkent, UZBEKISTAN

**Lecturer,

Department of Physics, Termez State University, Tashkent, UZBEKISTAN Email id: murodbek sattorov@mail.ru

DOI: 10.5958/2249-7137.2021.02715.4

ABSTRACT

According to the law of electromagnetic induction, if the magnetic flux is increasing (DF>0), a negative induction EYuK (ε ind<0) appears in the circuit, and vice versa, if the magnetic flux is decreasing (DF<0) a positive induction EYuK (ε ind>0) appears in the circuit. If the magnetic flux changes uniformly, then the value of the induction EMF formed by the wire frame is constant. That is, an alternating magnetic field excites an rotating electric field in the space around it, which in turn causes an inductive current inside the coil and an electromotive force in the coil.

KEYWORDS: Faraday's law, energy sources, coil, magnetic flux, electromotive force, induction current.

INTRODUCTION

Today, mankind's need for energy resources is growing. The main reason for this is, firstly, the growing population of the planet, and secondly, the declining energy resources of the Earth. The solution to this problem is assessed as finding opportunities for efficient use of alternative energy sources in all areas. Of course, these types of energy are currently more expensive than existing types of energy, but they are environmentally friendly, energy efficient and do not require complex technological equipment and tools. So, the first major challenge is to reduce the cost of recognizing alternative energy sources, and the second is to develop their improved technologies. This requires, first of all, modern professional staff with knowledge and skills on the fundamental and practical foundations and design of alternative energy sources. In the training of such modern specialists, it is necessary to ensure an integral link between science, education and industry. [1]

Materials and methods

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

There are a lot of innovations and discoveries in science today. These innovations have limited opportunities to apply the findings directly to the educational process. After that, students will be able to develop knowledge, skills and competencies. In particular, let's take a look at the general educational process of providing information to students about alternative energy sources. It is known that alternative energy sources include solar photovoltaic, wind energy, geothermal energy, bioenergy and others. We know that energy does not disappear from existence, and vice versa, it simply passes from one form to another. A device that converts mechanical energy into electrical energy is a generator. Its operation is based on Faraday's law of electromagnetic induction. That is, when a closed-circuit circuit is crossed by a time-varying magnetic flux, an inductive EYuK is generated in the circuit, and this phenomenon is called electromagnetic induction. [2]

Michael Faraday, who in 1822 set himself the task of generating an electric current in a conductor using a magnetic field, as a result of nine years of consistent research, in 1831 the closed-loop circuit determined that an electric voltage is generated from each change in the alternating magnetic field current. The magnetic field flux is found by integrating the cross-sectional surface of the magnetic field induction norm B:

$$\Phi = \int_{S} B \cdot dS$$

In particular, this induction showed that the generated voltage is proportional to the formation of the magnetic field flux Φ Integral of electromotive force (EYuK) over time:

$$\int_{1}^{2} \boldsymbol{\varepsilon} \cdot d\boldsymbol{t} = \boldsymbol{\Phi}_{2} - \boldsymbol{\Phi}_{1} = \Delta \boldsymbol{\Phi}$$

Depends only on the change of magnetic flux. Thus Faraday's law of electromagnetic induction was discovered.

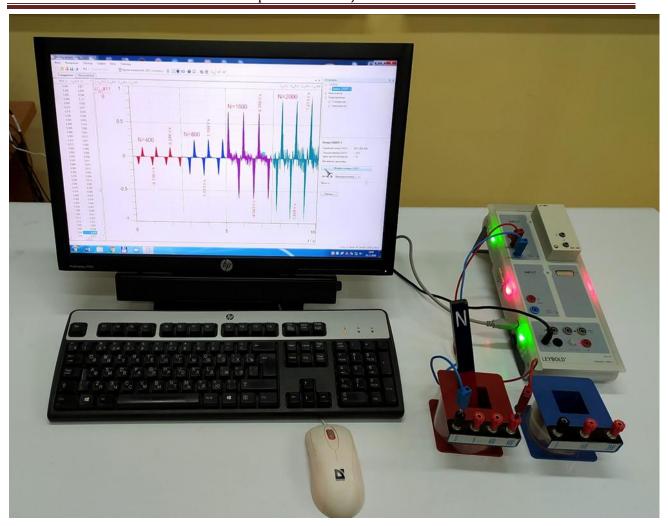
$$\varepsilon = -\frac{d\Phi}{dt}$$

This experiment proved that when the magnetic field lines crossing a conductor change over time, it produces an electromotive force (EYuK). The faster the magnetic field lines change over time, the greater the electromotive force in the conductor.

The electric current generated in the conductor by the magnetic field is inextricably linked with the current of the magnetic field, as well as the number of turns of the coil that make up the conductor. The following laboratory experiments can be used to study the dependence of the electric current generated on a conductor on the number of windings.

Using the device shown in the figure, we can see that Faraday's law of electromagnetic induction is inextricably linked to the number of turns of the coil. [3]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



During the experiment, when inserting and pulling a magnet into an electromagnetic coil, EYUK clearly shows that it has the same absolute value, but has opposite signs, ie,

$$\downarrow \int \varepsilon \cdot dt = -\uparrow \int \varepsilon \cdot dt$$

When two magnets are used, there is an additional correlation between voltage pulses and their number.

$$\int_{1}^{2} \varepsilon \cdot dt = \Phi_{2} - \Phi_{1} = \Delta \Phi$$

Using differentiation, we can test Faraday's law of electromagnetic induction. The magnetic flux depends on the number of windings, as each individual coil winding produces a current difference $\Delta\Phi 0$ and the total current is calculated as $\Delta\Phi = N \cdot \Delta\Phi_0$.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TABLE: ACCORDING TO FARADAY'S LAW OF ELECTROMAGNETIC INDUCTION, THE RELATIONSHIP BETWEEN THE VOLTAGE AND THE NUMBER OF TURNS OF THE COIL N FOR A GIVEN TIME.

The number of rolls of the reel									
N=400		N=800		N=1600		N=2000			
U(V)	t(s)	U(V)	t(s)	U(V)	t(s)	U(V)	t(s)		
0.001	0.1	0.013	2.6	0.443	5.1	-0.047	7.6		
-0.013	0.2	0.002	2.7	0.138	5.2	0.008	7.7		
-0.103	0.3	0.003	2.8	-0.019	5.3	-0.533	7.8		
0.002	0.4	-0.011	2.9	0.059	5.4	0.035	7.9		
0.133	0.5	-0.174	3.0	-0.003	5.5	0.829	8.0		
0.011	0.6	-0.039	3.1	0.044	5.6	0.046	8.1		
0.003	0.7	-0.006	3.2	-0.619	5.7	-0.081	8.2		
0.002	0.8	0.263	3.3	0.046	5.8	0.122	8.3		
-0.002	0.9	0.019	3.4	0.337	5.9	0.019	8.4		
-0.100	1.0	0.002	3.5	0.116	6.0	-0.595	8.5		
-0.013	1.1	0.004	3.6	-0.023	6.1	0.097	8.6		
0.037	1.2	-0.016	3.7	0.057	6.2	0.020	8.7		
0.056	1.3	-0.275	3.8	0.007	6.3	0.377	8.8		
0.008	1.4	-0.020	3.9	-0.022	6.4	0.050	8.9		
-0.003	1.5	0.049	4.0	-0.550	6.5	-0.002	9.0		
-0.001	1.6	0.153	4.1	0.043	6.6	-0.085	9.1		
-0.022	1.7	0.008	4.2	0.065	6.7	0.070	9.2		
-0.087	1.8	0.004	4.3	0.287	6.8	-0.871	9.3		
0.003	1.9	-0.001	4.4	0.067	6.9	0.110	9.4		
0.149	2.0	-0.018	4.5	0.099	7.0	0.220	9.5		
0.009	2.1	-0.247	4.6	-0.029	7.1	0.101	9.6		
0.002	2.2	0.005	4.7	-0.070	7.2	-0.050	9.7		
0.003	2.3	0.212	4.8	-0.577	7.3	0.181	9.8		
-0.004	2.4	0.031	4.9	0.041	7.4	0.178	9.9		
-0.137	2.5	0.006	5.0	-0.030	7.5	-0.019	10		

The induction current generated in a closed loop is directed in such a way that the magnetic field generated by the induction current prevents any change in the external magnetic flux.

This means that the induction current is such that its magnetic field tends not to increase as the number of magnetic induction lines crossing the contour increases (so as not to push the magnetic rod closer), and the magnetic induction tends not to decrease as the number of lines decreases (by pulling the magnetic rod). Thus, the secondary field generated by the induction current tends not to change the relative position of the contour and the magnetic rod. This is because the magnetic flux through the circuit does not change unless its relative position changes. [4]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

From the results obtained and the table, we can see that as the number of turns of the coil increases, so does the electromotive force (EYuK) on the coil over time. In addition, the direction of the induction current is such that the magnetic field it generates tends to compensate for changes in the external magnetic field.

LIST OF USED LITERATURE

- 1. Orifjonov SB. Electomagnetism. Tashkent, 2011. pp.132-135.
- 2. Mehta VK, Mehta R. Principles of electronics. 11th Edition Tata Mgraw Hill. 2010.
- 3. Simpson SD. Principles of electronics. Prentice-Hall. 2002.
- **4.** Izbosarov BF, Kamolov IR. Textbook for students of higher educational institutions "Electromagnetism" T.: Economics. Finance, 2006. pp.242-250.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW ON OPEN GOVERNMENT AND DEMOCRACY

Dal Chandra Gautam*

*Assistant Professor,

Department of Law & Legal Studies, Faculty of Commerce, Management & law, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: dcgautambahjoi@yahoo.co.in

DOI: 10.5958/2249-7137.2021.02659.8

ABSTRACT

The idea of open government, which has been extensively pushed in recent years, promises a wider vision than e-government, with the goal of radically transforming governments to become more transparent, participatory, and collaborative. Unfortunately, this hasn't made a substantial difference in a number of basic e-government issues. One issue is that the underlying democratic philosophy is seldom articulated properly. As a result, in this article, we've created a framework for analyzing open government from a democratic standpoint, as well as a look at the research basis for open government and the kinds of research that are currently lacking. From 2009 to 2013, we looked at the concept of democracy in peer-reviewed publications on open government, concentrating on discussions of certain basic problems and the types of remedies proposed. We discovered that, despite seeming noble intentions and considerable rhetoric, there seems to be a dearth of appropriate instruments for public debate and representation in any meaningful way. The following are two key points to consider: I the rhetoric in the dominant discourse supports the Obama administration's concept of open government, which is defined as transparency, participation, and collaboration; however, in practice, the focus is primarily on transparency and information exchange, ignoring fundamental democratic issues such as participation and collaboration; and (ii) the rhetoric in the dominant discourse supports the Obama administration's concept of open government, which is defined as transparency, participation, and collaboration.

KEYWORDS: Democracy, Fundamental, Government, Philosophy, Participation.

1. INTRODUCTION

ICTs have altered the preconditions for information sharing and provided technological opportunities for a more collaborative information creation and sharing culture. As information and communication technology (ICT) has grown increasingly common and integrated into our daily lives, the emphasis has moved from the technology itself to how we utilize it. The idea of open government places information and communication technology (ICT) at the center of a larger effort to convert governments into more creative and collaborative organizations. It can be seen as a progression of the e-government field, which has been chastised for focusing solely on improving government services and neglecting to consider the transformation of government as a whole toward a more participatory democracy. There are several technologies that promote a more collaborative, participatory, and transparent government, and it seems that these, when

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

combined with appropriate data support, have the potential to be more widely used for informed debate and democratic decision-making. The idea of open government has grown in importance as a means of achieving these goals while fostering a more creative and collaborative public sector and, as a result, promoting more deliberative and participatory democratic institutions. Several problems, however, are linked to this, necessitating a more fundamental shift in governance and the creation of an innovative deliberative democracy based on a pluralistic public sphere.

Collaborative information sharing and deliberative debates are becoming more common on public platforms such as microblogs, online social networks, picture and video sharing sites, wikis, and other technologies that allow for a bottom-up approach to information creation and sharing. The private sector has created some of the most well-known technologies, such as picture and video sharing platforms (such as Flickr and YouTube), social networking sites (such as Facebook or LinkedIn), and microblogs (such as Twitter). There are also systems aimed at increasing transparency in the public sector, an online encyclopedia about American politics and elections; OpenCongress and more innovative projects. The US State Department wiki for Foreign Affairs information; and Intellipedia, a joint information source for US Intelligence Agencies and Departments (Baltimore). Various wikis and community portals for jointly sharing information on local areas such as cities are also popular categories. Following these trends for making information of various types public, many governments and authorities have begun to provide access to public data, allowing people to search, download, reuse, and share data from agencies, localities, and the federal government for the United States: one example is the state of New York's site data.ny.gov.

This is a major step forward in many ways, but there are still many issues to address. Discrimination based on gender, age, and race is just as prevalent in the virtual world as it is in the real one. The overview of gender-building studies on the internet demonstrates how gender matters even in anonymous text-based chat and discussion forums. Racial identity is essential for involvement in interactive online setting. Despite the fact that online forums may have a variety of deliberative features, research on them is limited[1–3].

Political debates in Canada and Poland have shown that they are often neither productive nor substantive. Furthermore, many technologies include peer communication and debates as a method of achieving agreement, but these conversations are seldom coupled with any sophisticated means to allow a deliberative democratic process that takes into account important information from different points of view.

Yet, there exist tools like Your Priorities VoteIt, and Simply Voting as well as decision support systems like Palisade and Rationale that concentrate on various methods to vote and organize arguments around issues. However, they are seldom used in more open-ended discussion forums. There are also platforms that aim to capture more systematic and deliberative decision making but they are often only used for very specific purposes, and even though such structured tools have proven to produce higher quality results, their use tends to result in even more reduction in productivity. For example, compare an unstructured conversation with one that is assisted by structuring tools, and they find that the organized discussion improves quality but excludes individuals who do not understand the tools or this kind of reasoning.

It's also worth noting that 87 percent of Wikipedia contributors are men, with the average age being about 18 years old. Half of the authors are under the age of 23, and just 14.7 percent are

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

parents. Furthermore, fewer than 10% of the total number of writers are responsible for more than 90% of the postings in the ten biggest.

To conclude, when it comes to deliberative processes and tools for analyzing the representativeness of the players engaged, the democratic element of existing systems for information exchange and cooperation has not progressed. As a result, it's critical to examine how these problems have been handled in the growing number of papers on open government, which this study does via a content analysis of peer-reviewed journals that have published on the subject in the last five years. The next part defines the present idea of open government, and the third section places it within a larger theoretical framework in order to evaluate it from a democratic standpoint. The technique utilized in the fourth part is described, and the findings of our content analysis are presented in the fifth section. Finally, we analyze our results in light of our theoretical framework and propose a study agenda for the field's future research.

2. The Concept of Open Government:

Open government can be seen as a new paradigm within different research areas such as e-government (making government more efficient, transparent, interactive, and service-oriented through the use of ICT), e-participation (top-down and bottom-up practices of citizen participation), and open data in the field of computer science (availability, access, reuse, and redistribution of data to enable interoperability and innovation). The open government idea includes participatory elements of government such as crowd sourcing as a way to make the government better informed but also more effective by delegating certain data creation and administration to a variety of public and private sector plan. Collaboration is concerned with deliberative elements of social media in which knowledge is produced in a citizen-to-government conversation; nevertheless, contact with the public is not simply viewed as a means to crowd source information. Transparency and information sharing at all levels of government, between government and the public, and in the public sphere means that information is not only accessible by default to promote understanding and accountability, but also interoperable and open for reuse by different government agencies and the private sector to promote innovation[4–7].

The Obama administration has embraced and pushed the idea of open government in a big way (Open Government Progress Report to the American People, 2009). The open government VPN is primarily supported by the United States government and organizations headquartered in the United States, according to an article mapping online "virtual policy networks" (VPNs). The European Commission (European Commission, 2013) as well as the governments of Canada and Australia (2014) support the idea (2010). The idea of transparent government has long been advocated in China, particularly as a means of holding local governments responsible on environmental concerns. The Open Government Partnership (2014), a global platform supported by private investors and partner governments, currently has 63 member states from all over the globe that have committed to establishing and implementing common open government principles.

The open government idea emphasizes interoperability, transparency, and participatory aspects that technology may improve, as well as a fundamental shift in how governments function. According to official documents promoting open government from the United States (Open Government Progress Report to the American People, 2009), Canada (Government of Canada, 2014), and the European Commission (European Commission, 2013), the concept is broadly

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

used in various contexts, but the focus differs. In the United States, for example, commercial players and nongovernmental organizations (NGOs) currently control a significant portion of the public sector, which explains why interoperability and accountability, common standards, and open data policies are so important. In Europe, where many governments have historically had more control over their public sector, the emphasis is on decentralization and opening up to private sector players and non-governmental organizations (NGOs). Transparency and comprehension are emphasized throughout the papers, and public involvement is regarded as a critical tool for collecting data. Furthermore, the Obama administration has emphasized the importance of public collaboration, which includes not only providing data to the government but also developing information collaboratively in a democratic process that includes multiple perspectives (Open Government Progress Report to the American People). Singapore's "Government with you" approach aims to collaborate with the public in the creation of information and services. The primary emphasis of the Australian declaration is debate and "greater involvement in Australia's democracy".

As a result, the meaning of open government changes from a means to improve government efficiency and innovation to a way to improve democracy. In order to examine how the idea connects to democracy, we shall provide a framework for democracy in the next section. The overview of e-democracy discourses, reviews of the field of e-government, all point to a lack of nuanced discussion of the underlying concepts of democracy, and to the fact that technology development is usually based on an unarticulated liberal conception of democracy. In this liberal rhetoric, democracy is a market-like tool in which people vote for the political parties of their choice depending on how well they meet citizens' wants and interests. Individual liberty and openness are necessary conditions for making informed decisions in this case. The open government discourse advocates a more participatory government, more in accordance with deliberative democracy proponents. The fundamental notion is to return to a traditional democratic concept in which a wide public deliberative discussion is required to achieve a common understanding of the issues at hand and the choices made. The distance between people and their representatives will generate alienation in society and transform democracy into a marketplace for political ideas devoured by a passive audience if individuals are not active and involved. The deliberative democracy model has also been challenged, mostly because of the concept of a neutral public space free of agonistic interests, where all facts are given and everyone may reach an agreement. The uneven involvement in the public sphere, as well as the hegemonic discourse that determines what is possible to say in this domain and what is deemed political, is highlighted. As a consequence, consensus is impossible to achieve; rather, it is a "temporary outcome of a provisional hegemony" and there is a danger that confidence in this concept would weaken democratic institutions. Mouffe also criticizes the fundamental goal of deliberative democracy, which is to establish a neutral space free of self-interest and emotion, where "objective" reasoning and agreement may be achieved[8–10].

Instead, she believes that democracy is about accepting a diversity of beliefs and identities, and that clashing interests should be turned into competing interests rather than believing that there is a one-size-fits-all answer. With this in mind, we turn to liberal democratic theory to identify some key ideas. This theory is helpful as a starting point because it views democracy as an iterative and scalable process in a setting that includes people who are impacted by its choices. Dahl's democratic model may therefore be applied to members of a small group, state citizens, and members of a volunteer organization. Democracy, according to Dahl, is a continuous

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

reflecting process that involves not just collective decision-making but also determining who is a representative "citizen" in those decision-making processes.

Grasp is at the heart of this process, with the goal that everyone participating has a clear understanding of the issues and possibilities, as well as the freedom to voice that understanding. Following that, fundamental democratic rights to participate in the deliberative process of establishing the agenda, having debates, and voting are granted. Finally, equitable representation is critical at all levels, from agenda formulation through debate and voting. We may assess the degree of democracy in a scenario by examining these three factors. We'll now look at how open government ideas connect to these three elements of the democratic process: comprehension, debate, and representation.

2. DISCUSSION

The open government concept proposed in the research papers is a powerful meme because it alludes to change, transformation, and even a revolution in the way government operates. It's also difficult to argue against this belief system's promises of responsibility, innovation, and a sharing culture, all of which will be fulfilled provided we all conform to the same norms. Despite the apparent democratic problems with ICT, such as growing inequalities and access to the tools to participate in society being more complex than ever, much research has focused on the less problematic aspects of open government, neglecting the challenges of digital difference. From a radical democratic perspective, both participation, in which people provide government with information, and collaboration, in which knowledge is created through debate, may be challenged. In this perspective, the "public" is made up of many people who are different from one another. Because of conflicting interests within and between parties, it is difficult to achieve consensus in a deliberative process in such a scenario. ICT has worsened the gap between diverse groups' ability to participate in terms of needed literacy and social capital, according to research on digital differentiation. It matters who is arguing and making decisions. Feminist academics emphasize the importance of "placed knowledge", which implies that knowledge is always positioned in a person's previous understanding of the material. People not only have varied and sometimes competing interests, but they also produce and interpret information differently, which is why the outcome of information gathering is also affected by who is in the "crowd." As a consequence, there is a need for more discussion and action research in this area in order to discover methods to foster a more deliberate democratic process.

Furthermore, gaining access to various stakeholders particularly in more marginalized groups is a significant challenge, and in order to mitigate the severity of such situations, it is critical to recognize antagonistic interests as well as understand which opinions are visible in the debate and which are not. With the possible exception of tools that meet the need to identify participants, existing support tools appear to lack this ambition when it comes to ways for more representative participation in collaborative governments. In an online community, your online performance determines your identity. Identity is not an issue for simple and clearly defined task-oriented activities like data transcription, but as tasks become more complex, legally recognized identity becomes increasingly important. As a consequence, more rigorous research in this area is needed. It's also essential to speak about why issues like representation and digital diversity aren't addressed at all in these areas of research. Similarly, it is important to look into the facts and reasons why political science professors have not addressed open government in their own discipline/publications.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3. CONCLUSION

To conclusion, the prevailing discourse supports the idea of open government as defined by the Obama administration: openness, engagement, and cooperation. But in reality, it ignores the more problematic concepts of deliberation and representation, and primarily relies on understanding via information interchange. Only one article offers a technique to promote deliberation with no proposed solution to the problem of representation. Finally, most often, the public is portrayed as one homogeneous population. This study of the open government paradigm shows that the concept of open government has become more politicized, concentrating on innovation and efficiency rather than discussion and democracy in political discourse. Transparency and open data are instruments for not only accountability but also control. As a consequence, a more critical discussion about who owns data, how it is produced, and by whom is needed.

REFERENCES:

- **1.** Fraundorfer, M., "The Open Government Partnership: Mere Smokescreen or New Paradigm?," Globalizations, 2017, doi:10.1080/14747731.2016.1236463.
- **2.** Berry, D.M. and Moss, G., "Free and open-source software: Opening and democratising egovernment's black box," Inf. Polity, 2006, doi:10.3233/ip-2006-0084.
- **3.** Ruijer, E., Grimmelikhuijsen, S., and Meijer, A., "Open data for democracy: Developing a theoretical framework for open data use," Gov. Inf. Q., 2017, doi:10.1016/j.giq.2017.01.001.
- **4.** Rao Karna, S. and Gupta, D.K., "Fostering egovernment as state social responsibility (Ssr): Case study of an australian city council," EJournal EDemocracy Open Gov., 2012, doi:10.29379/jedem.v4i2.145.
- **5.** Kassen, M., "Open government in Kazakhstan: A tentative touch of participative democracy?," E-Government in Kazakhstan, 2016.
- **6.** Henkel, K., "A categorização e a validação das respostas abertas em surveys políticos," Opiniao Publica, 2017, doi:10.1590/1807-01912017233786.
- **7.** Freeman, J. and Quirke, S., "Understanding e-democracy government-led initiatives for democratic reform," EJournal EDemocracy Open Gov., 2013, doi:10.29379/jedem.v5i2.221.
- **8.** Signorelli, M.C., Hillel, S., Oliveira, D.C. De, Ayala Quintanilla, B.P., Hegarty, K., and Taft, A., Voices from low-income and middle-income countries: A systematic review protocol of primary healthcare interventions within public health systems addressing intimate partner violence against women, BMJ Open, 2018, doi:10.1136/bmjopen-2017-019266.
- **9.** Elledge, M.F., Muralidharan, A., Parker, A., Ravndal, K.T., Siddiqui, M., Toolaram, A.P., and Woodward, K.P., Menstrual hygiene management and waste disposal in low and middle income countries—a review of the literature, Int. J. Environ. Res. Public Health, 2018, doi:10.3390/ijerph15112562.
- **10.** Haeger, K.O., Lamme, J., and Cleland, K., "State of emergency contraception in the U.S., 2018," Contracept. Reprod. Med., 2018, doi:10.1186/s40834-018-0067-8.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REVIEW PAPER ON SMART HELMET USING GSM AND GPS TECHNOLOGY

Arpit Jain*

*Associate Professor,
Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA

Email id: arpit.computers@tmu.ac.in **DOI:** 10.5958/2249-7137.2021.02660.4

ABSTRACT

Now a days most of the countries are enforcing their citizen to wear helmet while riding bike and not to ride bike when the person is under the influence of alcohol, but still rules are being violated. In order to overcome this problem, "Accident Detection, Alcohol Detection, protection using GSM based Smart Helmet". The project aims of the security and safety of the bikers against road accidents. A Smart Helmet is special idea which make motor cycle driving safer than before, this is implemented using GSM and GPS technology. The other advantage of this project is to measure the alcohol level of drunken people who is riding bike. We are developing an embedded kit or embedded system which will be placed in Helmet. consist of some sensors and electronic circuitry which continuously monitoring and measuring the alcohol level and condition of accelerometer. We measure the alcohol level in and show it in the LCD display. Whenever the alcohol level crosses the predefined value, the alarm starts and we get notification about the drunken person. An accident is an unexpected and unintended event.

KEYWORDS: GPS, GSM, Alcohol Sensor, Tilt Sensor.

1. INTRODUCTION

In today's world road accidents stand among the leading cause of human death, Road safety for driver is an essential requirement of society, As the Number of vehicles increase day by day, Collision of vehicle also increases simultaneously, in this situation this project fulfills the purpose of saving lives. Helmet is best safety equipment for driver. In this system initially we try to avoid accidents by using, the sensor will activate the GPS to find the location and further SMS will send to ambulance and family members. This will optimize accidents as well as human death ratio by accidents due to providing proper care with in time frame. Micro-controller board: It is a low power, high performance CMOS 8-bit microcomputer with 8K bytes of Flash Programmable and Erasable Read Only Memory ROM). The device is manufactured using Atmel's high density nonvolatile memory technology and is compatible with the MCS-51. Instruction set and pin out[1]–[3].

The helmet used by a motorcycle rider is a sort of protective headgear. The primary goal is to protect the rider's head from the impact of an accident. The helmet protects the rider's head while also providing ventilation. The leading causes of deaths and injuries are speeding and not wearing a helmet. It has been proved that when motorbike speeds rose, the frequency of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

accidents and deaths climbed as well. This is due to the impact of the collision, which caused the shock. In India, motorcycles are the most popular and widely accessible means of transportation. Because of their simplicity of use, motorbikes have a number of drawbacks, the most obvious of which being traffic accidents. Motorcycle accidents occur for a variety of causes, including malfunctioning bikes, a lack of equipment, and incorrect motorcycle usage[4][5].

In India, 25 percent of all motorcycle-related traffic accidents result in the death of the driver. The main cause for this is that the individual did not get prompt medical assistance. Consider three important elements for preventing accident causes, such as making helmet usage mandatory, avoiding driving when inebriated, and if a person is involved in an accident, no one is available to assist him. He may die as a result of just leaving or ignoring the individual. The purpose of this project is to provide information on a rider who has been involved in an accident, as well as the location of the accident[6][7].

This smart helmet contains two operating modules, one for the receiver and one for the transmitter. The transmitter is built within the helmet, while the receiver may be fitted on any bike. As a result, wireless communication occurs between two units. The pressure signal is detected by a pressure transducer within the helmet in the transmitter module. A comparator transforms an analog signal to a digital signal and sends it to the transmitter's input as logic level 1, while the transducer provides the output. When the user removes the helmet, the output of the transducer becomes zero, and the transmitter's input logic level becomes 0. The output pin in the receiver module will provide a high-level digital output until the rider puts on his helmet, and the ignition unit circuit of the bike will be finished when this signal actuates the digital relay. When the rider removes his helmet, the relay opens, and the circuit's connections are ended. A MQ-3 gas detector (alcohol sensor) is also utilized to detect the presence of alcohol in the rider's breath. It may be positioned slightly behind the face shield so that it is immediately detectable. When a cyclist is inebriated, the resistance value lowers, resulting in an abrupt shift in voltage value. Then this value is sent to the microcontroller, which prohibits the bike from starting in this situation (Figure 1).

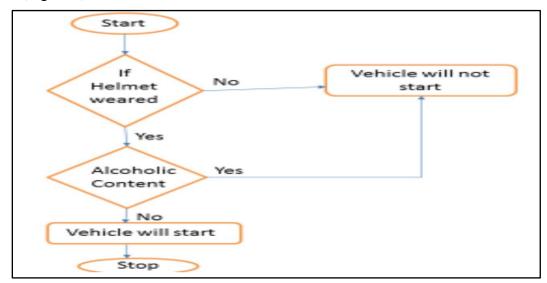


Figure 1: Illustrating the Flow of the Process involved in the Smart Helmet.

1.1. Problem Statement:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Smart Helmet is a real-time safety technology that may be employed. We can eventually turn the whole circuit into a tiny module. Safety system that uses less energy. By substituting the helmet with a seat belt, this safety system technology may be upgraded to a four-wheeler. The smart helmet system, which includes enhanced alcohol detecting as well as GSM and GPS technology, is utilized to authenticate with the bike and unlock the two-ignition. wheelers with conventional protection and safety features, a rider on a two-life wheeler's may be spared from a traffic collision.

1.2.Existing System

This is a story about a smart helmet that makes riding a motorcycle safer than ever before. This project's major goal is to ensure that the rider cannot start the bike without wearing a helmet. Wearing a helmet causes a pressure on the helmet, and a data signal is sent to the transmitter, which redirects the bike ignition control to switch on, according to a previous suggested work that is based on the concept of pressure sensing. In addition, the transmitter and receiver modules are IR-based. Both technologies, however, have certain disadvantages[8]–[10].

2. DISCUSSION

The concept behind our project is that a biker must wear a helmet to start his bike; otherwise, the bike will not start. It also provides information on the biker's location in the event of an accident. A GSM module sends the location of the accident to the mobile phones of relatives and friends through SMS. Sending an accident-related SMS will not aid the rider unless and until the location of the accident is also known. We utilize a GPS module to track down the site of an accident. Using a microcontroller, an SMS containing information about the accident as well as the position (latitude and longitude) of the region is sent to family and friends(Figure 2).

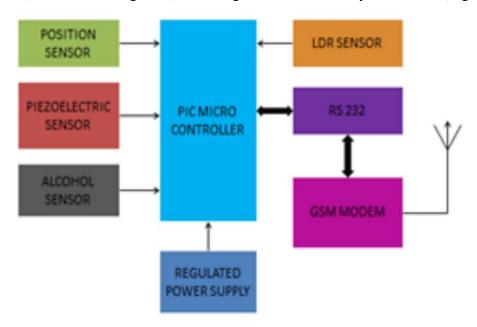


Figure 2: Illustrating the Circuit Diagram of the suggested System

2.1. Overview of the System

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A system that uses a 3 axis accelerometer to check for helmet use and, if the rider is wearing the helmet, tests for alcohol concentration in the rider's breath using an alcohol sensor MQ3. If no alcohol concentration is detected, the data from this sensor is received by the PIC microcontroller, which then sends it to the RF transmitter. The data will be sent from the RF transmitter to the RF receiver, which will then drive the motor linked to it. If one of the above two criteria is broken, the motor will stop working and a beep sound will be heard. To detect the accident, a piezoelectric sensor is utilized, which operates on the concept of piezoelectricity. When the sensor output exceeds a specified threshold (0-5V), the PIC microcontroller interprets it as a crash.

2.2.MODULE FOR GPS AND GSM.

The Global Positioning Technology (GPS) is a satellite-based navigation system that is used to pinpoint the exact position of an accident. It detects and communicates the Longitude and Latitude values of a specific location to the GSM module. It works in all kinds of weather. It also aids in the calculation of other units such as speed, distance, and time. In this project, a GPS module with three pins is utilized. The GPS receiver pin is linked to the GSM module's transmitter pin, while the GPS transmitter pin is attached to the GSM module's reception pin and the third pin is connected to Vcc (Figure 3).



Figure 3: Illustrating the Global Positioning System (GPS) Modem

2.3.*GSM MODEM* (*B*)

The acronym GSM stands for Global System for Mobile Communication. It's used to establish a connection between a computer and a GSM network. Standard interfaces such as RS232, USB, and others are included. The module also has a power supply circuit that may be triggered with an appropriate adapter. It will set you back approximately \$20. It is used to deliver SMS messages using the SIM card (Figure 4).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

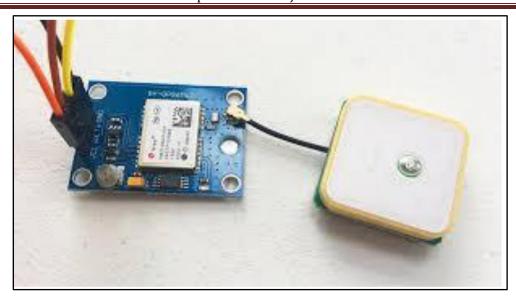


Figure 4: Illustrating the Global System for Mobile Communication (GSM) Modem

3. CONCLUSION

This helmet has the potential to lessen the amount of traffic accidents that occur on a daily basis. It assures the biker's safety while also informing family members and the local police station of the victim's whereabouts. Also, by making this circuit essential when driving, the fatality rate may be dramatically lowered, making everyone's life simpler and smoother. This initiative is an example of a methodical strategy to preventing individuals from becoming involved in accidents. As a result, we can only start the bike if we wear the helmet. We can avoid many accidents in this world by doing so; most accidents occur as a result of people not wearing helmets. Our government is enacting a number of rules to encourage people to wear helmets, but our people are not complying, so this is a better way to follow the rules and save people from serious head injuries.

Adding Google Glass Technology to the project will improve it. Biker may visualize the oncoming route with this technology before they get at their destination. It can protect bikers from pits and poor road conditions. Also, when taking fast curves, the cyclist may see navigation on it and can inform him. It may also be used on automobiles. People may use their seat belts to start the car's ignition, which improves the driver's safety.

REFERENCES

- **1.** P. M. Dhulavvagol, R. Shet, P. Nashipudi, A. S. Meti, and R. Ganiger, "Smart helmet with cloud GPS GSM technology for accident and alcohol detection," 2018, doi: 10.1007/978-981-10-9059-2_31.
- **2.** A. Varade and N. Gajbhiye, "Smart helmet using gsm and gps," Int. Res. J. Eng. Technol., 2017.
- **3.** P. M. V Korade, M. Gupta, A. Shaikh, S. Jare, Y. Thakur, and U. G. Students, "SMART HELMET-A Review Paper," IJSDR1811028 Int. J. Sci. Dev. Res., 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** G. V Vinod and K. Sai Krishna, "Ijesrt International Journal of Engineering Sciences & Research Technology Smart Helmet," Int. J. Eng. Sci. Res. Technol. Anim., 2018.
- **5.** M. B. Samual, "Smart Helmet," Int. J. Res. Appl. Sci. Eng. Technol., 2018, doi: 10.22214/ijraset.2018.5209.
- **6.** I. Introduction, "An IoT based Smart Helmet for Accident Detection and Notification," 2018 Fourth Int. Conf. Comput. Commun. Control Autom., 2017.
- 7. DAQRI, "Smart Helmet DAQRI," Wired, 2016.
- **8.** K. Premalatha and J. J. Nandhini, "Safeguarding two wheeler user's lives using smart helmet," Int. J. Innov. Technol. Explor. Eng., 2018.
- **9.** D. A. Amallo, D. W. Sudiharto, and A. G. Putrada, "Penerapan Algoritma Fall Detection pada Inflatable Smart Helmet Menggunakan Accelerometer," eProceedings Eng., 2018.
- **10.** M. Wang, S. Zhang, Y. Lv, and H. Lu, "Anxiety Level Detection Using BCI of Miner's Smart Helmet," Mob. Networks Appl., 2018, doi: 10.1007/s11036-017-0935-5.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

SOCIO-ECONOMIC FACTORS AND CONDITIONS OF CIVILIZATIONAL DEVELOPMENT

Ilhom Yorievich Toirov*

*Senior Lecturer, Department of Philosophy, Fergana State University Fergana city, UZBEKISTAN Email id: karimov.ulmasbek1980@gmail.com

DOI: 10.5958/2249-7137.2021.02732.4

ABSTRACT

This article examines the socio-economic factors and conditions of civilized development. It also examines the social problems that arise in the process of inter-civilizational communication. The history of world philosophy testifies to the fact that the great philosophers and thinkers of the advanced Western countries in their works strongly promoted the ideas of liberalism, individual freedom, individualism, entrepreneurship, entrepreneurship. The growing number of such traditions and ceremonies is due, on the one hand, to the low moral potential of the population, and, on the other hand, to the low living standards of the population, the economic poverty of the people, and extreme poverty.

KEYWORDS: Civilization, Cultural Relations, Interethnic And Intercultural Communication, Socio-Economic Factors.

INTRODUCTION

Creating favorable conditions for the comprehensive development of the economy has played an important role in the economic policy of any state. The planned economy, which was forcibly promoted in the former Soviet society, was inherently opposed to human nature, business and entrepreneurship, and ultimately condemned the society to a general crisis, backwardness and poverty. As a result, there are very negative aspects in people's minds and behavior: theft, fraud, robbery, bribery, greed. [1]

As a result of constant need and scarcity, the positions of science, art, and service have become a means of subsistence. As Hegel points out, "severe need insults sacred things, which is an indisputable fact, because need is a state of human disintegration, and insulting sacred objects is an act of need. Man, in a state of poverty, becomes an object and is oppressed, or he is forced to turn nature into an object and crush it". [2]

In rural areas, the most difficult problem that hinders the formation of private property and entrepreneurial relations is the marriage of sons, daughters, grandchildren, and funerals, which exacerbate poverty and destitution. The growing number of such traditions and ceremonies is due, on the one hand, to the low moral potential of the population, and, on the other hand, to the low living standards of the population, the economic poverty of the people, and extreme poverty. If we look at our recent and long history, Behbudi, Sadriddin Aini, Abdulla Qodiri, Cholpon, Fitrat, Hamza Hakimzoda Niyazi and other Jadids, who lived and worked in the late XIX - early

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

XX centuries, emerged as ideologues of private property owners and investors and those traditions showed that national development was a serious obstacle to the path to prosperity, and they fought relentlessly against such ugly traditions. Today, solving this problem has become the most urgent task. [3]

MAIN PART

There are such habits and old customs in life that it is difficult to include them in the list of eternal values inherent in our nation and people. First of all, we are talking about the ugliest actions that are leading to the falsification of our national values, turning weddings and celebrations under the guise of our traditions into a great luxury, a feast, and gaining momentum in our lives. One is amazed that everyone knows that such unthinkable extravagant rituals fall on the shoulders of every family, parents.

The new political and philosophical thinking formed during the years of national independence began to recognize that private property is a necessary condition of individual freedom, and the property class is the basis of a democratic society, socio-political stability, an important factor in the welfare of the people. Society will be stable and prosperous only if it is based on a broad layer of real middle class owners. [4]

While the former Soviet sociology insisted on the scientific substantiation of all the advantages of social (state) property, social justice and welfare, the basis of social equality and stability, and cultivated in people a sense of private property, hatred of entrepreneurship, skepticism, such misconceptions in the transition to a market economy became a mess. [5]

The history of world philosophy testifies to the fact that the great philosophers and thinkers of the advanced Western countries in their works strongly promoted the ideas of liberalism, individual freedom, individualism, entrepreneurship, entrepreneurship. In short, they have emerged as the real ideologues, the ideological leaders of private property owners. Although the legal framework for the comprehensive development and support of private property and entrepreneurship has been created in the country, a great deal of work is being done to denationalize property. It is worth noting that in his mind there are still old views. In other words, our society is in great need of a scientific theory of the necessity of private property. [6]

As Sh. M. Mirziyoev noted, today the main task of government agencies at all levels should be to ensure the rights of businessmen, especially the inviolability of private property.

Only through a critical study and analysis of the advanced ideas put forward by prominent Western scholars today can we gain a scientific understanding and theory of the content and essence of private property, which is an important factor in our economic development. [7]

The famous economist, International Nobel Laureate F.A. Hayek, emphasizes that private property is a necessary condition for the life of any civilized society, writes: "Individual property is the core of the moral norms of any advanced civilization; and the ancient Greeks, it seems, were the first to realize that it was inseparable from individual liberty".

"Property" ("Mulk" in Uzbek) is an Arabic word that means "something that a person owns," meaning that various objects belong to a particular subject. According to Hegel, man has the right to own things, to change them, to master them. "A person can transfer his will to anything," writes Hegel, "because of this he becomes mine" making my will his own substantial

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

purpose, for he did not have a substantial purpose of his own, just as he did not have his own identity and soul; it is the absolute right of man to master all things". [8]

Only a free and free person will be able to objectify and objectify their abilities, knowledge, skills and culture by mastering the things of the external world. That is, with the denationalization of property and the declaration of a factory, plant and land as private property, a person does not become the owner of the property. "Assimilation is essentially a demonstration of the dominance of my will over things, that things are not for themselves and for themselves, not for themselves. Such a demonstration occurs because I bring into a thing a purpose other than the one it directly possesses, I bring into the living being another soul, not the soul it possesses, as my property; I will give my life for him".

Property is the objectification of a person's "I", an important criterion that confirms what he is capable of. Only landlords look to the future with hope and confidence, planning to achieve great goals. In this sense, depriving a person of property means depriving him of freedom, liberty, future, power and opportunities.

RESULTS AND DISCUSSIONS

The complexity, content, and essence of all human life are reflected in the natural and inevitable competitive struggle between private property owners. The owner of the property considers it a matter of life and death to increase their knowledge, skills and abilities to overcome the competitive struggle, to study the needs and requirements of the people, to produce cheap and high-quality products for them, to study and produce modern science and technology tries to apply. He strives to support the people of science and fight backwardness and poverty. Because human history has proved many times that backwardness, poverty and ignorance can inevitably lead to various crimes, atrocities, and jeopardize peace and stability. [9]

Only when people have property do they develop a sense of belonging to the common (homeland): the formation of the concept of "country" from the concept of "property" also indicates the inextricable link between the concepts of patriotism and property. The formation and development of high human qualities and attributes in people (honesty, sincerity, generosity, generosity, etc.) is also related to the fact that they have the right to own property. As long as a person possesses property as a person, a second fact is also true: without possession, human qualities and attributes cannot be perfected. In Hegel's words, "property is the real existence of the individual." [10]

The emergence of private property in the scientific literature is shown as a mechanism of internal movement of any civilization that has occurred in the history of mankind.

The formation of private property relations has a very long history, was the first step in the formation of property relations, and by its very nature was of great revolutionary significance. Later, other forms of ownership emerged: state property, community property, joint-stock company property, and so on. Social property was formed as a product of the objective development of private property relations, on the one hand, as a result of the union of people to meet their common needs, and on the other hand, through the expropriation of private property. An example of this is the formation of social property relations in the former Soviet society. Our country has created ample opportunities and favorable conditions for the development of private property and entrepreneurship, small business. President Sh. Mirziyoyev: "...support and encouragement of small business and entrepreneurship, strengthening the economic power of our

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

country, peace and stability, social harmony in our country, creating favorable conditions for further increasing the share of this sector. After all, an entrepreneur feeds not only himself and his family, but also the people and the state. I never tire of saying, even if it is repeated, that "the richer the people, the richer and more powerful the state". [11]

In Uzbekistan, the approach to denationalization and privatization of property is as follows:

- Privatization is carried out on the basis of a clear state program;
- Privatization is carried out gradually;
- State property is transferred to a new owner only through sale;
- Social guarantees of privatization are being created;
- A system of state institutions for privatization has been created;
- Particular attention is paid to improving privatization based on the strategy of transition to market relations.

As noted by Mirziyoev, "the reduction of state participation in the economy at a strategic level, the solution of complex issues of further development and protection of private property - is identified as the most important priority for the government, public administration and all levels of government". [12]

It is necessary to develop a solid legal framework for the successful implementation of privatization in Uzbekistan, to create equal conditions for entrepreneurship. To this end, from the first years of independence in our country the laws "On Property", "On Enterprises", "On Cooperation", "On Entrepreneurship", "On Lease" and the President of the Republic of Uzbekistan "On protection of private property and strengthening the rights of owners, support business initiatives issued a decree on radical improvement of the system of organization of work on support.

CONCLUSION

In particular, the Constitution of the Republic of Uzbekistan, the Law "On Restriction of Monopolistic Activities" and the Presidential Decree "On the establishment of the Association of Entrepreneurs and Consumer Services of the Republic of Uzbekistan", "Improving the activities of farmers, farmers and landowners" "On Additional Measures for the Development of Small and Medium Business in the Republic of Uzbekistan", "On Additional Measures for Enhancing Entrepreneurship and Development of Family Entrepreneurship in the Regions", "On Improving Mechanisms for Providing Public Services to Entrepreneurs" on Additional Measures."

REFERENCES

- **1.** Mirziyoev ShM. Together we will build a free and prosperous, democratic state of Uzbekistan. T.: Uzbekistan, 2016. pp.15-56
- **2.** Mirziyoev ShM. The consent of our people is the highest value given to our activities. T.: Uzbekistan, 2018. pp.36-37.
- **3.** Karimov IA. The path we have chosen is one of democratic progress and cooperation with the enlightened world. T.: Uzbekistan, 2003. pp.114-115.
- **4.** Karimov IA. We build our future with our own hands. T.: Uzbekistan, 1999. p. 157.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **5.** Sapaev U. The essence of individualism and the dignity of the individual. Social sciences in Uzbekistan. 2000;(2):19.
- **6.** Hegel. Philosophy of religions. In Two Volumes. M.: Thought. 1976, pp.102-103.
- 7. Hayek FA. Pernicious arrogance. M.: News, 1992. p54.
- **8.** Hegel. Philosophy of law. Thought, 1990, p.103.
- **9.** Turgunboev F. Labor mentality: dialectic of renewal and development. T.: National Society of Philosophers of Uzbekistan, 2004. p.36.
- 10. Jo'raev T, Tojiboeva D. Economic theory. T.: Science and technology, 2012. 332 p.
- 11. Jo'raev N. Evolution in thinking. T.: The East, 2001. p. 221.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ABOUT THE PECULIARITIES OF THE METHODOLOGICAL FEATURES OF THE UZBEK PUBLICIST MIKROTEXTS

Muyassarkhan Khalilova*

*Teacher,

Department of Uzbek language and Literature, Fergana State University Fergana city, UZBEKISTAN Email id: X_muyassar12@mail.ru

DOI: 10.5958/2249-7137.2021.02738.5

ABSTRACT

The publicist style expresses the attitude of an active member of society towards socio-political life. The appearance of speech, which illuminates the issues of a wide range of socio-political life in a particular society and expresses to it their personal relationship, is considered a publicist speech. This or that active member of any society is not indifferent to the socio-economic, socio-political and socio-cultural life of the society in which he lives, expressing his attitude to them. These relationships are expressed on the basis of factors that exist outside the language, or language tools, their possibilities. Those speech appearances that serve to ensure the expression of such an attitude are publicist speech. In this article we will talk about the peculiarities of the methodological features of the Uzbek publicist microtexts.

KEYWORDS: Speech, Text, Microtext, Culture Of Speech, Stylistics.

INTRODUCTON

The fact that the style of publicist speech has different genre manifestations, has a specific place in the system of functional styles according to its wide coverage, its use by writers and poets, publicists, journalists or the general public.

Publicist speech is the division of functional styles into types, according to academic V.Vinogradov's classification, the language is allocated according to the function of influence [1. P. 6].

Publicist the question is derived from the Latin word public us-public, public, derived from the word social, which means social or social nationalist [2]. Views of the publicist style began to appear in the speeches of ancient speakers, as in the most ancient times of social development, where the society of personality appeared, scientists noted. Further periods of development have shown that oral speech is not fully responsive to demand. There was a need for separate written speech, which had the power to influence the people's masses politically and organically, to organize it, to move it.

About the specific signs of popular speech, about its relationship to other functional styles, the linguist M.Kojina writes so:

"...stylistic coloring, which manifests itself in a way that depends on the genre of the newspaper, cannot exist. They merge at a common point. For example, although the head, scientific-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

theoretical, scientific-popular articles, peer reviews, interviews, etc. are distinguished by the features of analysis in the statement, with the expressiveness, the publicist and moments of evaluation; while the essays, pamphlets, the verb are distinguished by the features of artistry, they differ from those styles by the publicist" [9.P.188].

The historical roots of Uzbek publicist go a long way. The final features of publicist in the three works of Navoi "Majolis un-nafois", "Munshaot", "Mahbub ul-qulub". Literary portraits of Navoi Abdurahman Jami, Pahlavon Mahmud, Sayid Hasan Ardasher and others can be called publicist essays. A deeper study of the works of Navoi prose allows him to be called the founder of the Uzbek artistic publishing house" [12. P.195].

In Uzbek linguistics, in the 60-ies of the last century, when theoretical views on stylistics and language styles were formed, publicist speech was studied as a kind in the system of functional styles, as well as stylistic signs and language characteristics of publicist speech were analyzed, among other methods. Along with this, thanks to the independence of our famous writers, who participated in the 1930s, studies on the analysis of his work on the genres of Uzbek publicist have also appeared.

MAIN PART

A study devoted to the 80 - ies of the XX century to a special study of the stylistic signs of public speech, linguistic features – for the first time scientific conclusions on stylistic signs of popular speech, language features were made in the candidate's dissertation on the topic "publicist style of the current Uzbek literary language" by T. Kurbanov [10]. In this study, the classification of functional styles, the main signs of the publicist style, the fact that its function is a reflection of socio – political relations, and the scope of the validity of many socio-political terms mastered by the Russian language of the this, the application of socio-political lexical, emotional-express layer and neural vocabulary in the manifestation of lexical-semantic and stylistic In the 80-ies of the last century, the pages of the press attracted more attention to the socio-political lexicon, which was widely consumed, and the expressiveness that represented the spirit of that period. In the work, some syntactic signs of public speech are described due to the frequency of application of syntactic units. It was also reported about the extra linguistic signs of the popular style. In addition to the fact that the work is devoted to the study of the publicist style for the first time in Uzbek linguistics, more and more of its lexical-semantic features have been analyzed, while some linguistic and some extra linguistic signs have been taken as an object of research, and not focusing on the stylistic features of popular speech in a holistic style.

At the end of XX and beginning of XXI century, Uzbek publicist texts attracted the attention of many scholars in terms of reflecting the spirit of a new era and gaining new meaning. The researchers began to explore the popular style, the issue of literary language and spelling in it, while expressing the course of the period of independence and having a new meaning. In this sense A.Abdusaidov's candidate's work on the newspaper language and the cases of compliance with the literary norm in it, his doctoral dissertation on the language and style of the newspaper genres came to the square [3,4]. In addition, the scientist explains the lexical-stylistic features of the newspaper language in monographs and in many hands, the use of articles in the newspaper language, the culture of the press language, the norm of the use of phraseological units in the press, the theoretical views and scientific analysis of the publicist on the skill of using words [5,6,7].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In the years of independence, the scope of scientific research in the direction of methodology, Uzbek publicist has increased even more. In the development of Uzbek Stylistics, the scientist conducted extensive research on the system of functional styles and the style of artistic speech. Unlike the scientific research considered in S. Karimov's monograph titled "Functional stylistics of the Uzbek language", the entire range of methods, first of all, the extra linguistic conditions of the publicist style, the lack of sufficient attention to the extra linguistic factors of popular speech in scientific research so far, it explains its views on the non-existence of a separate study, and in the form of this speech it is understood that the possibilities of using the factors that exist outside the language and language are ideologically broad, and that the closer the publicist is to life is determined by its fulfilling social function [8.P.45 – 83].

Professor S.Karimov gives an analysis of the genres of Uzbek publicist, in addition to showing the reasons for the restoration of the spirit of independence in a new way, assesses the basic rules of the publicist style from the point of view of reflecting the socio-political changes of this style in the period of independence.

Publicist speech reflects socio-political, economic issues, the violent spirit of the era, the debates in the hearts of the masses, problems and ways of finding solutions to them. Therefore, when compiling these speech microtexts as, the author is required, as in previous times, to abandon the rhetorical, impudent style, to adhere to the principles of freedom, fairness, objectivity, objectivity, expressiveness, fluency, concreteness. With the variety and stylistic coloring of genres of the publicist style, as well as having different signs of structure, with the features of analysis in the mutual statement, with moments of evaluation, while some genres are distinguished by features of artistry, all genres are common, since these speech texts are intended for the public, aimed at influencing the political and social consciousness of "To inform the current realities in the texts of the publicist style proof, to prove, analyze, generalize, if the signs of objectivity are considered characteristics inherent in the genres of articles, to be aware of any news, to rely on them click, to be quick, to be impressionable, to be fair, to be tolerant, to be tolerant of the abundance of words with emotional-expressiveness to the operability, generalization, PS's compactness is inherent in the appearance of information" [8.P.65 – 66].

Press speech is usually expressed in public publications on socio-political, economic, spiritual-moral, literary-critical topics, in socio-political journals, in all newspapers, in speeches of speakers, in radio and television performances. Publicist, first of all, the aspects of influencing the political consciousness, spirituality of people with the expressiveness of informative instant messages and information, and secondly, giving examples of artistry (poetry, story, narration), are manifested in the genre of publicist style in the newspaper language. Newspaper speech is the most basic view of the press speech at the moment. Because in the newspaper speech to address the public, to motivate, to interest, to encourage, to organize – in general, to influence is in the leading place. In increasing the activity of the masses, it is incredibly fast. The reason for this is its popularity, rapid reach, intelligibility, clear-cut, in solidarity with life.

DISCUSSION AND RESULTS

The issues of complex socio-political, economic moral, literary and critical topics in a particular society are not expressed by separate derived sentences, but are reflected by lexical-phraseological, morphological and colloquial integrals, which are embodied around the coverage of a particular sub-topic, consisting of the interaction of syntactic units connected with each other in meaning. Such integrations cause microtexts, characteristic of public speech.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Microtexts, which cover the issues of social, political and economic life in themselves, the attitude of an active member of society to this socio-political life consists of a group of statements that have the status of an open expression, propaganda of its content and aesthetic impact on the public, are considered microtexts typical of public speech. [11]

Communication, message and interaction functions of the language, which is a factor in the classification of speech styles, are also evident through microtexts.

Popular microtexts stand close to the text of artistic speech, according to the fact that the units of the language serve to form an image, an emotional expressiveness, therefore both methods are considered belonging to one species in terms of the performance of the function of language influence. In both styles, emotionality, expressiveness, a strong desire to use figurative expressions, figurative means, artistic language capabilities.

The transparent attitude of an active member of society towards realities and phenomena, the expression of a subordinate clause and the expression of this subordinate clause in strict compliance with the laws of the literary language are considered an important feature of publicist texts and differ from artistic texts by this sign. In artistic texts, the idea and opinion of the author are expressed through the speech of others, and in publicist texts directly through the speech of the author.

Texts specific to publicist speech differ from artistic, colloquial speech by structure, subject to the laws of the literary language; the role of the publicist style in the enrichment of our literary language is great. Because the events that occur in our socio-political life are usually reflected in a specially regulated mold and, first of all, in publicist works in an understandable way to all.

An important message will be as if the texts of the publicist genre, such as speeches, statements, declarations, congratulations, decisions, government notes, converge on the style of official work-papers with the embodiment of terms on the socio-political topic. Also, words and terms inherent in the style of official-business papers are also encountered in the publicist style, while some can also be actively used, but are radically different in that they are used in the publicist text in a different sense and are used for the purposes for which the author intended. In the text of colloquial speech and official business papers, some words used in the publicist style are used in publicist texts in a peculiar way, without a semantic stylistic framework. [13]

For example, the question "voice" in general is one of the words that has long been used in the texts of official business papers and has become characteristic for the official style: an open voice, a closed voice, a decisive voice, a consultative voice, a vote (golosovat), a vote, a countervote, etc. In colloquial speech, the normative case of its use, even in all syllables: "...someone's voice is coming" or "...turn off your voice", like "sheep to the radio by reducing the sound". This "voice" question is used in publicist texts in a way that is consistent with the semantic stylistic framework, performs a specific task, in a specific way-in paphos: Abdulla Qadiri is a creator with a specific publicist voice in Uzbek literature. These voices are the voices of patriots who have been fighting for their rights for a number of years. (From newspaper.) The sound interrogative in the examples presented is used to demonstrate the positive attitude of the author in the uplifting spirit, and not in the context of the sound formed by means of sounds (for example, the sound of a distant Tursunali was heard), or in the context of the official meaning and tone, to put it into a voice, but in a portable sense.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In publicist texts, they also create individual neologisms in order to introduce innovations or innovations that occurred in the socio-political process into life, to characterize its essence to the public through a positive concept or term whose attributes correspond to it, to evoke emotional impressiveness in people in relation to new events. Striving to apply the existing phrases in a new way is the main factor of Fine Art in publicist. Therefore, even M.N.Kozhina noted that the desire to apply the words in a new sense was one of the prints of the newspaper [9.P.190].

We can also observe such a situation in such genres as ocherk, pamflet, feleton again. For example,

"...Five or six centuries ago, through his works, saint Alisher Navoi understood the essence of our present day. As predicted by how much great power is literature and spiritual cooperation..."

(Minhojiddin Mirzo, «Муштарак тарихий ришталар ва эзгу қадриятлар ёруғ истиқболга пойдевор бўлади» // «Янги Ўзбекистон» newspaper, 2021, 2 april, №66. 3-page.

Usually, "turn of duty" or "bailiff" is used in verbal, colloquial and artistic styles, mainly used to reflect the state of the face appearance of a person in a certain emerging situation. Also this word has a more negative connotation value in relation to the dictionary units "face". So this word is an expression of the external appearance of a person's face. And in our example - microtexts, which is presented, in contrast to the usual, in relation to the word meaning time, moment, in the genitive of case, "bailiff is a state in which our present day is clearly thrown into the light..."in order to reliably reflect, he explained to people the situation of today's era to them with the help of the word familiar to them and available in his dictionary - he used the word he used all. With this word, the owner of the text has achieved a new application of the word in art-publicist. [14]

As we have witnessed, in publicist texts, unlike artistic texts, individual neologisms are much three. The reason for this is that various changes in our lives, updates in politics lead not only to the repetition of words or units in the usual, constant applications in the press speech, but also to the discovery of new meaningful aspects of units from the creator, to the application of new ones in the manifestations that have new meaning facets and.

CONCLUSION

As a conclusion to the above-proven points, we can say that publicist speech is characterized by the fact that microtexts are intended for the public, their popularity, regardless of the variety of statements in them, although they have different genre manifestations. In our independent state, the main function of the publicist microtexts as is the use of a wide range of important global socio-political and economic issues in accordance with the laws of the literary language, having a well-regulated and effective holistic expression. The creation of the text in this way of a complex and actual spirit, the achievement of an open-minded attitude and impressiveness of thought requires the author to select and use each unit in the socio-political spirit in a way that is consistent with its meaning. The emergence of such stylistic signs as the issuance of information, enlightenment, upbringing, organization, hedonistic (entertainment), mobilization, decorative-slogan, singularity, abundance for all without an organized whole integrity of lexical-grammatical units, publicist speech is manifested through microtexts. The fact that the idea intended for the public is expressed in a completed and full-fledged microtexts, first of all it gives the public its influence, enlightenment, trustless, and secondly, it shows how close it is to the life of the people, its vitality.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES:

- 1. Vinogradov VV. Stylistics. Theory of poetic speech. Poetics. 1963. 593p.
- 2. Abdurahmonov G. On stylistic norms. Uzbek language and literature, 1969;(6):51.
- **3.** Abdusaidov A. The language of the newspaper and the literary norm: Abstract of the thesis. diss. ...cand. philol. Sciences. Tashkent, 1988.
- **4.** Абдусайдов A. Language features of newspaper genres: Philol.fan. Dr. ..dis. abstracts. Tashkent, 2005.
- 5. Абдусайдов A. Language and style of newspaper genres. Samarkand, 2001.
- 6. Абдусайдов A. Problems of adherence to the literary norm in the press. Samarkand, 2001.
- 7. Абдусайдов A. Journalist's language skills. Samarkand, 2004.
- **8.** Karimov S. Functional stylistics of the Uzbek language. Samarkand, SamSU edition, 2010. 192p.
- **9.** Kozhina MN. Stylistics of the Russian language. M.: Enlightenment, 1983.
- **10.** Kurbanov TI. Journalistic style of modern Uzbek literary language: Avteref. dis. ...cand. philol. Sciences. 1987.
- **11.** Nematova DS. Linguistic analysis of Chulpon's journalistic works. Philol.fan.name. ... dis. author's ref. Tashkent, 2004.
- 12. Очилов H. Journalism. Uzbek National Encyclopedia, Volume 7, 195р.
- **13.** Shomaksudov A, Rasulov I, Kungurov R, Rustamov H. Stylistics of the Uzbek language. T.: Teacher, 1983. 248 p.
- **14.** Kungurov R, Begmatov E, Tojiev Yo. Fundamentals of speech culture and style, 1992. 160p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IN THE WORK OF YUSUF HAMADONI "THE CRITERION OF LIFE" ("RUTBAT-UL-HAYAT"), A MYSTICAL APPROACH TO THE ISSUE OF HUMAN

Nunnanova Gulzoda Bekpulatovna*

* Teacher
Department of National Ideology,
Fundamentals of Spirituality and Legal Education,
Navoi State Pedagogical Institute, Navoi, Republic of Uzbekistan
UZBEKISTAN

Email id: g.nunnanova77@mail.ru **DOI: 10.5958/2249-7137.2021.02739.7**

ABSTRACT

This article presents the analysis of the human essence in Yusuf Hamadoni's work "The criterion of life" ("Rutbat-ul-Hayat"), the analysis of his views on the issues of understanding the meaning of life, the dialectics of body and soul, being familiar with the original, normative attitude to body and soul.

KEYWORDS: Man, Passion, Body And Soul, Humanity, Living, Animality, Heart, Mystery, Spiritual Perfection, Status.

INTRODUCTON

In Yusuf Hamadoni's work "The criterion of life" ("Rutbat-ul-hayat"), the analysis of the human essence begins with the explanation that there are different levels of living and living. Indeed, in order to understand the essence of humanism, it is important to first determine how they are qualitatively alive. Yusuf Hamadani describes two different levels of human existence. "If you want to know life with the living in detail according to the definition of the category sufiy, then know that a person who is comforted by the decoration of the world, then he is alive with the world. This position is the most worthless and tubal level in the life career and address of a man child. Because the one who is calm with the fabric of the world is a pet, a fold with animals, insects and a partner with them."This is the manifestation of human vitality in negative qualities. The thinker sees the true essence of life in "living with Mavlano" people, glorifying the level of exactly such people. [1]

Yusuf Hamadani, emphasizing that man is the most reverent and dear caliphate within the whole being, touches upon the levels and differences of the attributes of "humanity" and "animalism" in him. "It is obligatory and necessary that a person, honored and distinguished by virtue and reason, be equal with them, from the status of mammals, four-legged animals and insects. Those animals should be ashamed and ashamed to rest with what they enjoy. The need for the soul, which is the animal that carries out all the body works, such as eating, drinking, dressing and building a family, should not be kept from overexertion of desires, knowing them as the source and foundation of its own well-being. "Yusuf Hamadani is far from the idea of denying a person the special needs of life in order to formulate the qualities of "humanity" and thus interpret their

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

importance as "not to overdo it in collecting the goods of the world, to be content with the needs of eating and drinking, household wobble, building a family, etc.is necessary for all. And the necessity will be the norm and the limit. He is not absolute and insensitive." Having a normative criterion in relation to the desires of the body and soul, in addition to being a sign of human spiritual maturity, expresses the degree of "humanity" of life. [2]

It can be seen that Yusuf connects the desires of the Hamadonian with the desires of the flesh, it is necessary to restrain the soul and nourish the body to the necessary level for the fulfillment of human tasks, then the person concludes that he corresponds to the criterion of his status. Soul exceeding the norm are harmful to man, and soul transfer is considered to be a violation at the animal level. [3]

Man as a creature consisting of body and soul has always been studied in religious-philosophical teachings. Yusuf Hamadani emphasizes that in the light of the human essence, he is the highest freewill in the whole being, made up of body and soul. Yusuf touched upon the issues of the universal body and soul, emphasizing that the basis of human life is the expression of unity of body and soul. The thinker expresses the necessity of the body in human perfection and gives the body such a definition: "body - religion is an animal that has entrusted it and is a bathhouse that acts as a sharia". It is in this opinion that attention is paid to the fact that the body is the main tool for the realization of the qualities of "humanity", which are formed in the human psyche. The body is interpreted as a single animal in achieving perfection in the vital addresses of man, while in understanding its essence is a co-author of the Sharia functions. This means that the body is a vital opportunity to perform the deeds and prayers prescribed by God for Man. "The fact that the body is constantly ready to bear the burden of sharia, to fulfill religious duties, to obey Islamic decrees and finally to pay attention to what a person is eating and how he is dressed is a right obedience and good deed." Yusuf Hamadoni believes that the body is not a space of exquisite flavors, but a means of achieving human spiritual perfection. [4]

Yusuf Hamadani also analyzes the structure of the body, recognizing the necessity of the body for a person. Body "four items (soil, water, fire, air) is your fitrating and customer. In every creature consisting of elements, there are thousands of signs and signs about the fact that creation was then created and doomed to death," the tariffs argue that there is no feature of eternity in the body. This means that the body is transient, but at the same time the body is necessary for human perfection Yusuf Hamadoni explains by substantiated evidence. The body is considered to be a being with a material basis, the soul is a concept that expresses a spiritual, intangible being. Yusuf also thinks about the spirit, which is considered a contradiction of the Hamadonian body, but at the same time brings the body into action: "the spirit is the lion of the originals." This is how the spirit moves the body, analyzes its level in service to man: "in the shadow of the existence of the soul, the body sees, knows, hears, captures, walks." Opportunities in the human body help a person to see reality, to think and to do good deeds in the name of Allah's pleasure. But for the sight of the eye, for the contemplation of the brain, too, there must be a soul in the body. Because the soulless body is dead and inaction. When there is a soul in the body, this body is able to serve a person. It turns out that the status of the soul is high, and without a body at the same time a person can not fulfill his duties before him. [5]

Yusuf asserts that the interdependence of the body and soul of the Hamadani is the most important foundation of human life, the stability of mutually contradictory, at the same time interacting aspects. In fact, the immaturity of the body without the soul is observed, the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

immaturity of the soul without the body. Yusuf explains that the movement of the Hamadani body occurs through the spirit, which gives Man the opportunity to carry out his activities "because of the characteristics and qualities of the spirit, persistence, foresight and lesson in wisdom, understanding of wisdom in hearing, obedience in following, service in walking". For human perfection, it is important to know its identity and pay attention to the sources of its existence, Yusuf Hamadani says that if the source of its existence does not change, life will not change. In a real man, Yusuf Hamadani believes that the body works and lives for Islam. And the soul works and lives for faith. The superintendent says that the desire associated with the human body is nafs, the nafs is taut, the body is itoat and reaches Muslim status for such a body has served goodness. Yusuf connects the spiritual perfection of the human being with the state of the soul, mystery and spirit. [6] He says that if the human heart is in truth, it will be in the status of faith, and as he sees the truth, and as he also sees you, he has reached the status of donation as a prayer of mystery and spirit. In his opinion, the levels of human spiritual perfection are the stages of the soul, mystery, spirit, donation is the highest status. The human spirit, having achieved this status, manages the whole body to be in service in the right way. It means that humanity must be very responsible for the proper use of body and soul capabilities, the proper assessment of their importance in human life, as well as for the clear definition of the norm in the needs of body and soul. And in the understanding of this responsibility, the awakening of the human spirit is important. After all, as the great thinker Yusuf Hamadoni said, "intelligent and immaculate people know that the right deeds and the right deeds arise from the awake heart. Authentic (correct) thoughts are formed from pure secrets. And the pure mystery comes into being from a pure and holy, pure spirit." Therefore, the ideas of Yusuf Hamadoni are very important in building and nurturing a harmonious person. In order for a person to mobilize his physical and mental capacities for goodness and to live in peace and quiet, it is necessary to know the origin of the body and soul, to be in a normative attitude to the desires of the body and soul, and to recognize his / her own self. In Yusuf Hamadoni's work "The criterion of life "("Rutbat ulhayat"), similar ideas have been put forward, and today it is necessary to study this work and its teachings from a scientific and philosophical point of view. [7]

In today's XXI century civilized human society, too, it is necessary to understand the nature of man, to study the criteria leading to the level of spiritual perfection, to have the opportunity to apply it to practice in the phenomenon of society, the use of ideas in Yusuf Hamadoni's work "Rutbat-ul-hayat" as a theoretical basis is the same term.

REFERENCES:

- **1.** Isamiddinov M. The history of emergence of Sughd Cities. EPRA International Journal of Research and Development. 2020;5(10):125–128.
- **2.** Mirsoatova ST. New data on the late paleolithic of the Fergana valley. Евразийский союз ученых. 2020;10 (79/4):25–29.
- **3.** Farmanova GK. The role of the geographic environment and climatic conditions in the formation of economic-cultural type of population when during ancient and antic period. ACADEMICIA: An International Multidisciplinary Research Journal. 2020;10(11):1612–1622.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Rakhmatillayev H. Ethnodynamics of the city population of the Fergana valley of the first half of the XX century. EPRA International Journal of Research and Development. 2020;5(5):532–535.
- 5. Arslonzoda R. Memoirs as asourse on the history of Uzbekistan in the second half of the 19th early 20th centuries. EPRA International Journal of Research and Development. 2020;5(10):119–124.
- **6.** Mahmudov O. The beginning of the European renaissance. ERPA International Journal of Research and Development. 2020;5(7):104–108. D
- **7.** Yuldashev S. Visit of Chinese ambassador dung wans to Fergana. The history of the Fergana valley in new researches. Fergana. 2021. pp.123–131.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A STATE OF THE ART REVIEW ON IMPACTS OF ABORTION

B. R. Maurya*

*Assistant Professor,

Department of Business Law, Faculty of Commerce, Management & law, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: brmourya.mourya321@gmail.com

DOI: 10.5958/2249-7137.2021.02661.6

ABSTRACT

Abortion has the most contentious implications and is stigmatized more than any other topic connected to reproductive health. Despite the fact that abortion is a global occurrence that is defined as and has occurred throughout recorded history, it remains a highly heated, contentious subject that elicits strong feelings among laypeople, politicians, religious leaders, and health and rights activists. Despite the fact that abortion services in India were liberalized more than three decades ago, the majority of women still have restricted access to safe abortion procedures. This article synthesizes current data on India's abortion situation and investigates the variables that lead to women seeking abortions. It identifies issues such as unmet contraceptive needs, a lack of understanding of the legality of abortion services, restricted access to safe services, and low service quality, all of which drive women to seek services from untrained practitioners. Thus, making abortion services widely legal, as well as gaining a better knowledge of the number, kind, and characteristics of women with unmet needs, may all assist to address this issue to some degree.

KEYWORDS: Abortion, Contraception, Pregnancy, Post-abortion Care.

1. INTRODUCTION

1.1.Abortion:

Abortion is the removal or expulsion of an embryo or foetus from the uterus, which results in or causes the death of the embryo or foetus. This can happen naturally as a miscarriage, or it can be purposefully produced through chemicals, surgery, or other methods. A miscarriage or induced termination before twenty weeks gestation, which is considered nonviable, is commonly referred to as an abortion; medically, it is defined as a miscarriage or induced termination before twenty weeks gestation, which is considered nonviable.

1.2. The Right to Abortion as a Human Right:

Individual rights, such as the right to life, liberty, and the pursuit of happiness, justify a woman's right to an abortion. The reproductive and sexual health of a woman influences her reproductive decisions. Reproductive rights are widely acknowledged as essential for improving women's human rights and development. Governments from all around the globe have recognized and committed to promote reproductive rights to unprecedented levels in recent years. Official laws and regulations are important indications of the government's commitment to reproductive rights promotion. Bodily rights refer to a woman's full right to govern her body [1], [2].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.3. Reproductive Rights In India:

The feminist critique of patriarchal control over reproduction by women's movements throughout the globe has fueled individual and communal efforts to combat it on all levels. Women's organizations in third-world countries, on the other hand, have argued that the discussion over women's reproductive rights must take into consideration the reality that reproduction is just one part of a woman's physiology and life, and that it cannot be regarded in isolation. They believe that patriarchy must be understood in a much broader context since we live in societies where political, economic, cultural, and social variables all interact to affect women's health and shape perceptions of fertility and infertility, sexuality, reproduction, and gender roles [3].

In addition, the Indian viewpoint on reproductive rights has had to account for a number of other social inequities and inconsistencies. On the one hand, medieval society tried to control every element of women's life. Women's fertility has been defined and controlled in part by religion, caste, and cultural norms. Sharp class divisions have not only generated, but also exacerbated disparities, which have a direct negative effect on women's health. On the other side, colonialism's past has exacerbated the problem by contributing to the systematic eradication of indigenous healing and health systems and the imposition of allopathy, or "modern western medicine," as the standard [4]. In the current age of economic liberalisation, this legacy has been given a new lease of life, resulting in international pharmaceutical corporations exploiting Indian markets and people. These variables, when combined, are driving rural-urban divisions to widen even further, resulting in ever-widening disparities in development and planning, as well as access to resources and opportunities. The first world's population control strategy, imposed by international financial institutions and executed via Indian population programs and policies, dominates this situation.

1.4.Right to Abortion:

Human rights are those rights that should be accessible to everyone without any form of discrimination. The basis of freedom is the recognition of all individuals of the human family's inherent dignity and equal and inalienable rights. The right to life is a human's most essential right. It is the most fundamental human right, from which no exceptions can be made. It is unassailable. The arbitrary deprivation of life is prohibited under Article 6(1) of the International Covenant on Civil and Political Rights. However, there are several contentious problems surrounding this ultimate privilege. The right to abortion is one of these issues. It is thought that, among other things, every woman has the right to abortion, which is a universal right. However, the rights of the mother must be weighed against those of the unborn child [1], [5]. Previously, the right to abortion was not allowed, and society was fiercely opposed to it. Terminating a pregnancy was referred to as "murdering the fetus." However, as time and technology have progressed, most countries now recognize this right, after the historic Roe vs Wade1 ruling by the US Supreme Court. However, there are still others who oppose it, and some think it should be made illegal[6].

1.5. Abortion Rates and Their Relationship with Morbidity and Mortality:

In most countries, including India, determining the prevalence of induced abortion is very difficult. When it comes to researching abortion, data quality is crucial. Abortion operations are significantly underreported, whether done legally by skilled professionals using contemporary technology or illegally using "conventional" techniques. Clinic or hospital records, or individual

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

surveys of women, are the most common sources of abortion statistics. Where abortion is illegal, highly stigmatized, or difficult to get, clinic or hospital sources tend to be of low quality. There are no reliable statistics on the prevalence of abortion in India .Clinic data is presented as official statistics, although it only includes instances of medical termination of pregnancy (MTP) performed at government-approved clinics. Since the liberalization of abortions regulations in 1972 through the early 1980s, these abortion data indicate a rise in MTP . There has been a rise of MTP centers since 1982-83, but there has been no commensurate rise in the reported number of MTP done. Underreporting of MTP may be one explanation for this. It is believed that illegal and therefore unreported abortions outweigh legal abortions by a ratio of three to eight. Abortion data is collected via surveys such as the National Family Health Survey. These figures show an extremely low rate of abortion among Indian women and should be regarded as severe underestimations. Because current direct estimates of abortion rates from clinic and survey data are widely recognized to be underestimates, several indirect estimation methods to assess abortion incidence and relative rates have been employed.

Despite the prevalent attitudes that abortion enables women to pursue life's opportunities, only a couple of studies have investigated whether an abortion enables one to achieve specific milestones, and such studies usually focus on educational achievements. For example, a 2-year longitudinal U.S. study found that black teenagers from Baltimore who had an abortion were more likely to continue their education than those who carried to term or those who had never been pregnant. Similarly, a 25-year longitudinal study in New Zealand examined the extent to which abortion mitigated educational, economic, and social disadvantages associated with pregnancy among women less than age 21. The study found that compared to young women who had unintended pregnancies and carried to term and young women who did not have unintended pregnancies, young women who obtained abortions were more likely to achieve educational milestones. However, there were no differences found in achievement of economic or relationship milestones. The study also found that family, social, and educational characteristics were more likely to explain subsequent life outcomes than whether the woman had an abortion. Both of these studies had a narrow focus they looked at adolescent women and used predetermined goals such as high school graduation. They did not include women across the lifespan nor did they consider the woman's own stated life goals. The one U.S. study was done in a single city (Baltimore), and published over two decades ago when access to abortion services and economic conditions were different. Therefore, findings from that study may not be generalizable to the current U.S. context as a whole.

Probably the greatest weakness of these studies, is that they did not include appropriate comparison groups. Women choosing to have an abortion after an unintended pregnancy may be systematically different than those who never had an unintended pregnancy or those who chose to carry to term. Such unobserved factors may confound any effects found between choosing abortion and achieving life milestones. This study overcomes these methodological weaknesses by comparing two groups of women seeking abortion; women obtaining a wanted abortion compared to women denied a wanted abortion. Data from University of California, San Francisco's Turn away Study were used to examine the impact of having an abortion on women's own reported one-year plans. Women who obtained a wanted abortion were compared to women who wanted an abortion but were turned away from getting the procedure because they presented for care after the provider's gestational limit. First, all one-year plans were categorized and it was determined whether each plan expressed a positive goal for the coming

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

year (aspirational). It was assessed whether women who were able to have a wanted abortion were more likely to report an aspirational one-year plan than women denied an abortion. Second, it was assessed whether women who were able to have a wanted abortion were more likely to achieve these aspirational one-year plans one year later.

The Turnaway Study is a 5-year longitudinal study of women seeking abortion. The study was designed to assess a variety of outcomes of receiving an abortion compared with carrying an unwanted pregnancy to term. The study received approval from the University of California, San Francisco, Committee on Human Research. All participants provided informed consent. From 2008 to 2010, the Turnaway Study recruited women from 30 abortion facilities across the United States. Study sites were identified using the National Abortion Federation membership directory and by referral. Sites were selected based on their gestational age limits to perform an abortion procedure, where each facility had the latest gestational limit of any facility within 150 miles. Gestational age limits ranged from 10 weeks to the end of the second trimester. Facilities performed over 2,000 abortions a year on average. They were located in 21 states distributed relatively evenly across the country.

2. DISCUSSION

2.1. Abortion's Legal Status:

The Medical Termination of Pregnancy Act, approved in India in 1971 and enacted in 1972, permits abortion (or MTP) for a variety of social and medical reasons, including saving the woman's life, preserving physical and mental health, halting a pregnancy caused by rape or incest, and terminating a pregnancy caused by fetal impairment [7].

2.2. Abortion's Emotional Consequences:

Women may have discomfort and cramping after an abortion. This, as well as possible procedure-related bleeding, which is usually no worse than monthly bleeding, might linger for several weeks. Some women also have stomach distress, which might manifest as nausea or vomiting. These are common abortion side effects, however women should contact their doctor or the clinic where the operation was performed if they are worried. After an abortion, problems can occur, however the likelihood is low. In the first few weeks, women should be on the lookout for signs of very heavy bleeding, fever, severe pelvic discomfort, or severe stomach pain. These symptoms could indicate a serious infection or bleeding that necessitates quick medical attention. Death can happen during or after an abortion in exceedingly rare cases, but the risk is comparable to the risk of death during childbirth. There are also emotional consequences of abortion, which must be acknowledged and investigated. The most serious of these is the onset of postpartum depression. Postpartum depression can occur at any time after a pregnancy, at any stage, and in any way. As pregnancy hormones drop rapidly, the body might become extremely sad[8], [9].

2.3. Abortion's Physical Effects:

When a woman has an abortion, she is exposed to a slew of physical complications. Blood loss during the surgery causes blood flow to be diverted to various organs, which might lead to shock. The insides of the uterus, fallopian tubes, and abdominal cavity are all accessible to microorganisms when the cervical canal is dilated. Peritonitis and abscess development can result from an abdominal infection. Abortion is frequently followed by severe hemorrhage.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Instruments can perforate the uterus, resulting in damage, infection, and internal organ hemorrhage. Abortion-related deaths are uncommon, however they usually result from excessive bleeding caused by anesthetic difficulties. According to a new study published in the Journal of the National Cancer Institute, women who have abortions have a fifty percent increased risk of breast cancer. Abortion of a first pregnancy disrupts the breast's natural growth process, putting millions of cells at danger. It has been discovered that only one previous abortion increases the risk of future pregnancy failure by 45%. Other issues include a higher chance of premature births, tubal pregnancy, infertility, and cervix injury. Women endure several bodily injuries as a result of abortion[10], [11].

2.4.Men's Reaction to Abortion:

A man may realize that his abortion experience affected him in a variety of ways. Although each man's experience is distinct, there appear to be some common threads. The significance is immediate and profound for men who oppose abortion. He may ruminate, ponder, or obsess over what occurred. He can't get the incident out of his mind. The male who appears to agree, is ambivalent, supports the abortion, or just abandons his girlfriend may not recognize the significance of the event until years later. The birth of another child, seeing an ultrasound during a pregnancy, or having a conversion experience of some kind could all be trigger events for these men. It might be something as simple as seeing an advertisement, reading an article, or being aware of the Roe vs. Wade anniversary and the marchers taking place across the country. It could be hearing about another person's abortion or becoming aware that the partner with whom they had the abortion is not doing well, if she is still alive. An astute counselor or pastor may inquire about previous pregnancies and abortions while seeking counseling for marriage problems, drug or alcohol abuse, or sexual addiction. Something has shifted the man's perspective, allowing him to examine the impact of his abortion experience on his life.

Many women reported multiple one-year plans. Each individual plan in a dataset that was blinded to study group was considered (although some women's plans were suggestive of her study group). Each plan was categorized by topic: Education, Employment, Financial, Childrelated, Emotional, Living Situation/Residence, Relationship Status, and Other. The Other category included vague plans, plans for personal growth, car ownership, health and other plans that did not fit into one of the other eight topics. Then, the outlook of the plan was determined whether it was positive, negative or neutral. This determination was based on the tone of the statement and the qualifiers used. If determination was unclear, the plan was categorized as neutral. Two researchers reviewed each plan. Identification of a plan as positive or negative required both researchers agreeing. Positive plans are referred to as "aspirational." Finally, survey items in the six-month and one-year interviews that would indicate achievement of the plan were identified. Some specific plans required all coauthors to discuss and agree upon the meaning of the plan and whether our interview items were sufficient to measure achievement. The exact timing for residential moves could not be determined so when a plan involved a residential move, she was considered to have achieved the goal if there was evidence that she moved by the second year of the study.

During the baseline Turnaway Study interview, participants were asked about sociodemographic characteristics, their reproductive histories, and a final, open-ended question "How do you think your life will be different a year from now?" which was used to capture respondents' one-year plans. Respondents were permitted to provide as long a response as desired. The 6-month and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

one-year follow-up interviews included questions about whether they were going to school, whether they were working full or part time, what they did for work, their personal and household income, their household composition, their relationships, their children, their life satisfaction, and their emotions regarding the abortion. These items were used to assess whether women achieved their one-year plans.

3. CONCLUSION

Abortion, whether intentional or unintentional, is not the acceptable way of dealing with any pregnancy. In no country should this method be legal. Children should be allowed to live their life as they see fit. The procedure of partial birth abortion, in my opinion, should be prohibited. Pregnant women should be shown this type of pregnancy abortion before undergoing the process so that they are aware of what they are about to undertake. I believe that all woman considering abortion should see an abortion procedure and be aware of the harmful psychological and physical ramifications that can occur after the surgery. I believe that women should be counselled prior to the procedure and given at least three days to contemplate the facts about abortion, the health repercussions of abortion, and the process's ramifications.

REFERENCES

- **1.** R. Rebouché, "Abortion Rights as Human Rights," Soc. Leg. Stud., 2016, doi: 10.1177/0964663916668391.
- **2.** B. M. Stifani, L. Gil Urbano, A. C. Gonzalez Velez, and C. Villarreal Velásquez, "Abortion as a human right: The struggle to implement the abortion law in Colombia," Int. J. Gynecol. Obstet., 2018, doi: 10.1002/ijgo.12672.
- **3.** S. Kosgi, N. V. Hegde, S. Rao, S. B. Undaru, and N. Pai, "Women reproductive rights in India: Prospective future," Online J. Heal. Allied Sci., 2011.
- **4.** S. Madhok, M. Unnithan, and C. Heitmeyer, "On reproductive justice: 'domestic violence', rights and the law in India," Cult. Heal. Sex., 2014, doi: 10.1080/13691058.2014.918281.
- **5.** L. Z. Machado, "Abortion as a right and abortion as a crime: The neoconservative setback," Cad. Pagu, 2017, doi: 10.1590/18094449201700500004.
- **6.** A. Saxena, "Abortion Rights in India What Could, and Should Be," SSRN Electron. J., 2017, doi: 10.2139/ssrn.2985334.
- 7. A. Bhagwat, "Abortion's legal status [4]," Economist. 2006.
- **8.** J. Mauldon, D. G. Foster, and S. C. M. Roberts, "Effect of Abortion vs. Carrying to Term on a Woman's Relationship with the Man Involved in the Pregnancy," Perspect. Sex. Reprod. Health, 2015, doi: 10.1363/47e2315.
- **9.** A. Kero, U. Högberg, and A. Lalos, "Wellbeing and mental growth Long-term effects of legal abortion," Soc. Sci. Med., 2004, doi: 10.1016/j.socscimed.2003.09.004.
- **10.** S. H. O'Neil, "The effects of abortion on psychological distress and intimate relationships in a community sample," Diss. Abstr. Int. Sect. B Sci. Eng., 2001.
- **11.** C. L. Foote and C. F. Goetz, "The impact of legalized abortion on crime: Comment," Quarterly Journal of Economics. 2008, doi: 10.1162/qjec.2008.123.1.407.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW ON THE OCCUPATIONAL HEALTH AND SOCIAL SECURITY OF UNORGANIZED WORKERS IN THE CONSTRUCTION INDUSTRY

Rahul Rathore*

*Assistant Professor,
Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: rahul.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02662.8

ABSTRACT

Construction is one of the important industries employing a large number of people on its workforce. A wide range of activities are involved in it. Due to the advent of industrialization and recent developments, this industry is taking a pivotal role for construction of buildings, roads, bridges, and so forth. The workers engaged in this industry are victims of different occupational disorders and psychosocial stresses. In India, they belong to the organized and unorganized sectors. However, data in respect to occupational health and psychosocial stress are scanty in our country. It is true that a sizable number of the workforce is from the unorganized sectors — the working hours are more than the stipulated hours of work — the work place is not proper — the working conditions are non-congenial in most of the cases and involve risk factors. Their wages are also not adequate, making it difficult for them to run their families. The hazards include handling of different materials required for construction, and exposure to harsh environmental conditions like sun, rain, and so on. On account of this, in adverse conditions, it results in accidents and adverse health conditions cause psychosocial strain and the like. They are victims of headache, backache, joint pains, skin diseases, lung disorders like silicosis, other muscular skeletal disorders, and so on. The repetitive nature of the work causes boredom and the disproportionate earning compared to the requirements puts them under psychological stress and strain and other abnormal behavioral disorders. The Government of India has realized the importance of this industry and has promulgated an Act in 1996. The state governments are being asked to adhere to this, although only a few states have partially enforced it. In this article, attempts have been made to review some of the important available articles for giving a broad idea of the problem and for furtherance of research in this field.

KEYWORDS: Construction industry, Occupational Hazards, Occupational Health, Social Security.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

1. INTRODUCTION

Any industry contributes significantly to the development of a country. Agriculture, industry, and services are the three pillars of India's economy. Our economy relies heavily on the industry for revenue. The construction industry is classified as code 5 by the National Classification of Industries. Building construction employees are classified as code 7 and 9 in the National Classification of Occupations. Around 340 million people (approximately 92 percent) labour in the unorganized sector, with the construction industry accounting for nearly half of them. The output is typically used to measure a worker's performance. It is true that good health is necessary for optimal performance[1]. The Central and State governments in India have established numerous Acts and regulations to protect employees' perks and health. For the health and welfare of building and other construction employees, the Regulation of Employment and Conditions of Service Act, 1996, was enacted. The Factories Act of 1948 stipulates a maximum of eight hours of labour each day, although employees often work 10 - 12 hours. This has an impact on their health, and they are more prone to accidents as a result. Accidents occur at a greater rate in the construction sector than in the manufacturing industry. The building business is linked to a number of health risks[2]. Workers in the unorganized sector have relatively little social protection.



Fig. 1 symbolizes a typical family

Objectives:

- 1. To raise awareness of the many health issues that employees in the construction sector face.
- 2. To be aware of the different statutes and regulations in place in the nation.
- 3. To determine the scope of the issues, as shown by research papers.

2. LITERATURE REVIEW

The review of literature is about some of the most significant publications over the past 30 years that have been referenced or reported in some major papers. The focus is on health risks, illnesses, social security, and psychological stress in this section. Several writers have taken social changes into account[3]. Human behavior in the social system is one of the most essential

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

elements. Human behavior is influenced by social groupings, according to sociologists[4]. Occupation, according to Emile Durkheim, is an example of a social reality. It has an impact on how we act and how others react to us. From the standpoint of the functioning of the social system, too low a general level of health, too high a frequency of disease, is dysfunctional, according to Karl Marx. In the first case, this is because sickness makes it unable to fulfill social duties effectively[5]. Talcot Parson is a fictional character. The division of labor divides laborers into three categories: primary, secondary, and tertiary[6]. Cultivators are in the primary sector, miners and quarry workers are in the secondary area, and manufacturing and service industry workers are in the tertiary section.

Construction laborers work in the tertiary sector of the service industry. The firm laborers are split into two groups based on their working area: the big group and the small group[7]. Workers in large groups work for major corporations or multinational corporations. They construct multistory skyscrapers, retail malls, and other structures. They're from the business world. Tiny groups of employees work in small structures such as houses or apartments. They're the employees who aren't well-organized[8]. Acts and regulations are followed by big corporations for the welfare of their employees. This is not the case with the tiny group of contractors that use small laborers. The Government of India has published several Acts and the State Government has established regulations to protect the advantages and health of the laborers[9]. No adult worker should be compelled or permitted to work in a factory for more than eight hours per day or forty hours per week, according to the Factories Act of 1948. The Buildings and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, Act no. 27 of 1996 [19 August, 1996], was enacted by Parliament in 1994, and it regulated the employment and conditions of service of buildings and other construction workers, as well as other matters.

The review of literature refers to some of the most significant publications over the past 30 years that have been referenced or reported in certain key texts. The focus is on health risks, illnesses, social security, and psychological stress in this article. A number of writers have taken social reforms into account. Human behavior in the social system is an essential consideration. Human behavior is influenced by social groupings, according to sociologists[10]. A sociological reality, according to Emile Durkheim, is occupation. It has an impact on how we act as well as how others treat us. From the perspective of social system functioning, too low a general degree of health, and too high a frequency of sickness, is dysfunctional, according to Karl Marx[11]. This is because sickness makes it impossible to fulfill social duties effectively in the first place. Talcot Parson is a fictional character created by Talcot Parson. Primary, secondary, and tertiary laborers are divided into three categories according to the division of labor. The primary part is made up of cultivators, the secondary section is made up of miners and quarry workers, and the tertiary section is made up of workers in the manufacturing and service industries.

Construction laborers are employed in the tertiary sector of the service industry. The firm laborers are split into two groups based on their working environment: big group and small group. Workers in large groups work for multinational corporations (MNCs). Multi-story buildings, retail malls, and other structures are among their products. They work for a company. Workers in small groups operate on modest construction projects such as houses or apartments. It's the employees that aren't well-organized. Acts and regulations are followed by big businesses for the welfare of their employees. This is not the case, however, with the tiny group of small

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

laborers' contractors. Many employees, in addition to having modest savings, have difficulty turning funds from various years into retirement earnings in subsequent years in various states of nature. We know from 401(k) research that many employees do not diversify appropriately and do not select a prudent long-term investment strategy. 5 Many employees' willingness to accept their companies' default allocation suggests that they lack a clear understanding of how to choose a portfolio. Others pay advisers up to 1% of their assets each year to assist them choose mutual funds outside of their employer-sponsored retirement plans (in what are called wrap accounts). Paying 1% more each year lowers the accumulation by approximately 20% at the conclusion of a 40-year career. 6 Even mutual funds that are quite identical have significantly varying yearly fees. While the average annual fee for mutual funds incorporating stocks is now 14.4% of assets (including a proration of front loading), some employees pay much more. A charge of the typical amount deducts approximately 25% from what would be available at retirement if there were no cost. As a result, many employees find it more difficult to save for retirement than they could, or than an idealized theory suggests they should. To be clear, I am not advocating for a ban on these market possibilities, but more regulation would be beneficial. Rather, I'm arguing that Social Security experts should be reasonable. The individuals who are subordinate to section 2(1)(n) and the provisions of that section, which is to say, any individual who is utilised in the construction, maintenance, repair, or demolition of, (a) any building that is designed to be, is, or has been more than one story in height above the ground or twelve feet or more from the ground level to the ape," according to the Workmen's Compensation Act of 1923. Everywhere, psychological violence was rampant, with verbal abuse at the top, followed by bullying and mobbing. Brundtland stated that health had been severely harmed, with 1.6 million individuals killed and countless more injured as a result of violence, revealing the various faces of interpersonal, communal, and self-directed violence, as well as the contexts in which it happened. The incidence of absenteeism rose as a result of a lack of assistance at work. A rise in absenteeism was linked to abusive supervision.

3. DISCUSSION

It is found that in big companies or MNC company's safety guidelines are maintained for the benefit of the workers. No such guidelines are followed or safety measures taken while working at heights for unorganized workers. These are causes for fatal accidents. On account of this, in adverse conditions, it results in accidents and adverse health conditions cause psychosocial strain and the like. They are victims of headache, backache, joint pains, skin diseases, lung disorders like silicosis, other muscular skeletal disorders, and so on. The repetitive nature of the work causes boredom and the disproportionate earning compared to the requirements puts them under psychological stress and strain and other abnormal behavioral disorders. The nature of work leads to fatigue. Monotonous work, work intensity, and duration of mental work, are some factors that require special attention. The workers even face anxiety when there is no work. The exposure to different environmental conditions like noise, light, and heat may be responsible for health impairment. Postural changes like bending forward or standing may cause backache, low back pain, and neck pain and so on. It is also associated with weight bearing.

4. CONCLUSION

In India, as the workers are mostly illiterate, it is desirable to impart health education to them, to apprise them of the ill effects of work and the remedial measures. Awareness programs and local group discussions are essential for improving the health status of these working communities. As

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

a result of their exposure to work, employees may develop a variety of occupational illnesses. They are uneducated and unconcerned about various preventative measures. Silicosis, lead toxicity, illnesses of the joints and bones, carbon monoxide and benzene poisoning, skin problems, and other occupational ailments in construction workers need special care. While the buildings are being coated, the employees are exposed to lead. The female construction workers, as Baruah identified were getting opportunities, and suggested training and certification for providing skilled women with quality employment opportunities

REFERENCES

- 1. "Fiscal year 1990 estimated national average monthly payments for extended care services under Part A of Title XVIII of the Social Security Act--HRSA Notice.," Fed. Regist., 1990.
- 2. "A comparison of social security taxes and federal income taxes, 1980-90," Soc. Secur. Bull., 1981.
- **3.** "Medicare program; Part A premium for the uninsured aged for 1990-- HCFA. Notice.," Fed. Regist., 1989.
- **4.** W. L. Lai, "The regulatory role of social policy: Macao's social security development," J. Contemp. Asia, 2008, doi: 10.1080/00472330802078477.
- **5.** C. R. Tamborini, H. M. Iams, and K. Whitman, "Marital history, race, and social security spouse and widow benefit eligibility in the United States," Res. Aging, 2009, doi: 10.1177/0164027509337196.
- **6.** M. Radovanović, S. Filipović, and D. Pavlović, "Energy security measurement A sustainable approach," Renewable and Sustainable Energy Reviews. 2017, doi: 10.1016/j.rser.2016.02.010.
- 7. J. C. B. Leung, "Family Support for the Elderly in China," J. Aging Soc. Policy, 1997, doi: 10.1300/j031v09n03_05.
- **8.** K. E. Smith, M. Favreault, C. E. Ratcliffe, B. A. Butrica, E. J. Toder, and J. Bakija, "Modeling Income in the Near Term 5," SSRN Electron. J., 2013, doi: 10.2139/ssrn.2206397.
- **9.** M. E. Barrera, D. A. Doucet, and K. J. Kitching, "Early home intervention and socio- emotional development of preterm infants," Infant Ment. Health J., 1990, doi: 10.1002/1097-0355(199022)11:2<142::AID-IMHJ2280110206>3.0.CO;2-K.
- **10.** N. G. Choi, "Racial differences in retirement income: The roles of public and private income sources," J. Aging Soc. Policy, 1997, doi: 10.1300/J031v09n03_02.
- **11.** B. Claussen and T. Bjerkedal, "Sources of income three years after being denied disability pension," Tidsskr. den Nor. Laegeforening, 1999.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TOPICS AND SPECIFIC FEATURES OF ALISHER NAVOI'S PROSE WORKS

Sanobar Abdurahmanova*; Mominjon Sulaymanov**; Goyibboeva Rayhonoy Ahmadjonovna***

*Independent Researcher, Chairman's consultant of the Board of the joint-stock company Uzkimyosanoat, NamSU, UZBEKISTAN

Email id: sanobar_abdurahmanova@gmail.com

**Associate Professor of Uzbek Literature, Candidate of Philological Sciences, Namangan State University, UZBEKISTAN

***Teacher of Philological Faculty, NamSU, UZBEJKISTAN

DOI: 10.5958/2249-7137.2021.02725.7

ABSTRACT

The article reveals Navoi's worthy contribution to Uzbek classical literature, the scope of the scholar's creative heritage, the genre structure and artistic features of the poems in prose, the artistic and stylistic features of prose.

KEYWORDS: Uzbek Classical Literature, Prose, Genre Scale, Genre Structure, Artistic, Stylistic Features.

INTRODUCTION

Based on the stated purpose, the article addresses the following issues:

- To determine the genre structure of poems in the prose works of Alisher Navoi and analyze their artistic features in terms of modern science;
- Coverage of the features of the art of Navoi prose, the creative process in the context of the topic.

Almost a century of experience has been accumulated in the field of studying the universal ideas in the creative heritage of our wise ancestors, who left a bright mark in the history of world scientific and artistic thought. This task, which is of great importance for the development of science, is noteworthy in terms of the fact that it is carried out not only by foreign Eastern countries, but also by the leading literary scholars of Europe. It is true that the perfection of society and the development of a harmoniously developed personality, which is one of the universal ideas expressed in the classic works of our thinker ancestors, have always been of interest to scientists. In particular, the study of the attitude of the great thinker, poet and statesman Alisher Navoi to this issue on a new theoretical basis is one of the urgent tasks that will ensure the development of our science.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In our country, certain positive results have been achieved in the field of objective scientific study of the creative heritage of Alisher Navoi in the direction of our new national ideas, the dissemination of ideas of the thinker aimed at raising our spirituality and the formation of human qualities in the younger generation. Consequently, this task facing scientific research is also important for the long-term future of our country, which today has entered the stage of national development. "The creative heritage of the great poet plays a special role in raising the morale of our people, educating the younger generation in the spirit of devotion to the motherland and respect for our national values" [1]. Therefore, one of the important tasks of the science and education system is to apply the enlightenment heritage of Alisher Navoi as one of the foundations of our classical artistic thinking in today's reform process, to ensure the future of a harmoniously developed generation. Based on these requirements imposed on specialists and young scientists, the definition of the genre structure of the poems in the works of Alisher Navoi, their ideological and artistic features are studied on the basis of analytical and historical-comparative analysis methods.

Eastern prose has come a long way over the centuries. In the history of the literature of the peoples of this sacred land, a number of works of art on socio-moral themes have been created. Such literary works have a significant place in the history of Arabic, Persian-Tajik and Turkish literature. Close discussions on the content of prose works of Alisher Navoi on moral and spiritual education, human perfection of his famous contemporaries Abdurahmon Jami, Sayyid Hasan Ardasher, Pahlavon Muhammad were conducted by orientalists M.N. Nikitsky, V.V. Bartold, E.E. Bertels, A. Kononov, A. Borovkov, A. Semyonov, M. Sale, N. Konrad, A. Yakubovsky, A. Boldyrev, V. Zhirmunsky, B. Shidfar, M. Osmanov. The science of Uzbek literature for more than a century A.Sadi, Oybek, V.Abdullaev, I.Sultonov, H.Sulaymonov, A.Kayumov, V.Zohidov, B.Valikhodjaev, A.

Hayitmetov, A.Abdugafurov, S.Ganieva, Although great successes have been achieved due to the research of such scholars as A.Rustamov, R.Vakhidov, Y.Ishakov, no complete research has been conducted on the study of poems cited in the prose works of the great poet for various purposes.

Creation and research of scientific-critical text of Navoi's prose works using the funds of world book funds (Tashkent State Institute of Oriental Studies), study of details of his biography on the basis of Persian-Tajik sources created by contemporaries of the poet (Alisher Navoi University of Uzbek Language and Literature), mystical Scientific results such as the study of the analysis and interpretation of worldviews in comparison with the works of European and foreign Eastern scholars (Institute of Uzbek Language, Literature and Folklore of the Academy of Sciences of the Republic of Uzbekistan).

Our main goal is to study the genre structure and artistic features of poems in Navoi's prose works, to shed light on the scope of the scholar's creative heritage, to determine the artistic and stylistic features of prose works, to study Navoi's worthy contribution to Uzbek classical literature.

Based on the set goal, it is planned to solve the following tasks:

- To determine the genre structure of poems in the prose works of Alisher Navoi and analyze their artistic features in terms of modern science;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Coverage of the features of the art of Navoi prose, the creative process in the context of the topic.

Alisher Navoi, the sultan of the realm of words, a brilliant representative of Turkish literature, is a significant part of the work of the great thinker in terms of content, socio-philosophical aspects of his prose heritage. Alisher Navoi seriously studies the masterpieces of literature in Turkish and Persian and continues the tradition of such artists as Nizami, Awfi Aruzi, Saadi, Jami, so it is likely that these artists have an important role and comprehensive influence in the development of Navoi's prose style. In the second half of the XV century and the beginning of the XVI century in the literary environment of Herat developed the creation of poetry, devons and pamphlets, the arrangement of books. Alisher Navoi, realizing that the possibilities of prose are wider than poetry, decides to express his philosophical, social outlook and attitudes in a prose style, drawing on many years of experience.

In science, there are different views on the scientific heritage of Navoi, in particular, the creation of prose and scientific-prose works, the ideological and artistic features of the subject matter.

Here the peculiarities of Alisher Navoi's prose works can be defined as follows:

- 1. To create the image of a statesman and great people who have a place in the environment of Navoi, to restore their creative biography, to describe the details of the conversation of the genius of Navoi with such great people, teacher-student relations, meetings; highlighting commonalities in socio-philosophical issues. Among them are Navoi manoqib-holots and prose works, such as "Khamsat ul-mutahayyirin", "Haloti Sayyid Hasan Ardasher", "Holoti Pahlavon Muhammad" dedicated to the great nobles of the Khorasan state Abdurahman Jami, Sayyid Hasan Ardasher, Pahlavon Muhammad. "These three works are very important as examples of memoirs in Uzbek. They contain the first elements of fiction, which is especially evident in Navoi's mastery of portraiture. There is one feature that unites these works of Navoi, which is common to them. It is said that these works were written in the spirit of the Eastern Renaissance. For in them the person, the person is treated with respect and sincerity, their beautiful qualities and lofty aspirations are respected "[2].
- 2. To show the religious and mystical aspects of Navoi's worldview, to reflect the economic, political, scientific and literary landscape of the writer's life, the relations of the rulers with the people, the work done for the welfare of the people and the history of scholars, prophets meditate The works of the thinker "Tarihi muluki Ajam", "Tarihi anbiyo va hukamo" constitute Navoi's prose on religious-mystical, historical themes.
- 3. Navoi took full advantage of the opportunity to reflect his didactic teachings, moral and educational views. In doing so, the thinker made effective use of Persian sources such as Saadi's "Gulistan", Ubayd Zakani's "Akhlaq ul-ashraf", "Risolai rish". As a result, the prose work "Mahbub ul-qulub" appeared as a bright example of Navoi's moral and aesthetic worldview. It should be noted that "Mahbub ul-qulub" is a complex work that stands out among the works of Navoi prose. In Navoi studies, different views are expressed on the work "Mahbub ul-qulub".

Apparently, the study of the themes of Alisher Navoi's prose works, their peculiarities, the genre structure of the poems in prose works, the ideological and artistic aspects is an urgent task.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Alisher Navoi, who deeply followed the work of the great salafs, continues the tradition and makes significant use of the possibilities of prose in the work of Alisher Navoi, which expresses the spiritual maturity, morality, profession, way of life in artistic colors.

Alisher Navoi appears in his prose works as a mature thinker and sage of his time. The great thinker glorifies Man, who is the flower of society, and deeply observes the harmony in his image and biography, thus ensuring the harmony of prose and poetry. "... al-faqir ul-haqir Alisher, the face of the beggar of the citizen and the masturbation of strangers ..." [3], - said Navoi in all his prose works. As a result, it goes the way of fully substantiating and substantiating the ideas and observations expressed in the prose statement. In doing so, the author enhances the content of the work by using a variety of genres, from the traditional beginning to the end of the work.

During the study of Navoi's prose heritage, one can get acquainted with the creative worldview and world of thought.

Alisher Navoi is a man of high artistic thinking. The great writer has a deep knowledge, a broad outlook, great life experience, the essence of human life and life, good and evil, love and hate, honest and impure, religion and betrayal, friendship and enmity, friendship and enmity. He is also known as the thinker of thinkers, the sultan of poets, because of his skillful, concise and effective expression in his works with the help of various artistic means.

A significant part of Navoi's work is his prose. "Vaqfiya", "Khamsat ul-mutahayyirin", "Haloti Sayyid Hasan Ardasher", "Haloti Pahlavon Mahmud", "Munshaot", "Muhokamat ul-lug'atayn", "Tarihi anbiyo va hukamo", "Tarihi muluki Ajam", "Mahbub ul-qulub "among them.

The thematic scope of Alisher Navoi's prose heritage, the classification of images, the ideological direction are reflected in the high level of creation of scientific prose and historical works of the writer. It can be seen that the creative aesthetic worldview has had a significant impact on a range of genres. Therefore, in Navoi studies, the analysis and interpretation of the art of the author's prose, the spiritual world of the heroes, the world of thought is relevant.

A significant part of Alisher Navoi's creative heritage is his prose works. It is well known that the thinker resorted to prose at a time when he was analyzing the life path he had wisely traversed, with life experience. At the same time, Navoi's genius is determined to set an example, setting great goals. The creative religious and secular, socio-philosophical, spiritual and philosophical views are reflected. Navoi scholars explain that the reason why the writer started writing prose later in the last years of his life was that poetry was a priority at that time, and in the literary environment of Herat, the tradition of creating poetry was considered the leading one. As a great thinker, Alisher Navoi has a broader understanding of the real, vital content of prose.

As a result, he uses the possibilities of poetry in order to substantiate and summarize his views, expressing his philosophical and enlightenment views in prose.

Navoi scholars express different attitudes as they classify the prose works of the thinker in terms of subject matter. If we look closely at them, we can see that they complement each other, in particular, in the book "History of Uzbek Literature" Alisher Navoi's prose works are classified according to the content of the topic:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 1. Works of scientific and philological character: "Muhokamat ul-lug'atayn", "Mezon ul-avzon", "Majlis un-nafois", "Risolai problema".
- 2. Works of memoir-biographical character: "Khamsat ul-mutahayyirin", "Haloti Sayyid Hasan Ardasher", "Haloti Pahlavon Muhammad".
- 3. Socio-philosophical and didactic work: "Mahbub ul-qulub".
- 4. Works on the history of history, mysticism and religion: "Waqfiya", "Historical property of Ajam", "Nasayim ul-muhabbat", "History of prophets and rulers".
- 5. The art of essay is an example of epistolary prose. Munshaot.
- 6. "Debocha" written on devons, introduction to "Nazmul-javohir" and epic works, titles on continents [4].

Alisher Navoi's prose works can be described thematically as follows:

- 1. Scientific works discussing the issues of literary criticism. Among such works are "Mezon ulavzon" (Measurement of Weights), "Majlis un-nafois" (meetings of the people of sophistication), which describes the history of the modern literary process. Mufradot (Individual Problems) written in Of these, Mezon ul-avzon and Mvajolis un-nafois are of great scientific and practical importance as rare sources in the history of Uzbek literature. Therefore, Alisher Navoi's Majlis un-nafois, although written in Uzbek, was translated into Persian four times during the 16th and 17th centuries in Herat, Istanbul and India (Honorary Herat, Muhammad Qazvini and others). In the 16th and 19th centuries, it was used effectively by Iranian and Pakistani literary critics who wrote tazkiras in Persian; In Azerbaijan, tazkiras were written in the Azerbaijani language in a similar way. It should be noted that Alisher Navoi's works on literary criticism are not only scientific, but also have the characteristics of classical prose (saj, the use of poetic fragments).
- 2. Scientific-practical (dictionary) works discussing linguistic issues. Alisher Navoi's theoretical and scientific work in Uzbek "Muhokamat ul-lug'atayn" ("Observations on two languages") and a dictionary in Arabic "Sab'at ul-abhur" ("Seven seas") are among such works. [5]
- 3. Works on the history of mysticism. Alisher Navoi's prose work "Nasayim ul-muhabbat min shamayim ul-futuvvat" ("Fragrances of youth in the breezes of love") is the first work in Uzbek dedicated to the history of mysticism.
- 4. Works on history. Alisher Navoi's "History of Prophets and Rulers" ("History of Prophets and Rulers") and "Historical Property of Ajam" ("History of Ajam Kings") are the works that have come down to us in this area.
- 5. Works on moral and social issues. Among Alisher Navoi's prose works, Mahbub ul-Qulub ("The Beloved of the Hearts"), created at the end of his life (in 1500), differs from other prose works in many respects.
- 6. Other area works on the topic. One of Alisher Navoi's prose works, the Vaqfiya, is a complex of buildings he built, the foundations attached to them, and the procedure for their use. Poems of different sizes and types were also used in the play. [5]

Apparently, Alisher Navoi, along with his artistic creation, has arranged a huge scientific and prose heritage. In creating these works of prose, he expands the scope of prose in the literature of the East, ensuring its scale.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- 1. Mirziyoev Sh. When literature, art and culture live, the nation and the people live in peace. Speech of the President of the Republic of Uzbekistan at the meeting with artists. People's speech, February 9, 2019.
- 2. History of Uzbek literature. Volume II. Tashkent: Fan, 1977. p.339.
- 3. History of Uzbek literature. Volume II. Tashkent: Fan, 1977. p.337.
- 4. Navoi A. Perfect works. 20 volumes. Tashkent: Fan, 1987.
- **5.** Navoi A. Assembly un-nafois. Scientific-critical text. Tashkent: Academy of Sciences of Uzbekistan, 1961.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE EMERGENCE OF BADMINTON SPORTS AND THE STAGES OF ITS FORMATION

Norov Sherzot*

* Teacher of Navoi State, Pedagogical institute, UZBEKISTAN Email id: norov_sherzot@gmail.com

DOI: 10.5958/2249-7137.2021.02726.9

ABSTRACT

The article discusses the mechanisms of development of valeological competencies of future physical education teachers, in which students learn how to solve problems related to valeological thinking, find optimal means and methods of problem solving, systematize observations and experimental results, plan independent work, the ability to monitor and analyze the results, the level of formation of skills in the use of new information technologies.

KEYWORDS: Physical Culture And Sports, The Emergence And Development Of Badminton, Competitions, National Cups, Championships, The Opinion Of Scientists.

INTRODUCTION

Today, badminton is one of the oldest games of human civilization in the further development of mass sports. It is true that there are many legends about its origin.

There is no denying that legends of ancient Greece, Japan, India, and even Africa say that adults and children played badminton two thousand years ago.

We all know that the ancient sport of flying is known in China as far back as a thousand years BC.

It's a game called "oyabane" in Japan, which is based on lifting a flywheel made of a few goose feathers and dried sakura fruit on wooden rackets. From the works of V. Hugo and I. F. Schillerlaming we can learn about the game of flywheel, which was played in Europe in the XVI century.

In France, this game is called "je-de-pom" (playing with apples).

Medieval English engravings of well-preserved photographs depicting farmers raising their flywheels against each other are well-preserved.

Pictures from the 18th century show that people in Russia played a similar game at that time.

Gavriil Derzhavin also wrote about the feathered ball. In 1650, Queen Christina of Sweden built a special court near the Royal Palace in Stockholm to play "feather ball" with palace dignitaries and foreign guests.

The court is still preserved in the Swedish capital and is still the property of the church.

In nineteenth-century England, the game of flywheel was especially popular at the Duke Beford House.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The Duke is a sponsor of the Badminton Association. Today, the Front Hall, which he owns, houses a magnificent collection of old rackets and flywheels.

In 1860, Isaac Sprat wrote a book about badminton, in which he described the first rules of the game.

Homeland of modern badminton is India. It was popular in India in the 19th century, and according to some sources - "pune", others - "roopa".

British officers serving in India at the time played the game with great interest.

When they returned to their homeland in 1872, they performed this exciting game on the Badminton estate near Glochestershire.

This year is the "year of birth" of the game in England, which is called "badminton" after the name of the property.

In 1875, the officer founded the badminton club Folkstown. The first president of the association was Colonel Dolby, who was actively involved in developing new rules of badminton based on the rules of the pune-roopa game.

Some of these rules have survived to this day. Gradually, badminton clubs began to emerge in the UK.

It should be noted that at that time they played on different pitches in different regions.

The Guilford court was especially popular. The dimensions of this court (44x20 feet or 13,4012x6,096 m) are included in the rules of the game published in 1887 by the Badminton Club. [1]

DEVELOPMENT OF BADMINTON IN COUNTRIES AROUND THE WORLD

The first official badminton tournament was held in 1898. On April 4, 1899, the first English Championship was held in London.

Later, championships became popular in the UK, the number of badminton clubs increased, and the game of badminton became popular in the United Kingdom and throughout Europe.

The new sport is rapidly gaining popularity, and in turn, the production of flywheels is growing. In 1898, Anne Jackson received the first patent for a flywheel.

Badminton is popular not only in England, but also in many of its colonies.

Therefore, most of the countries that founded the International Badminton Federation (IBF) on July 5, 1934 are former British colonies.

Today, the federation has more than 100 member countries. The International Badminton Federation (IBF) holds various competitions.

Among them are the Thomas Cup (named after the first president of the IBF) among men's national teams, and the Uber Cup (named after a famous and active representative of the IBF) among women's national teams. are the largest.

The Thomas Cup was founded in 1948 and is held every three years. The qualifiers will take place in four regions: the Americas, Australia-Asia, Asia and Europe.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The winners of the regional competitions will compete in the main stage to determine the nominee for the trophy.

The winner of the main stage will face the team that won the trophy in the final three years ago.

The Uber Cup has been held every three years since 1956. The European Individual Championship has been held every two years since 1968, and the Continental Team Championship since 1972.

In the team championship, the national teams will watch five games: men's singles, women's singles, men's doubles, women's doubles, mixed doubles.

In addition, the international federation holds a number of official ceremonies. Until recently, the English Open was one of the most popular and was the unofficial World Cup.

The English Open was founded in 1899. The first official World Cup was held in 1977 in Malmö, Sweden. In 1992, badminton was adopted by the Olympic family. In the former Soviet Union, badminton became official in 1957.

At the World Festival of Youth and Students in Moscow this year, representatives of the Union V. Dyomin, I. Sokolov, S. Zamuruyeva, N. Kalashnikov competed with foreign badminton players who attended the international forum. [2]

In 1959, the first individual championship of Moscow was held (winners: V. Dyomin and S. Zamuruyeva), and in 1960, in the first intercity tournament, badminton players from Moscow and Lviv competed on the court.

In 1961, a city tournament was held among badminton players from Moscow, Leningrad, Kharkiv, Lviv and a number of other cities.

In the final match, athletes of the Moscow society "Mehnat" (M. Seminas, M. Goncharova, N. Sokolov, N. Goncharov, M. Oreshkin), representatives of the sports society "Burevestnik" (T. Dorofeyev, T. Chistyakova, V. Kholodov, M.Shtilman, A.Postmkov, V.Mikheyev).

The same year, the so-called "Astronaut Cup" will be held. It was not in vain.

Gagarin, the world's first astronaut, told reporters after his historic flight: "I like to play badminton. [3]

This is a great game. In 1963, the first USSR championship was held in Moscow.

CONCLUSION

In 1974, the former Soviet Union became a member of the International Badminton Federation. At the beginning of the 21st century, the International Badminton Federation changed its name. It is now known as the World Badminton Federation (BWF).

USED LITERATURE:

- 1. Edwards J. Badminton: Technique, Tactics, Training. The Crowood Press Ltd. 2014. 96p.
- **2.** Bemd-Volker B. Badminton Handbook. Training, tactics, competition. Maidenhead: Meyer and Meyer Sport (UK) Ltd., 2014. 400p.
- **3.** Smirnov YuN. Badminton Textbook for institutes of physical culture. Physical culture and sports. M., 1989, 157p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A STUDY OF INITIAL PROBLEMS IDENTIFIED IN PRIMARY EDUCATION

Vakhidova M.V*

*Junior Researcher of the Department,
A. Avloni Research Institute Research to Improve Educational Content,
Bukhara State University, UZBEKISTAN
Email id: vakhidova@gmail.com

DOI: 10.5958/2249-7137.2021.02744.0

ABSTRACT

The article provides a comparative analysis of the trends in the development of primary education in foreign countries, as well as subjects studied in primary education abroad, the duration of study. Actual problems of primary education in Uzbekistan, including the lack of a material and technical base, a shortage of teachers with higher education, the solution of some problems related to the content of education, as well as scientific hypotheses and recommendations for solving these problems.

KEYWORDS: Primary Education, Higher Education, Foreign Experience, Material Technologies, Pedagogical Activity.

INTRODUCTION

Trends in primary education in the world

The fundamental development of economically developed countries begins with education reform. Most developed countries create their own opportunities for new knowledge and skills to improve the quality of education and increase the diversity of education systems, and they conduct research to bring about conceptual changes in education.

Over the past 10 years, **Finland's** state education policy and development with fundamental and applied sciences have laid the foundation for the economy.

Today, some European countries are using Finland's positive experience in developing a strategy for modernizing primary education.

Equality and flexibility in the development of the pedagogical complex in primary education in Finland allow the idea of school to be realized. In Finnish schools, teachers are involved in educational work with parents. For the organization and operation of school education in Finland: implementation of the concept of a single state education; continuous allocation of the state budget to ensure the sustainable development of the school system; increase the political culture and confidence in education among citizens; identified as the most important part of the national program to maintain the high social status of school teachers.

In Finland, liberal educational activities have been set up for students from primary to secondary education. This helps them to form independent thinking and grow physically healthy without training loads.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A lot of work has been done in the **Russian Federation** to reform primary education. Particular attention was paid to the reading literacy of students. This included the subject of "**Literary Reading**," which set other goals. At the same time, a mandatory minimum of the content of Russian language and literary reading was developed, the volume of students' speech activities was expanded.

Other trends in the improvement of primary education were also identified: the organization of teaching in the structure of educational activities, increasing the focus on learning outcomes, creating conditions for research activities of young school students.

In Russia a decade ago, primary education was authoritarian, instructive, and it did not create the conditions for the development of the personality of successful schoolchildren.

At the same time, the main strategic directions of educational programs, its features are not disclosed, the opportunities of teachers are described very superficially. Many primary education programs are structured with declarative rules. To address these issues, primary education programs have been developed based on the following conditions:

- a) the needs, abilities and general level of development of students;
- b) the requirements of parents for the education of primary school students;
- c) staffing and teaching capacity;
- d) the appropriateness of the textbooks to the program.

Primary education was the development of reading, writing, and arithmetic skills for hundreds of years.

Admittedly, the idea of developing education, which has not been implemented in state documents, has not been widely accepted. "Development of education in the Russian Federation in 2013-2020", The "Strategy for the Development of Education in the Russian Federation until 2025" clearly outlined the goals for the development of the content of primary education. [1]

Accordingly, the development of the student's personality, the formation of his creative abilities, interest in learning, aspiration and ability to learn, and the formation of the foundations of students' identity and worldview; the formation of the foundations of learning ability and the ability to organize their activities.

- b) the requirements of parents for the education of primary school students:
- c) staffing and teaching capacity;
- d) the appropriateness of the textbooks to the program.

Different types of activities have been given a worthy place in the curricula of academic disciplines. Only in some disciplines (surrounding world, fine arts, technology) forms of education based on individual activity (excursions, practical work, modeling) were noted.

Explain the exercises in the authoring programs, draw conclusions, make your decision, think based on the text, ask questions about the text, and so on.

Another aspect of the **Japanese** primary education strategy is the formation of the child as an integral part of the child. "Kokoro" can be translated as heart, soul, mind, mentality, humanism. All Japanese are convinced that the most important thing in primary education, the objective

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

basis is to enrich kokoro children to a lesser extent with knowledge and skills. The content of the concept of "Kokoro" includes the following issues: respect for people and animals, compassion and generosity to people, the ability to seek truth, the ability to feel beautiful and glorious, self-control, conservation of nature, contribution to the development of society. These principles cover the content of all primary education programs. [2]

Children are taught from childhood that the world is built for competition and purpose. The academic year is designed for **240 days**. In primary school, they study for six years (grades 1-6). Most of the primary schools are already paid. The better and more prestigious the school, the more expensive the study and the harder the exams.

Education for the school's students will begin in April. The academic year consists of 3 periods, between which there are holidays. They study from Monday to Saturday. All classes begin at 8 a.m. and run until 3 p.m. After classes, the club begins its activities.

In **South Korea**, school education is done in three stages. It is divided into primary school, middle and high school.

At the primary level, students must master the following compulsory subjects: Mother tongue (Korean), Foreign language (mainly English), social sciences, mathematics, music lessons, fine arts, physical education. [3]

The modern school in South Korea involves uniting students of both sexes into one class. Until recently, girls studied separately from boys.

In **South Korea**, children come to primary school from the age of six until March 1 of the school year. However, **5-year-olds** are also eligible to enroll, which requires the permission of the person in charge of the school. The academic year begins on **March 2** on the occasion of a national holiday in the **Republic of Korea**. In fact, **7 to 13 year olds** go to primary school. The study period is 6 years compulsory and free.

It is therefore possible to observe the density of the classes. **Up to 50** children study in each class. The initial lesson is 40 minutes. Entrance exams to the school are mandatory and tuition is paid. There are 9 subjects taught in the primary school. Special attention is paid to the study of the Korean language, arithmetic and social sciences. **Until the 1980s**, English was taught in secondary schools, and now it is taught from the 3rd grade of primary school.

It is very difficult to learn English because Korean and English grammar are so different. That is why parents send their children to private educational institutions for additional education. In 1996, the South Korean government changed the name to **Gukmin Hakk**. The term means makterivic school.

In addition to state-run primary schools, there are a number of private schools in Korea.

The curricula of these schools are somewhat similar to the curricula of public schools, but the teaching is done at a high level. For example, the involvement of many teachers in a small number of students, the introduction of additional subjects, generally have high standards of education. This is why many parents seek to send their children to a private school.But the high cost of tuition in such schools makes parents wonder. In South Korea, the numbering of classes starts from 1 at each stage of **education**, **rather than the usual bottom-up**.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

For example, **primary school is numbered 1 to 6, secondary school (3 years) is numbered 1 to 3: 1st grade of primary school (2,3,4,5,6 grades),** 1st grade of secondary school (i.e., Uzbek) 7th grade in schools), 2nd grade of high school (i.e. 2nd year student of Uzbek academic lyceum and vocational college).

In France, the general education system includes public schools, private schools, and intermediate schools. Among the subjects taught, French language and literature, reading and writing are of special importance. It is these disciplines that receive the most attention in primary education. 30% of class time is allocated for these subjects. [4]

The average weekly hours are 26 hours, with a course duration of 60 minutes. The academic year is divided into 5 quarters. Reading in the primary classes of French schools is divided into morning and afternoon parts. In the morning, students study in their native language, and in the afternoon, they study mathematics and other subjects.

In primary education, mathematics, mother tongue and literature are basic sciences, while history, geography, labor and physical education are developmental sciences. In France, children between the ages of 6 and 11 are admitted to primary schools. Primary school is free and compulsory. His job is to teach reading, writing, and arithmetic. Classes last from 9 a.m. to 12 p.m., and from 2 p.m. to 4 p.m., 5 p.m. School meals are paid, but at very low prices.

Students complete elementary school at age 11 and move on to high school. Secondary education is provided in colleges and lyceums.

Comparative analysis of the experience of foreign countries

No.	Finland	Estonia	Japan	South Korea	France	U.S.A.	Germany
Eating	Meals are free	Free meals are provided at the school	Meals repaid	Meals are paid but at very discounted prices	Meals are paid but at very discounted prices	Meals are paid Can be brought from home.	Meals are paid but at very discounted prices.
studen ts in	15 and 25 each	10-20 people	30 to 40 each	40 and 50 each	35 and 40 each	13 to 16	It ranges from 30 to 34
Dressing style	There is no school uniform	School uniform available	Requires wearing a school uniform (seifuku)	School uniform available	School uniform available	There is no school uniform	School uniform available
admission to nrimary	Actual learning from 6 years 7 years	From 7 years old	From 6 years old	6 to 12 years old	6 to 11 years old	5 to 13 years old	From 6 yearsold

ACADEMICIA: An International Multidisciplinary Research Journal ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

	Students up	Assessment	Students	There is an	Students	Before the	Assessment
	to 3rd grade	is based on	do not take	evaluation	up to 3rd	start of the	begins
	will not be		the exam	system.			after 3rd
	assessed.	program.		They also	_	_	grade.
	assessea.	program.	grade	take a school	assessed.		In
			grade		assessed.	test.	
				entrance			Germany,
				exam.			a 6-point
						rating	grading
						system.	system has
							been
							adopted.
E							Accordingl
ste							у,
Sys							1 -
nt							excellent,
ne							2 - good,
SSI							3-
sse							_
ä							satisfactory
l Du							,
G							4 - enough,
[i.							5-not
na1							enough,
Examination and assessment system							6-
Xa							Unsatisfact
鱼							ory.
	Each student	Students	Teaching	Electronic	More	The teaching	
	is given an	who do not		textbooks	attention is	methodology	
	individual			and robots			
	approach,		_	are used in	·=		
	different		-	the teaching	-		
	assignments	_	of lessons,	_		and playful	
				-		1	
	depending on		not the		It also		
	the level of		quantity.		includes	The form of	
	the students	_	_		entreprene	lessons is	
	during the		methods		urship,	both	
		holidays.	are		business	interactive	
S	Grades are				training,	and game-	
po	shown only		by the		and	based.	
Ĭ,	to the student	master	governmen		vocational		
me	himself, as	enough, he	t.		training in		
S	well	or she will			a market		
hir	no obligation				environme		
Teaching methods	to sit at the				nt.		
Te	desk.	class.			116.		
1	GCSK.	ciass.				1	

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

Current issues in primary education in Uzbekistan

It is known that today the number of students in schools exceeds the norm established by law.

It is not clear a specific age when enrolling a student in primary grades. In the 2020-2021 academic year, 23.8% of children enrolled in the primary grades of general secondary schools in the public education system are children over 6 years old, **76.2% are children over 7 years old**.²

The uncertainty of a particular age in admission to primary school is determined by the lack of clear scientific analysis by relevant educators and psychologists and the lack of criteria for admission and how well a child is prepared for school. It should be noted that in most cases, at the request of parents, children are admitted to school from the age of 6.

One of the main problems is the inadequacy of the assessment system in monitoring the quality of education and students' knowledge.

Observations and a survey of primary education **educators and psychologists** (3208) indicated that an assessment system was not required for primary school students because it could have a severe impact on a child's psyche.

There is no assessment system in primary education in foreign countries (Finland, Estonia, Japan, South Korea, France, Germany, USA), where the education system in the world has a high rate.

It is clear that the psychology and teaching methods of determining the level of knowledge of primary school students have not been sufficiently **fundamentally** studied and no concrete measures have been developed in this regard. This requires regional approaches to directly improve the content of **curricula and programs** and their development.

Хозирги кунда ўкув режа ва дастурларни ишлаб чикиш XTB ваколатига given. This leads to the **centralized development** of training documents. In the fourth direction of the action strategy, namely, the vertical management system and decentralization processes in the executive branch are aimed at modernization, but most of the powers remain in the **hands of HTV**. Due to the nature of schools, their independence in curriculum development is limited.³

Another problem is that teachers do not work on themselves and do not use new pedagogical methods in the teaching process, teaching in the traditional way, as well as the fact that the **teacher's teaching methods** are tied only to the curriculum.

Based on the results of the survey (3208), according to the opinions and comments of teachers, the methodology of teaching them is required only to conduct approved programs. They also stated that it was not possible to deviate from the programs and textbooks.

Because educators are not given **independence** in the current legislation on program development.

In addition, there are no special programs for teachers to develop their teaching methods, and the existing programs do not meet the requirements of international assessment. There are no **clear**

-

²Data from the Department for Coordination of General Secondary Education of the Ministry of Public Education

³https://review.uz/post/decentralizaciya-obrazovaniya

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

mechanisms for creating a competitive environment for the development of teaching methods for teachers. At the same time, most schools in the country are not connected to the Internet.

The monitoring of the school principal on the development of teaching methods for teachers is not properly established. The main functional responsibilities of the school principal remained related to organizational work.

It should be noted that one of the factors influencing the above is the involvement of teachers in additional work by local authorities, which is not related to their work. This prevents them from developing professionally and working on themselves. [5]

Another problem in primary education is that there is no mechanism for working individually with each student.

The number of schools in the country (as of September 1, 2020) is 10008, capacity (student places) is 5061562, the number of students is 6236751, the coefficient is 1.2.

For example: Tashkent city 312 schools 312652 capacity (student place) 449044 number of students 1.4 coefficient results show that there are 46 students in one class. It is not possible to work individually with the student.

Also, educators do not have sufficient skills to work individually with the student.

To this end, effective **mechanisms of individual work** with the student have not been developed and fundamental research has not been conducted. The lack of a free food system in schools, according to social media and public opinion, is also a problem.

Foreign countries with the highest rates of education in the world have free meals in **Finland**, Estonia, Japan, South Korea, France, Germany, the United States. Because, according to many foreign experts, the correctness of the nutrition system as a factor influencing the education of students and the healthy lifestyle of the younger generation.⁴

The republican budget does not provide for free meals for primary school students. In addition, the regional, district, city deputies do not pay attention to the allocation of funds for schools for free meals in the local budget.

It should be noted that the **Department of Healthy Eating and Coordination** of Medical Services of the Ministry of Public Education has not taken appropriate measures.

The inefficiency of break time and vacation time for primary education is also one of the current problems today.

According to the requirements set out in Chapter 4 of the Resolution of the Cabinet of Ministers No. 140 of March 15, 2017, breaks and vacation times are not properly designed for primary classes. Because very little time is devoted to the mental and physical formation of children in the primary class. In addition, internal and external factors in determining vacation and break periods have not been studied.

According to a comparative analysis of foreign countries (Finland, Estonia, Japan, South Korea, France, Germany, USA), which have the highest rates of education in the world. breaks

⁴https://www.kp.ru/putevoditel/obrazovanie/besplatnoe-pitanie-v-shkole/

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and holidays are carried out independently by educational institutions. In doing so, they take into account changes in nature and climate, changes in the seasons, and other factors that affect students' mastery in determining breaks and vacation times.

No research work has been carried out in our country and no clear mechanism has been developed for the establishment of breaks and vacations with the study of foreign experience in practice.

According to the Regulation on General Secondary Education, approved by the Resolution of the Cabinet of Ministers No. 140 of March 15, 2017, the determination of break times and vacation times is delegated to HTV. This leads to complex processes in the application of processes in a **centralized manner**.

No clear procedures have been developed for schools to **independently determine** break times and vacation times themselves.

Teachers 'salaries are high in proportion to their workload and disproportionate to their workload, and this is also one of the main problems.

The average monthly salary of school teachers (as of September 1, 2021) is 1,954,033 soums for secondary special education, 2,090,399 soums for specialists, 2,340,317 soums for 2nd category, 2,607,826 soums for 1st category, and 2,881,828 soums for higher category. It can be seen that the mechanisms of increase of salaries at the base rate are defined only in categories.

However, according to the **current legislation**, the number of students is not taken into account at all in determining the salaries.

In particular, in some classes, regardless of the number of students, the basic rates are set for teachers by category. At the same time, the number of students is not taken into account at all when setting the base rates per month, which in turn has a **direct negative impact** on the quality of work.

The ranking of the highest paid teachers in the world has been announced, but Uzbekistan is not ranked in the world in this regard.

At present, as a result of teachers' self-study and assessment of the level of knowledge of the students they teach, no clear **mechanisms have been developed** for stratification of salaries based on criteria based on the volume of work.

In addition, according to **Article 24 of the Law "On local government"**, the main powers of the regional, district, city Council of People's Deputies include the approval of long-term development programs, district, city master plan and rules of its construction. However, the regional, district and city people's deputies do not allocate additional funds to encourage teachers in the local budget.

This situation also shows the indifference of regional, district and city people's deputies to the development of education in the region, as well as the lack of responsibility, which leads to a decline in the quality of education as a result of neglect of education.

REFERENCES

1. Azizkhujaeva NN. Pedagogical technologies and pedagogical skills. T .: Publishing House of the Literary Fund of the Writers' Union of Uzbekistan. 2006. 200p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **2.** Zufarova ME. General psychology. T.: National Society of Philosophers of Uzbekistan. Publishing House, 2010. 304p.
- **3.** Yuldasheva JR. Usmanova SA. Introduction of modern pedagogical technologies in practice. T: Science and Technology Publishing House. 2008. 132p.
- **4.** Yuldashev J. Yuldasheva F. Yuldasheva G. Interactive learning quality assurance. T.: 2008. 153p.
- **5.** Mavlonova R, Vohidova N, Rahmonkulova I, Theory and history of pedagogy (textbook). T.: Science and Technology. Publishing House, 2010. p.464.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW OF SOCIAL MEDIA ON CONSUMER BUYING INTENTION

Disha Rahal*

*Assistant Professor,

Department of Marketing & HR, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: rahal.disha@gmail.com

DOI: 10.5958/2249-7137.2021.02663.X

ABSTRACT

Companies all around the globe are always looking for innovative methods to reach out to their customers. Television and print advertising were the cornerstones of marketing tactics just a few decades ago. Traditional marketing channels are just a tiny part of the many methods utilized to promote and brand goods in today's world. The growing importance of social media has influenced state-of-the-art advertising and the way businesses engage with their target audiences. As a consequence, using social media effectively has become a critical component of gaining and sustaining a competitive edge. As a result, businesses increasingly put a high value on the ability of social media to form customer brand image and impact purchasing intent. Companies who utilize social media in a smart way will have an edge over those that do not. An examination of the current literature on social media usage and brand perception may aid in identifying new and effective methods for increasing consumer involvement via social media when evaluating the effects of social media on branding and marketing approaches.

KEYWORDS: Customer Behavior, Online Target Groups, Social Structure Analysis, Social Media Management.

1. INTRODUCTION

Companies customer emphasis has shifted as a result of an increased focus on global growth and the widespread use of technology in marketing, advertising, and promotion. Researchers have realized that technology has become a critical component in growing markets, and have built whole marketing strategies around worldwide technology access[1]. Simultaneously, advertising and promotion often emphasize the psychological, emotional, and social aspects that influence customer behavior, components that must be considered in technology-based marketing. As a consequence, even in the face of worldwide growth and new technology, businesses must consider the four "Ps" of marketing: product, pricing, location, and promotion[2]. social media's influence While many businesses have access to a range of technologies that may increase consumer interest, extend brand awareness, and improve overall marketing, according to Rust, Moorman, and Bhalla (2010), many companies underuse technology as a basis for engaging with consumers. However, these studies seem to indicate that increased usage of information technology and social media will be future trends[3]. Rather of concentrating on short-term

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

promotion via technology, forward-thinking businesses are using social media techniques to strengthen customer relationships.

For product marketing and branding, businesses often concentrate on three of the most extensively utilized social media platforms: Facebook, YouTube, and Twitter. Companies are realizing the importance of using ways to engage customers in a manner that constantly reintroduces the product, enhances the attractiveness of goods, or identifies social components to product experiences more than at any other point in history. Social media websites have evolved into a hub for product information, including the launch of new product lines, brand recognition, and ways to influence customer behavior[4]. Through a large-scale social network, social media offers a unique chance to utilize word-of-mouth marketing to a broad audience, promoting consumer-to-consumer interactions and increasing brand recognition. Social media is described as "consumer-generated media that encompasses a broad range of new online information sources produced and utilized by consumers who want to share information with others about any subject of interest". According Scholars, almost one-fourth of the world's population 1.73 billion individuals – utilize social networking sites. The worldwide social network viewership is expected to reach 2.55 billion individuals by 2017"[5]. Most studies include both mobile and web-based technologies when evaluating social media as a marketing tool, with an emphasis on how users "share, co-create, discuss, and alter user-generated content".

Most people believe this is a fundamental change in the way businesses advertise their goods since companies are depending on customers more than ever before to drive their marketing processes and generate brand conversation. Because social media is not an advertising channel in and of itself, unlike print or television advertising, businesses may find it difficult to determine how customer information and interaction affect the branding process. Beneficial remarks on social media venues may have a positive effect, but bad comments can also be a part of the brand discourse and may be difficult for businesses to manage[6]. Consumers engage in the discussions and exchanges that affect the branding process at the same time, but they pay little attention to their involvement in the branding or marketing process. Because of its focus on the integration of advertising into participants' social content, Facebook is considered by some to be the "holy grail of marketers" among the three social media platforms identified as commonly used by companies to support marketing and branding (i.e. Twitter, YouTube, and Facebook). Advertisers offer information about particular brands and goods on Facebook, Facebook users make comments or "Like" material (signifying acceptance of specific content), and this drives more comparable content[7]. The more customers participate in product advertising behaviors or remark on Facebook about particular goods, the more material with comparable products or brands will be given to them. As a result, social media has a major effect on how marketers plan their strategy, distribute brand information, and scale advertising to increase consumer engagement. social media's influence by establishing consumer engagements, social networking sites like Facebook have offered a new method of presenting brand-related information and developing exchanges with customers (Shen & Bissell, 2013). The usefulness of this strategy is predicated on the changing nature of how people use the Internet and how social venues are evolving.

Pornography was the most popular internet pastime a decade ago, but that has now moved to social networking. As a consequence, about 93 percent of companies utilize social media for marketing and branding[8]. Shen and Bissell claimed in their 2013 research that there are more

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

than 200 million active internet users in the United States who spend more than 29 hours per year exploring, evaluating products, and networking. Facebook is the social networking site with the greatest time spent on it (almost 7 hours per person per week) among this huge number of users (Shen & Bissell, 2013). social media's influence[8]. The internet and e-technologies have become important components in branding due to a change in the format through which customers interact with goods and product brands. Consumers are increasingly encouraged to engage with companies, share information with others, and produce content that represents their brand preferences. The more customers that participate in this process, the more likely they are to recommend particular products to others. It's essential to grasp companies' perspectives on branding and marketing processes, their goal to generate customer engagement, and the effects of social networks on influencing consumer buying decision-making in order to comprehend the function of social networks in branding[9]. In terms of product and marketing development, researchers usually acknowledge the significance of the idea of branding. The link between the branding process and marketing was represented in seminal work on long-standing methods to understanding branding (Keller, 1993).

A brand is described as "a name, phrase, sign, symbol, or design, or a combination of them, designed to identify and distinguish the products and services of one seller or group of sellers from those of rivals" [10]. Specific brands may have a variety of distinct brand identities, all of which are linked by core brand attributes. Consumers regularly evaluate brands, compare similar brands, and purchase products based on brand affinity (Keller, 1993). social media's influence. Brand meaning, according to this viewpoint, spans from societal conceptions associated with the brand to customer perceptions based on both brand comparisons and branding tactics. One of the most important elements of how branding affects the emphasis of marketing is the social element of branding. The messages used in branding tactics become the defense that customers use to make their buying choices, whether they are looking at Nike goods or electric cars. Branding is frequently affected by social perceptions, such as the value that people put on the brand, and social pressures, such as the social messages that others place on brand ownership, according to Campelo and colleagues (2014). Components of the branding process, such as brand messaging and brand understanding, affect the value associated with branding.

1.1 Brand Related Social Media:

When businesses contemplate the use of social media, strong brand becomes more important. For example, Facebook has over 955 million active members, the majority of whom visit at least once a month. Approximately half of Facebook users log in to their accounts on a daily basis, either via the web-based platform or through their mobile app. Because of this widespread adoption, advertisers see Facebook and other social media platforms as the most effective means of introducing brand-related content and promoting band affiliations. social media's influence While businesses view Facebook as a way to raise brand recognition and attract customers, not all of the reactions to social media advertising are good. While brand-related content is being introduced to the Facebook platform at an increasing rate, social media-based advertising is sometimes seen as an unwanted element, and businesses must be aware of how consumer responses to their advertisements can affect the value of that brand-related content. Companies must recognize that the process of introducing advertising and brand-related content in social media necessitates a close examination of the content and a focus on brand-based community building, according to researchers. Brand communities are often formed as a result of strong

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

brand loyalty and favorable responses to brand-centric content. The development of this kind of community requires an understanding of how social media works and how brand communities function through the use of social media when creating a social media presence for a brand. Individuals that choose to join and show a connection to the important information, content, or materials provided in the community make up brand communities. This can include product reviews, reactions to new products, incentivized elements that influence community participation decisions, and methods for establishing a social connection with emotional or socially driven experiential elements, such as establishing a sense of belonging. For leaders like Facebook, developing social connections and creating engaging workplaces is crucial. This implies that activities included into the format may inspire people to interact with the material. For instance, information about a certain brand might surface on Facebook in response to a user's Web search for a specific product. The consumer is then asked to "Like" (show approval) or "Share" (show approval by publicly sharing the information with others) the content. These basic activities engage users in a conversation that helps them make product choices and gives marketers feedback, social media's influence.

1.2 Brand Awareness And Buying Intention:

The growing usage of social media has resulted in a significant change in the approach to achieving consumer brand awareness and establishing links between brand awareness and purchase intent. The idea that brands are no longer static descriptions or connections, but rather exist as part of a social process, is a significant change. "Brands are increasingly seen as a continuous social process, in which value is co-created via the interaction and negotiation of different stakeholders". As a result, brand awareness and brand value are connected to social interactions and responses inside social networks, where value is exchanged as part of social processes. Researchers are becoming more conscious of the social aspect of brands and the significance of brand connections in generating value and influencing customer behavior. Consumers have a plethora of brand possibilities and options on a daily basis, and social media influences how they view various brands at the time they make purchasing decisions. Consumers still go through a similar set of processes when making buying choices, even in the face of shifting social media mechanisms and increased use of technology. "The customer first gains awareness and information about a product, then develops favorable or negative emotions about the product, and ultimately acts by purchasing and utilizing or rejecting and avoiding the product," according to the study. The technologies are at the initial stage of product recognition, according to researchers, and this model progresses along a succession of impacts that influence how a customer makes choices. In other words, a customer chooses whether or not to buy a product within the first few minutes of seeing it based on brand familiarity. The customer will never go on to the next level of decision-making if the recognition does not have a positive connection with it. Because the first center is so important in addressing consumer behavior, businesses must understand the importance of social mechanisms as a behavior tool in the consumer behavior hierarchy.

1.3 Strategic Approaches:

When examining how important social media is in gaining competitive advantage, traditional marketing and advertising methods seldom apply. "Traditionally, businesses produced ads, which were then devoured by consumers. Organizations employ these communications (primarily through broadcast or print media) to educate, convince, or remind current and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

prospective consumers of their products or of the company itself". Consumers depended significantly on the messages presented and far less on the opinions of others about particular goods or brands as passive receivers of this kind of promotion or communication. Because contemporary consumer populations seldom glance at ads the way they did in the past, businesses have had to become much more savvy in their marketing tactics. A customer will either participate or engage in advertising within the first few seconds of seeing it, or will ignore it entirely. From responsive advertising and connected social networks to incorporating surveys as part of a brand's customer experience, the internet has given businesses with far more cost-effective methods of interacting with the consumer population. "Online research surveys accounted for 43 percent of all research surveys completed in the United States in 2013, earning \$1.8 billion in revenue".

Online research that uses social media to offer a responsive tool for evaluating customer views has been a successful method for bolstering new marketing tactics. This has resulted in massive marketing expenditures in social media, totaling more than \$5 billion each year (Ashley & Tuten, 2015). Companies need to make sure their social media marketing efforts use the greatest strategic methods, matching current theories on social processes for purchasing intention with the finest choices for engaging customers, with that kind of money at stake. As a result, branded social media campaigns have emerged, reflecting the fact that 86 percent of marketers think social media is an essential and ubiquitous component of marketing efforts. "Branded social campaigns offer extra touch points during the day to promote continuous engagement between the consumer and the brand narrative, which may help marketers discover recurring characteristics in consumer feedback and convince consumers to engage with online content," according to the report.

2. DISCUSSION

Organizations and marketers use social media marketing to promote their product or service to consumers. Through digital medium, it is simpler for businesses to create leads and reach as many consumers as possible. This digital platform offers a diverse range of opportunities for creativity and collaboration in order to attract new consumers. The emphasis of this research was on social media marketing and how it affects customer purchase intent. Social media advertising, electronic word of mouth, and trustworthiness are the three most important things to consider. Data was gathered from 182 respondents who were chosen at random using a convenience sample technique. Multiple liner regression is used to analyze the data using IBM SPSS 24.0 software. According to the data study, of the three variables, electronic word of mouth and trustworthiness have a substantial influence on customer buy intent, whereas social media advertising has little effect. It has also been shown that teenagers are mainly engaged on social media and are more inclined to make purchases via social media websites, with Facebook being the most popular.

3. CONCLUSION

The growing usage of social media across the globe has led to the assumption that it is a useful tool for boosting customer involvement. Companies are always searching for new ways to reach out to customers and shape their behavior, such as brand loyalty and purchase intent. Increased engagement in social network platforms such as Facebook, YouTube, and Twitter has resulted from the changing technology period, all of which have provided mechanisms for customers to build rapport and connect with brand-specific material. Companies who are skilled at combining

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

strategic approaches to the usage of social media platforms are more likely to reach, engage, and retain a customer base in the future. Brand perception and purchase intent are influenced by avariety of factors, including the social mechanisms that drive customer attitudes and the opinions of others expressed in social media postings. User-generated content, or material produced by customers in response to particular companies or brand demands and influencing the views of other consumers, is becoming a strategic emphasis. This kind of strategic strategy requires a high level of upkeep, and businesses that use it should be prepared to delegate the administration of online client connections to a marketing agency.

REFERENCES

- **1.** M. Pütter, "The Impact of Social Media on Consumer Buying Intention," J. Int. Bus. Res. Mark., 2017, doi: 10.18775/jibrm.1849-8558.2015.31.3001.
- **2.** "Personal Selling and Social Media: Investigating their Consequences to Consumer Buying Intention," 2014, doi: 10.15242/icehm.ed0214024.
- **3.** Y. Wang and C. Yu, "Social interaction-based consumer decision-making model in social commerce: The role of word of mouth and observational learning," Int. J. Inf. Manage., 2017, doi: 10.1016/j.ijinfomgt.2015.11.005.
- **4.** L. D. Binh, T. H. G. Vo, and K. H. Le, "The impact of electronic word of mouth on brand image and buying decision: An empirical study in Vietnam tourism," Int. J. Res. Stud. Manag., 2017, doi: 10.5861/ijrsm.2017.1738.
- **5.** C. S. Seng and L. H. Keat, "Marketing Sports Products on Facebook: The Effect of Social Influence," Phys. Cult. Sport. Stud. Res., 2014, doi: 10.2478/pcssr-2014-0006.
- **6.** A. Moukaddem Baalbaki, N. Jiryes Azzam, and A.-N. El-Kassar, "The influence of social media behavior of university students in Lebanon on their purchasing habits: The mediating effect of e-Word-of-Mouth," Mark. Brand. Res., 2017, doi: 10.33844/mbr.2017.60267.
- **7.** Harshini, "Influence of Social Media Ads on Consumer' S," Int. J. Curr. Eng. Sci. Res., 2015.
- **8.** M. Noh, K. Lee, S. Kim, and G. Garrison, "Effects of collectivism on actual s-commerce use and the moderating effect of price consciousness," J. Electron. Commer. Res., 2013.
- **9.** F. Khatib et al., "The influence of Social Media on consumers during their purchase decision-making process and the implications for marketers .," Int. J. Bus. Soc. Sci., 2014.
- **10.** I. Nurlaily and A. Hussein, "Influence of Life Style and Attitude Toward Trust and Repeat Purchase Intentions on Social Media Users (Study On Instagram Users in Malang)," Wacana, 2017.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW OF RECENT HUMAN RESEARCH ON COFFEE AND HEALTH

Dr. Piyush Khajuria*

*Assistant Professor,
Department of General Medicine, Faculty of Medicine,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: khajuriapiyush@gmail.com

DOI: 10.5958/2249-7137.2021.02664.1

ABSTRACT

Coffee is a complicated chemical combination that contains high levels of chlorogenic acid and caffeine. Unfiltered coffee has a lot of cafestol and kahweol, two diterpenes that have been linked to coffee's cholesterol-raising effects. Coffee intake may help avoid many chronic illnesses, including type 2 diabetes, Parkinson's disease, and liver disease, according to epidemiological studies (cirrhosis and hepatocellular carcinoma). Coffee intake has not been linked to an elevated risk of cardiovascular disease in the majority of prospective cohort studies. Coffee intake, on the other hand, has been linked to an increase in many cardiovascular disease risk variables, such as blood pressure and plasma homocysteine. There is currently minimal evidence that coffee drinking raises cancer risk. There is minimal evidence of health hazards and some evidence of health benefits for people who drink moderate quantities of coffee (3–4 cups per day, giving 300–400 mg of caffeine). People with hypertension, children, teenagers, and the elderly, for example, may be more susceptible to the negative effects of caffeine. Furthermore, recent research indicates that pregnant women should restrict their coffee intake to three cups per day, with no more than 300 mg of caffeine per day, to avoid any increased risk of spontaneous abortion or fetal development.

KEYWORDS: Caffeine, Type 2 Diabetes, Parkinson's disease, Liver Disease, Cardiovascular Disease, Pregnancy.

1. INTRODUCTION

Coffee is a beverage made from ground, roasted coffee beans that is said to be one of the most commonly consumed drinks on the planet. Coffee's popularity is largely due to its caffeine concentration, which is praised for its fragrance and taste. Coffee, in reality, is a complex chemical combination containing over a thousand distinct components, including carbohydrates, lipids, nitrogenous substances, vitamins, minerals, alkaloids, and phenolic compounds, according to reports. The bulk of human research on the health consequences of coffee intake are observational in nature. Concerns regarding the health hazards of coffee and caffeine use highlighted by epidemiological studies in the past were likely amplified by links between excessive coffee consumption and harmful habits like cigarette smoking and inactivity. Coffee intake has lately been linked to a lower risk of developing a number of chronic illnesses[1], [2].Conflicting results and methodological problems have made it difficult for health experts and the general public to understand the existing data on coffee intake and health in many instances. The goal of this article is to examine and understand current studies on the advantages and disadvantages of coffee intake in humans.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.1. Compounds in Coffee that May Affect Human Health:

1.1.1. *Caffeine*:

Caffeine (1,3,7-trimethylxanthine), a purine alkaloid found in coffee beans, is a purine alkaloid. Caffeine seems to exert the majority of its biological effects at levels associated with coffee consumption via antagonizing the A1 and A2A subtypes of the adenosine receptor. Adenosine is an endogenous neuromodulator with mostly inhibitory effects, while caffeine's antagonism of adenosine produces stimulatory effects. Central nervous system stimulation, abrupt rise in blood pressure, higher metabolic rate, and diuresis are some of the physiological consequences of caffeine consumption. Caffeine is quickly and almost fully absorbed in the stomach and small intestine and transported throughout the body, including the brain. Caffeine metabolism takes place mainly in the liver, where the cyto chrome P450 is form CYP1A2 is responsible for almost 95% of the primary metabolism of caffeine. The 3-demethylation of caffeine mediated by CYP1A2 leads in the production of 1,7-dimethylxanthine (paraxanthine). CYP1A2 may demethylate paraxanthine to produce 1-methylxanthine, which can then be oxidized to 1methyluric acid by xanthine oxidase. Alternatively, paraxanthine may be hydroxylated by CYP2A6 to produce 1,7-dimethyluric acid, or acetylated by N-acetyltransferase 2 (NAT2) to form 5-acetylamino-6-formylamino-3-methyluracil, an unstable molecule that can be deform lated non enzymatically to form 5-acetylamino-6-amino-3-methylura[3], [4]. Caffeine levels in coffee drinks may vary significantly. Caffeine content in 8 oz. (240 ml) of brewed coffee varied between 72-130 mg, according to a recent study of 14 distinct specialty coffees bought from coffee shops in the United States. Caffeine content in espresso coffees varied from 58 to 76 mg per shot. On six different days, the caffeine level of the same kind of coffee bought from the same shop ranged from 130 to 282 mg per 8-oz cup.

1.1.2. Cafestol and Kahweol:

In certain observational studies, coffee intake has been linked to increased blood total and LDL cholesterol values, but not in others. The finding that the positive relationship between coffee consumption and serum cholesterol was more consistent in Scandinavia, where boiled coffee was more popular at the time, than in other European countries and the United States, where filtered coffee was more popular, led to the hypothesis that the brewing method was critical to coffee's cholesterol-raising effect. 12 A meta-analysis of 14 randomized controlled trials looking at the effect of coffee consumption on serum cholesterol concentrations found that drinking boiled coffee increased serum total and LDL cholesterol concentrations in a dose-dependent manner, while drinking filtered coffee had very little effect. 13 The diterpenes, cafestol, and kahweol, which were initially identified in coffee oil, were subsequently shown to be the cholesterolraising agents. These diterpenes are extracted from ground coffee during brewing, but paper filters remove the majority of them. Cafestol and kahweol levels are very high in Scandinavian boiling coffee, Turkish coffee, and French press (cafetiere) coffee (6–12 mg/cup), whereas they are relatively low in filtered coffee, percolated coffee, and instant coffee (0.2–0.6 mg/cup). Although espresso coffee has significant diterpene concentrations, the modest serving size makes it a good source of cafestol and kahweol (4 mg/cup). According to studies in ileostomy patients, approximately 70% of the cafestol and kahweol in unfiltered coffee is absorbed via the intestine. Although the mechanisms underlying these diterpenes' effects on lipoprotein metabolism are unknown, consumption of cafestol and kahweol in French press coffee has been found to cause persistent increases in cholesterol ester transfer protein (CETP) activity in humans, which may

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

contribute to LDL cholesterol increases. CETP transports cholesteryl esters from HDL to LDL and VLDL, which are apolipoprotein B-containing lipoproteins[5], [6].

1.1.3. Chlorogenic Acid:

Chlorogenic acids are a type of dietary phenols made composed of esters produced by the reaction of quinic and trans-cinnamic acids. 5-O-caffeoylquinic acid, which is still referred to as chlorogenic acid, is the most frequent individual chlorogenic acid. Coffee is the greatest dietary source of chlorogenic acids and cinnamic acids for people who consume it (caffeic acid). The amount of chlorogenic acid in a 200 mL (7 oz) cup of coffee has been estimated to be between 70 and 350 mg, corresponding to 35–175 mg of caffeic acid. According to studies in colostomy patients, approximately 33% of consumed chlorogenic acid and 95% of ingested caffeic acid is absorbed via the intestine.

As a result, approximately two—thirds of the chlorogenic acid consumed enters the colon, where it may be digested by the colonic microbiota. Chlorogenic acid is likely converted to caffeic acid and quinic acid in the colon. The presence of chlorogenic acid bacterial metabolites in the urine indicates that they are absorbed in the colon. Although chlorogenic acid and caffeic acid exhibit antioxidant action in vitro, the amount of antioxidant activity they provide in vivo is unknown since they are extensively degraded, and the metabolites typically have lesser antioxidant activity than the parent molecules[7], [8].

1.1.4. Micronutrients:

Several micronutrients present in coffee, such as magnesium, potassium, niacin, and vitamin E, may play a role in the health benefits associated with coffee intake. According to the USDA Nutrient database, 8 oz (240 ml) of brewed coffee has 7 mg of magnesium, whereas 1 oz (30 ml) of espresso contains mg. In adult males, one cup of coffee may provide 1–5% of the recommended dietary intake (RDA) for magnesium (420 mg/d). An 8-ounce cup of brewed coffee has 116 milligrams of potassium, whereas a 1-ounce shot of espresso contains 34 milligrams, implying that one cup of coffee provides just 1–2% of the adequate intake (AI) for potassium (4700 milligrams per day) in adults. During the roasting process, trigenolline in coffee beans is demethylated to produce nicotinic acid. Coffee is said to contain 1–3 mg of nicotinic acid per cup. In adult males, one cup of coffee may provide 6–18 percent of the RDA for niacin (16 mg/d). One cup of coffee contains approximately 0.2 mg of -tocopherol and 0.2 mg of -tocopherol, or about 0.1 percent of the adult RDA for vitamin E (15 mg/d of RRR-tocopherol)[9], [10].

2. METHODOLOGICAL ISSUES IN EPIDEMIOLOGICAL RESEARCH ON COFFEE

Much of the existing knowledge on the health effects of coffee comes from epidemiological studies. The study of coffee consumption in human populations, on the other hand, presents numerous problems regarding exposure categorization and possible confounders that should be taken into account when interpreting the findings of coffee consumption epidemiological research.

2.1. Exposure Misclassification:

Food frequency surveys, which gather data on the number of cups of coffee drank daily or weekly, are often used to evaluate coffee exposure. Cup size, on the other hand, may vary significantly depending on the population. According to one research in the United States,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

pregnant women's cup sizes varied from 2–32 oz, with 7-8-oz cups accounting for just 30% of cup sizes utilized. One cup of coffee is often considered to contain 85–100 mg of caffeine in epidemiological research. However, since the caffeine level of various coffees varies so much (see above), it's conceivable that individuals who drink a lot of coffee drink weaker coffee than those who only drink 1–2 cups per day. Until recently, only a few epidemiological studies have gathered data on the coffee brewing procedure. When it was found that paper filters substantially eliminated cholesterol-raising chemicals in coffee, this knowledge became critical. Finally, individual differences in the metabolism of coffee components may enhance or reduce a person's exposure to a bioactive ingredient in coffee. The enzyme NAT2 is involved in the metabolism of caffeine, for example. Individual exposure to caffeine metabolites is believed to be affected by a genetic variation in the NAT2 gene, which results in "fast acetylators" and "slow acetylators" (see Considerations for Future Research below). Furthermore, through increasing CYP1A2 activity, cigarette smoking improves caffeine clearance, and smokers have been shown to have lower caffeine plasma levels than nonsmokers at the same amount of intake. Individual exposure to additional bioactive chemicals in coffee is unknown due to genetic and lifestyle variables.

2.2. Confounders:

Inadequate correction for confounding variables that may affect the connection between coffee intake and health outcomes is a common critique of epidemiological studies on coffee. Because excessive coffee consumption is often linked with cigarette smoking, cigarette smoking is regularly mentioned as a possible confounder. The majority of studies are modified to account for the impact of cigarette smoking. Underreporting of a socially undesirable activity, such as smoking, while correctly reporting a socially neutral behavior, such as coffee drinking, may result in insufficient adjustment for the impact of smoking and overestimation of the effect of coffee consumption on a health outcome. This issue may be especially important in research with pregnant women. Coffee intake and health consequences may be muddled by other lifestyle variables as well. People who drink coffee, for example, are younger, have greater incomes, and are usually healthier than those who drink tea in Scotland. It's possible that this isn't the situation in other nations. In order to establish if a health impact is linked to caffeine or other chemicals in coffee, health outcomes in regular coffee drinkers are occasionally compared to those in decaffeinated coffee drinkers. However, a research of the characteristics of decaffeinated coffee drinkers in the United States found that for some individuals, decaffeinated coffee consumption was linked to a history of disease, while for others, it was linked to a healthy lifestyle. Most epidemiological studies do not differentiate between former caffeinated coffee users who may have converted to decaffeinated coffee due to a health issue and never users who may be avoiding caffeine as part of a healthy lifestyle when assessing health outcomes in decaffeinated coffee users.

3. POTENTIAL HEALTH BENEFITS OF COFFEE CONSUMPTION

3.1 Epidemiological Research:

Six out of nine prospective cohort studies have shown a substantial negative relationship between coffee consumption and the incidence of type 2 diabetic mellitus (DM). A prospective study of over 17,000 Dutch men and women showed that those who drank at least 7 cups of coffee daily had a 50% reduced chance of acquiring type 2 diabetes than those who drank 2 cups or less. In Finland, where coffee consumption is among the highest in the world, a 12-year study found that men who drank at least 10 cups of coffee daily had a 55 percent lower risk of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

developing type 2 diabetes than men who drank 2 cups or less, and women who drank at least 10 cups daily had a 79 percent lower risk of developing type 2 diabetes. Those who drank at least 7 cups of coffee per day had a 35 percent reduced risk of type 2 diabetes than those who drank 2 cups or less, according to a study of more than 10,000 Finnish twins. In a smaller cohort of Swedish women tracked for 18 years, those who drank at least 3 cups of coffee per day had a 50% reduced risk of type 2 diabetes than those who drank less than 2 cups per day. The Health Professionals Follow-up Study (41,934 men) and the Nurses' Health Study (84,276 women) in the United States were the two biggest prospective cohort studies to investigate the association between coffee intake and type 2 diabetes. Men who drank at least 6 cups of coffee per day had a 54 percent reduced risk of getting type 2 diabetes than men who did not, and women who drank at least 6 cups of coffee per day had a 29 percent lower risk of developing type 2 diabetes than women who did not. Caffeine use was also linked to substantial risk reductions in both groups. In both men and women, a relatively moderate negative relationship between decaffeinated coffee intake and the incidence of type 2 diabetes was seen, indicating that chemicals other than caffeine may have preventive benefits. Tea intake, on the other hand, was not linked to the incidence of type 2 diabetes in either the Dutch or American cohorts.

3.2. Glucose Tolerance and Insulin Sensitivity:

Acute caffeine treatment has been shown in a number of controlled clinical studies to impair glucose tolerance and reduce insulin sensitivity. The effects of coffee intake for 2-4 weeks on blood glucose and insulin levels have been studied in many randomized controlled studies. When healthy participants who normally received 560 mg of caffeine per day from coffee or tea were given just decaffeinated coffee for 14 days, their average fasting blood glucose levels fell substantially. In contrast to decaffeinated coffee, replacing caffeinated coffee at 850 mg/d for 20 days did not substantially raise fasting blood glucose. The effects of coffee intake on blood glucose and insulin levels have recently been investigated in two trials that were initially intended to evaluate the impact of coffee consumption on plasma homocysteine concentrations. Participants who usually drank 5–8 cups of coffee per day were randomly allocated to a 4-week phase in which they had one liter of filtered coffee daily, giving 1100 mg/d of caffeine, or a 4week period in which they did not drink any coffee. Despite the fact that fasting glucose levels did not vary between the two treatment periods, serum insulin levels rose during the coffee phase, indicating a reduction in insulin sensitivity. In a second crossover study, individuals who usually drank more than 6 cups of coffee per day were given 870 mg/d of caffeine, 900 ml/d of coffee with 870 mg/d of caffeine, or a placebo for two weeks, in that sequence. During the coffee phase, serum insulin levels were non-significantly higher than during the placebo period, but fasting glucose levels did not vary across the three groups.

4. DISCUSSION

In order to assess the health hazards and benefits of coffee and caffeine intake, accurate data on caffeine and other chemicals in coffee must be available. The discovery of biomarkers that correctly reflect the intake of bioactive components in coffee is a crucial tool for researchers looking into the link between coffee consumption and health outcomes. Caffeine metabolite measurements in the blood or urine may be used to determine dietary caffeine intake. The measurement of serum paraxanthine was shown to be helpful for differentiating between different caffeine consumption in a study of pregnant women. Pearson correlation values (0.50–0.53) between self-reported caffeine consumption and blood paraxanthine concentrations were

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

similar to published correlations between cigarette smoking and serum cotinine concentrations in that research. Urinary caffeine metabolites such 1-methylxanthine and 1,7-dimethyluric acid may be used to determine dietary caffeine consumption. 8 Because chlorogenic acid or its metabolites may also play a role in coffee's health benefits, a reliable biomarker for coffee-derived polyphenol consumption would be beneficial. Isoferulic acid, a particular metabolite of dietary caffeic acid derivatives like chlorogenic acid, has been discovered. However, urine isoferulic acid excretion explained less than 7% of the variation in coffee consumption in a recent research, suggesting that it has limited use as a biomarker for coffee-derived polyphenol exposure.

5. CONCLUSION

Coffee is a complicated chemical combination that contains high levels of chlorogenic acid and caffeine. Unfiltered coffee has a lot of cafestol and kahweol, two diterpenes that have been linked to coffee's cholesterol-raising properties. Coffee intake may help avoid many chronic illnesses, including type 2 diabetes, Parkinson's disease, and liver disease, according to epidemiological studies. Coffee intake has been linked to substantial dose-dependent decreases in the risk of acquiring type 2 diabetes in large prospective cohort studies in the Netherlands, the United States, Finland, and Sweden, but the mechanisms remain unknown. Caffeine intake from coffee and other drinks is negatively related with the risk of Parkinson's disease among men and women who have never taken postmenopausal estrogen, according to many large prospective cohort studies. Caffeine's capacity to inhibit adenosine A2A-receptors in the brain may play a role in this protective effect, according to animal research. Coffee intake has also been linked to a lower incidence of liver damage, cirrhosis, and hepatocellular cancer in epidemiological studies, but the causes remain unknown. Inverse correlations between coffee intake and the incidence of colorectal cancer have not been consistently established in prospective cohort studies.

REFERENCES

- **1.** H. L. Wachamo, "Review on Health Benefit and Risk of Coffee Consumption Medicinal & Aromatic Plants," Med. Aromat. Plants, 2017.
- **2.** L. K. Pourshahidi, L. Navarini, M. Petracco, and J. J. Strain, "A Comprehensive Overview of the Risks and Benefits of Coffee Consumption," Comprehensive Reviews in Food Science and Food Safety. 2016, doi: 10.1111/1541-4337.12206.
- **3.** H. L. Wachamo, "Review on Health Benefit and Risk of Coffee Consumption," Med. Aromat. Plants, 2017, doi: 10.4172/2155-9821.1000301.
- **4.** K. Nieber, "The Impact of Coffee on Health," Planta Medica. 2017, doi: 10.1055/s-0043-115007.
- **5.** M. S. Butt and M. T. Sultan, "Coffee and its consumption: Benefits and risks," Critical Reviews in Food Science and Nutrition. 2011, doi: 10.1080/10408390903586412.
- **6.** R. Poole, O. J. Kennedy, P. Roderick, J. A. Fallowfield, P. C. Hayes, and J. Parkes, "Coffee consumption and health: umbrella review of meta-analyses of multiple health outcomes," BMJ, 2017, doi: 10.1136/bmj.j5024.
- **7.** S. L. Schmit, H. S. Rennert, G. Rennert, and S. B. Gruber, "Coffee consumption and the risk of colorectal cancer," Cancer Epidemiol. Biomarkers Prev., 2016, doi: 10.1158/1055-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

9965.EPI-15-0924.

- **8.** M. Wadhawan and A. C. Anand, "Coffee and Liver Disease," Journal of Clinical and Experimental Hepatology. 2016, doi: 10.1016/j.jceh.2016.02.003.
- **9.** R. Shergill-Bonner, "Micronutrients," Paediatrics and Child Health (United Kingdom). 2017, doi: 10.1016/j.paed.2017.04.002.
- **10.** L. M. Shuman, "Chemistry of micronutrients in soils," in Chemical Processes in Soils, 2018.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

GENDER DIFFERENCE OF PEDAGOGY

Gafforov Kxasan Shuxratovich*

*Assistant Teacher,
Department of Language Teaching, Samarkand Institute of Economics and Service,
Samarkand, UZBEKISTAN
Email id: qurgoshin19@gmail.com

DOI: 10.5958/2249-7137.2021.02733.6

ABSTRACT

Gender education in the narrow sense is, first of all, educational programs on gender issues, which are read in various versions for students, as a rule, in socio-humanitarian specialties. In a broader sense, gender refers to education that promotes gender equality and helps to overcome negative gender stereotypes. In this sense, gender education does not necessarily have to be expressed in any specific educational programs; it is, as it were, "diffused" in the processes of teaching and upbringing and is part of the ideology of higher education.

KEYWORDS: Gender Education, Ideology Of Higher Education, Gender Approach, Gender Equality, Problems Of Gender Education, Physiological Characteristics Of People, Community Activities, Private Sphere, Full Potential.

INTRODUCTION

Modern science distinguishes between the terms "gender" and "gender" (gender). The first was used to denote the anatomical and physiological characteristics of people. With the help of these features, all human beings are divided into men and women. With the development of scientific research, it became clear that from a biological point of view, there are more similarities than differences between both sexes. Big weight, tall height, muscular figure are no longer indicators of male differences. The only significant biological difference between men and women is their role in the reproduction of offspring. [1]

Gender education begins to draw attention to gender role issues. This means recognizing the negative impact of gender stereotypes and eliminating the inequalities associated with them. Gender education for girls results in greater self-confidence, perseverance, independence and participation in community activities. The result for boys is overcoming fear of failure, coping with aggression, increased socialization and responsibility, and greater emphasis on the private sphere. [2]

An important function of gender education is to separate facts from beliefs and opinions. Through the analysis of stories or their own actions, children can quickly accept the fact that girls can behave like boys and boys can be sensitive and vulnerable as normal. All children should perceive themselves as highly organized and unique individuals with different qualities. Stereotypes and persistent expectations related to gender roles can hinder the development of personality and the fulfillment of the full potential of both girls and boys.

Gender education is an ongoing process that cannot be limited to certain types of educational activities. Teachers should avoid stereotyping gender roles from childhood and provide girls and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

boys with equal opportunities to participate and interact in any activity. Girls should be involved in education and sports, while boys should be involved in caring for someone. Both should be involved in all activities, such as choirs, performances and dances, carpentry, cooking, hiking and chess. Girls should receive positive feedback for their accomplishments, and boys for caring and solidarity. [3]

Another important goal of gender education is to help children recognize the social value of traditional women's occupations such as motherhood and qualities such as caring, attention, cooperation and tolerance. This recognition can lead to genuine partnerships between men and women, which is the main goal of gender education. In this way, children learn that the different contributions of men and women to family and society are equally important and that both men and women have equal rights and responsibilities. [4]

The problems of gender education are caused by the presence of persistent, traditional gender stereotypes - ideas about the differences between men and women that are stable for a given society in a given historical period. Gender stereotypes are assimilated starting from early childhood in the process of socialization (assimilation of the ideas prevailing in a given culture about the correct behavior, the distribution of opportunities, abilities and responsibilities, etc.). There are several groups of stereotypes: masculinity - femininity, distribution of family and professional roles between men and women, gender stereotypes associated with the content of work.

Gender pedagogy is a set of approaches in the system of education and training aimed at helping children feel comfortable in pedagogical and interpersonal interaction and be able to cope with socialization problems, an important component of which is the child's self-identification as a boy or girl. A pedagogical gender approach helps to move away from the point of view of predetermined male and female social roles, statuses, rigid fixation of gender patterns of behavior, to reduce the negative impact of gender asymmetry and gender stereotypes on the younger generation. [5]

The preconditions for the emergence of a gender approach in pedagogy and its methodological foundations are substantiated: philosophical (culturological, personal, anthropological approaches), socio-psychological (bio-sociocultural approach in explaining gender differences) and pedagogical (personality-oriented approach of a culturological type).

The analysis of the cultural and historical development of the pedagogical theory of the gender approach showed its interdisciplinarity. The pedagogical theory of gender approach is based on:

- The provisions of philosophy (on gender equality, on the equality of the ability of men and women to learn,
- about the social conditioning of "natural" inclinations and characteristics of men and women, etc.),
- Differential psychology (gender aspects of attention, memory, mathematical and speech abilities, emotions, empathy, anxiety, etc.),
- Social psychology (on the relationship between biological and social in the category of "gender", gender identity as the basic structure of personality),
- Sociology (on ensuring gender equality),

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Psychophysiology (gender differences in the lateralization of the hemispheres; features of working capacity, fatigue of boys and girls, etc.),
- pedagogy (the formation of the concept of "gender education", the isolation of the moral aspect of gender education, in connection with the need for sex education, the problem of joint and separate education, the influence of the gender-role structure of the team on the development of the individual).

The main idea of the gender approach in pedagogy is to take into account the specifics of the mutual influence on the development of male and female representatives of all factors of the educational process: content, teaching methods, organization of the educational process, pedagogical communication.

The goal of the gender approach in pedagogy is the gender education of a person of culture, citizen, moral personality, capable of maximum self-realization and disclosure of their abilities. This factor helps gender pedagogy as a new branch of science.

Gender pedagogy as an independent branch of pedagogy has its own theoretical basis, its own sources, the most important of which is gender psychology. Psychological research reveals the features of gender-role development, the formation of sexual (gender) identity, psychological sex at different age stages; mechanisms of gender socialization; gender characteristics of the individual. The results of gender research in psychology make it possible to scientifically substantiate the system of gender (sex-role) education at different age stages.

Gender pedagogy represents an actively developing branch of scientific pedagogical knowledge. The implementation of a gender approach in education meets the urgent requirements of the time, trends in the development of scientific theory and the needs of pedagogical practice.

The increasing attention to the problem of upbringing, taking into account the characteristics of gender, was influenced by the humanization and democratization of the domestic education system. A humanistic, personality-oriented approach to children required taking into account in the educational process not only age, but also gender characteristics of a person, individual characteristics of children.

The development of issues of upbringing, taking into account the characteristics of gender, is impossible without a psychological justification of the tasks, content, methods of semi-differentiated upbringing. Foreign and domestic research in the field of gender psychology formed the theoretical basis for the development of a differentiated approach in the upbringing and teaching of children.

LITERATURE

- **1.** Brown HD. Teaching by principles: An integrative approach to language pedagogy NY: Pearson, 2011.
- 2. Duskazieva JG. Gendernыy podxod v obrazovanii. Krasnoyarsk, 2009
- **3.** Eremeeva VD, Xrizman TP. Malchiki i devochki dva raznых mira. Neyropsixologii uchitelyam, vospitatelyam, roditelyam, shkolnыm psixologam. M.: Linka-Press, 1998. 151р.
- **4.** Kovinko LV. Vospitanie mladshego shkolnika: Posobie dlya studentov sred. i vыssh. ucheb. zavedeniy. M.: Izdatelskiy sentr "Akademiya", 2000

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

5. Kuindji NN. Gendernыy podxod k obucheniyu i vospitaniyu detey v shkole: fiziologicheskie, gigienicheskie i sotsialnыe aspektы. М.: Pashkov dom, 2010. 80p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

NEW PEDAGOGICAL TECHNOLOGIES IN TEACHING FOREIGN LANGUAGES

Gulnoza Nematiloyevna Shodiyeva*

*Assistant Teacher,
Department of Language Teaching, Samarkand Institute of Economics and Service,
Samarkand, UZBEKISTAN
Email id: shodiyeva.gulnoza@list.ru

DOI: 10.5958/2249-7137.2021.02734.8

ABSTRACT

This article discusses the problem of finding new techniques and ways to increase motivation for learning foreign languages. One of these forms is new pedagogical technologies, the implementation of which contributes to effective language learning. The article gives a definition of the concepts of "Pedagogical technology" and "Smart education", which are able to provide a high level of education, corresponding to the tasks and possibilities of today's world, will allow young people to adapt in a rapidly changing, unstable environment, will provide a transition from book content to active using a single common repository of educational materials in the presence of an analytical search system

KEYWORDS: New Information Technologies, Pedagogical Technology, Independent Work, Language Social Networks, Educational Process, Communicative Knowledge, Psychological Characteristics.

INTRODUCTION

In recent years, great changes have taken place in teacher education, which cover almost all aspects of the educational process. The question of the use of modern pedagogical technologies in teaching foreign languages is being raised more and more often. New methods and forms of teaching appear, which, in turn, represent not only various technologies of the means of exchange and transmission of information, with the help of which the educational process is carried out, but also one large system of teaching methods aimed at developing the communicative knowledge of the participants. improving speech skills. The main task of a foreign language consists in teaching the practical mastery of a foreign language, in the formation of basic knowledge, that is, the ability to carry out foreign language and international communication with native speakers. [1]

The search for new teaching technologies is associated with a lack of motivation among students to learn a foreign language. Very often there is no positive motivation, since when learning a foreign language, students encounter some difficulties and do not absorb the material due to their psychological characteristics. Work experience shows that the use of various, modern, fresh sources and means provokes interest in the audience, increases their motivation to study. Pedagogical technology is a set of techniques, an area of pedagogical knowledge, reflecting the characteristics of the deep processes of pedagogical activity, the peculiarities of their interaction, the management of which ensures the necessary efficiency of the educational process.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The use of modern pedagogical technologies in the process of teaching foreign languages allows you to reproduce learning situations, helps to complement traditional teaching methods, contributes to the formation of the fundamental skills of foreign language communication from the awareness of the ability to express thoughts in another language to the independent solution of communicative tasks, increases the desire, students' interest in learning, makes them look at the studied subjects in a new way, thus revealing their creative and intellectual capabilities, talents. [2]

Currently, the concept of "SMART" is the main purpose of the development of educational systems. The main source of knowledge is electronic, educational Internet content, technological operations are the provision of feedback between teachers and students, the exchange of knowledge between them.

Smart education is a concept that involves the comprehensive modernization of all educational processes, as well as the methods and technologies used in these processes. SMART education is able to provide a high level of learning, corresponding to the tasks and possibilities of today's world, will allow young people to adapt in a rapidly changing, unstable environment, will provide a transition from book content to active content with the help of a single common repository of educational materials in the presence of analytics. The quality of educational materials in the repository should be constantly monitored through the introduction of various materials and work in a unified connection with the educational process management systems.

Considering current, innovative technologies, one should dwell in more detail on the topic of using Internet resources in teaching a foreign language. Opportunities for using online resources are huge. [3]

Using web resources, you can perform the following tasks:

- To carry out independent search for information by students in the framework of the work on the project;
- organize and develop reading skills and habits using materials from the web of any degree of complexity;
- improve listening skills based on sound texts of the online resource network;
- replenish the vocabulary with vocabulary, abbreviations of a modern foreign language;
- study the culture of a particular language.

At the moment, there are a large number of sites dedicated to the independent study of foreign languages. On such sites, you can find ready-made lessons of foreign language teachers, exercises, audio recordings, grammatical explanations that are incomprehensible to the student.

I would like to give an example of working with audio texts from the site "die deutsche Welle", which we enter often enough to complete various tasks in the German language. The recording of many texts lasts only 2 minutes and this contributes to the fact that the listener does not get tired during this time, his attention is not scattered and interest does not disappear. One of the themes is called "Viele Köche verderben den Brei". This is a German proverb, which is translated into Russian as "Seven nannies have a child without an eye." At the beginning of the recording, the author describes the meaning of the proverb in several sentences. For example, he says: "Alleine arbeitet man manchmal am besten. Denn wenn viele Menschen mit

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

unterschiedlichen Meinungen und Methoden zusammen etwas machen wollen, kann das zu Schwierigkeiten führen. "At first, the work is carried out individually. Everyone listens independently. As experience shows, with collective listening, various difficulties arise. Then the author begins the story. While listening, students make notes. It is allowed to listen to the recording 2-3 times. At the first listening, it is necessary to pay attention to the speed of the speaker's speech, his intonation, to try to understand the general meaning of the text. At the second listening, they record: "Who? Where? When? What did you do?". If the text is difficult or the speaker's speech is very fast, then it is recommended to listen three times. After that, the teacher asks questions like "richtig oder falsch" to find out how well the learners understood the text. Further work is done in pairs. Pupils should retell the text to their interlocutor, ask and answer questions about the content. Thus, the ability to work in pairs is formed, which contributes to the development of dialogical speech.

But on this site there are also long audio recordings from 11 to 19 minutes, which are best listened to outside the classroom, for example, at home. Working outside the classroom forms the skill of independent work.

For example, on the topic "Lernen an der Universität" the text lasts 9 minutes and the speaker's speech in this audio text is very fast. But the topic is very useful and has practical value for schoolchildren and students, because the speaker gives advice on learning: "How to prepare for exams?", "How to use the electronic library?", "Where to look for material?" etc.

Since students usually do this work at home, they can listen to the texts many times until they understand and extract the information they need. Usually, everyone is given an individual assignment to test their understanding after listening. Tasks can be of this kind as, prepare particular questions, correct and incorrect statements, print out text with errors or text with gaps, so the student must listen to the audio text carefully and write down every word so as not to miss the important. The advantage of working with "die deutsche Welle" is that the teacher can alternate audio texts from easy to difficult. For example, during the week they listen to easy and fairly short texts lasting 1-2 minutes, and before the weekend give a medium-level recording so that the student has enough time to listen to the long material and write down the most important moments so that after the weekend at work -to discuss them with the teacher.

30 years ago, it was impossible to imagine that it is possible to listen to a native speaker in real time, but today, thanks to new innovative technologies, we are provided with this opportunity, which makes learning a foreign language many times easier and much more interesting.

Thus, it is currently impossible to imagine the educational process without the use of innovative pedagogical technologies. This kind of technology is firmly established in the modern education system. Today, a foreign language teacher has a lot of opportunities, which helps to conduct their classes in a more interesting and educational way. These opportunities contribute to more active student activity. Compared to the traditional teaching method, new implementations in teaching inevitably change the role of the teacher. Its task becomes - to increase the independent work of students, support in the development of personality. Such training allows you to increase motivation to learn, significantly increases interest in learning, and also gives good results in the formation of communication skills in comparison with the traditional method.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- **1.** Nazarova NB, Mokhova OL. New information technologies in teaching foreign languages. Modern problems of science and education. 2016;(3).
- **2.** Kizlyakova ES. Introduction of the latest information technologies in teaching foreign languages. 2010. 11p.
- **3.** Tarasov, SV. Schoolboy in the modern educational environment: monograph. St. Petersburg. : "Education Culture", 2001. 151p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CHARACTERISTICS OF PRODUCTIVE SKILLS IN TEACHING FOREIGN LANGUAGE

Nosirova Rano Azizovna*; Beknazarova İroda Yormamatovna**; Rabbimova Yulduz Karshiboyevna***

*Senior Teacher, Chair of English Integrated Course, Samarkand State Institute of Foreign Languages, Samarkand, UZBEKISTAN Email id: Nodirafurqatiy92@gmail.com

**Teacher,

Chair of English Integrated Course, Samarkand State Institute of Foreign Languages, Samarkand, UZBEKISTAN

***Chair of English Integrated Course, Samarkand State Institute of Foreign Languages, Samarkand, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02735.X

ABSTRACT

The following article is dedicated to the importance of speaking in learning foreign language. The author considers some characteristics of speaking and introduces major tips of speaking skills in teaching foreign language.

KEYWORDS: Speaking, Communication, Practice, Skills, Competence, Productive, Progress, Confidence, Interactive, Accuracy, Skillfulness, Comprehension, Interactive.

INTRODUCTION

Language is primarily speech. A very large number of languages in the world are only spoken with no writing script. Majority of languages even with writing scripts use their spoken forms more than the written ones. It is an agreed fact that language is learnt by speaking it first after a lot of listening to the sounds, words, phrases and sentences from the surroundings.

Speaking and Writing are by far the most eminent skills that play a significant role in improving students' communications, especially in a foreign language setting. Actually, EFL learners basically rely on these skills to acquire knowledge as the FL is seldom spoken outside the classroom. Nevertheless, students tend to handle writing and speaking without adequate skillfulness, and this negatively affects their speaking and writing accuracy and causes comprehension deficiencies that are not easy to discern.

It has been established beyond the shadow of doubt that EFL students, in general, endure serious writing and speaking difficulties which are mainly caused by the lack of writing and speaking accuracy.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As it's known that Speaking and writing skills are called productive skills. They are crucial as they give students the opportunity to practice real-life activities in the classroom. These two skills can be used as a 'scales' to check how much the learners have learned. Teaching speaking is vital unless someone is learning English purely for academic reasons and does not intend to communicate in English, which is quite rare. Good command on speaking skills develop a real sense of progress among learners and boosts their confidence [1].

Speaking is not the oral production of written language, but involves learners in the mastery of a wide range of sub-skills, which, added together, constitute an overall competence in the spoken language.

Rizvi (2006) also states that speaking is an interactive communicative process that involves speakers and listeners. During the communication, speakers need to learn to adapt their talk to the listeners; use a range of ways to express themselves; use talk to clarify their ideas and sustain their talk to develop thinking and reasoning. Nunan (1999) and Burkart & Sheppard (2004) argue that success in learning a language is measured in terms of the ability to carry out a conversation in the (target) language. As Nunan (1999) [2] and Celce-Murcia(2001) [3] speaking can raise general learners' motivation and make the English language classroom a fun and dynamic place to be.

From our point of view, we can develop our students speaking skills by various speeches. There are different types of speech, depending on the purpose. Such as, informative, explanatory, persuasive and so on.

Informative speech tells students what they know about a particular topic. (Literature, famous people, countries, food, subjects, mass media, health, culture, personality, character, gardening, space, technology and others);

Explanatory speech shows students how something works or why its effective. (mobile phones, internet, iron, vacuum cleaner, computer, laptop, washing machine, TV, fridge);

Persuasive speech tries to win them over and persuade them to take action. Of course, speeches can be a mixture of these types.(Cosmetics, learning centres, presentations, advertisement)

Here are some tips for preparing and giving a successful speech:

- ➤ Know your audience;
- > Organize your points logically;
- > Plan your speech (Introduction, body, conclusion);
- > Speak in a slow, clear, but natural way;
- > Stress certain words or main key points;
- ➤ Manage your time;
- > Rehearse your speech;
- > Sum up what you have said.

While making speech students should take into consideration these tips and techniques. In introduction part learners should state the topic and its importance than catch the audience attention with a provocative statement or question, a surprising fact or trend, a new discovery, an

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

anecdote, joke or quotation. Then state your aim, outline structure of your speech. In body part students should develop their ideas step by step. Such as in chronological order, from the least to the most important idea, alternate arguments for and against a certain idea, connect problem with solutions. Moreover, giving examples in order to support your statement is one of the effective way of making speech. In conclusion part students should come to a convincing end. Ex.g. a short summary, a quotation, a call for action, a look into the future.

However, it was proved by researchers that leraning speaking can help the development of reading competence (Hilferty, 2005), the development of writing (Trachsel & Severino, 2004) as well as the development of listening skills (Regina, 1997). Speaking requires that learners understand when, why, and in what ways to produce language ("sociolinguistic competence") (Burns & Joyce, 1997; Cohen, 1996 and Harmer, 2001: 269-270) [4].

We totally agree that speaking skills help students to develop their reading or visa versa, if they can easily speak fluently, students can improve their writing, so listening always integrated with speaking skills, because its integral part of language skills. Language skills should be taught in integrated form not in isolates in order to develop communicative competence.

To sum up, speaking is one of the fundamental and active skills, in order to accelerate it, students should work on themselves, make a speech and presentation. In order to make effective speech they should take into consideration tips and techniques of speaking. As we know practice makes perfect.

REFERENCES

- **1.** Hossain MI. Teaching Productive Skills to the Students: A Secondary Level Scenario. BRAC University, Dhaka, Bangladesh. 2015.
- **2.** Nunan D. Second Language Teaching and Learning. Boston: Heinle & Heinle Publishers. 1999.
- **3.** Celce-Murcia M. Language Teaching Approaches: an Overview. In M. Celce Murcia (Ed.), Teaching English as a Second or Foreign Language (3rd Ed.). Boston: Heinle & Heinle 2001.
- **4.** Burns A, Joyce H. Focus on Speaking. National Centre for English Language teaching and Research, Sydney. 1997.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

SCOPE OF BLOCKCHAIN: A REVIEW

Arpit Jain*

*Associate Professor,
Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: arpit.computers@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02665.3

ABSTRACT

Blockchain is a new technology that allows for decentralized and value-based information exchange across a large network of untrustworthy participants. It allows for new kinds of circulating programming concepts to be created. Blockchain is a system for meticulously documenting data and transactions. It's an open record made up of requested and time-stamped recordings of trades organized in information pieces that will use cryptographic permission to connect them. Despite the fact that the invention was first accepted mostly in computerized money, it is now a promising innovation in a variety of fields. This paper presents a reorganized prologue to Blockchain innovation. It also discusses how Blockchain technology may be used into certain business models in the retail sector to benefit both customers and merchants. The paper discusses the market shift in Blockchain adoption as well as some of the challenges.

KEYWORDS: Bitcoin, Blockchain, Cryptocurrency, Ethereum, Hash, Litecoin.

1. INTRODUCTION

When Satoshi Nakamoto proposed the Blockchain in 2008, the world took notice; nevertheless, it was only a year later that it became a reality, thanks to Bitcoin, a cryptographic currency and sophisticated payment system[1]. The concept was subsequently summed up as a transmitted record that affects the Blockchain to verify and store transactions without the need of digital money. The word Blockchain is already widely used to refer to a perplexing invention that is poised to become the next big thing in a wide range of industries, from social insurance to retail. According to Gartner, since August 2015, client requests for Blockchain and related topics have tripled[2].Blockchain is a distributed database of records or an open record of advanced events or transactions that have occurred and have been communicated with interested parties across a large network of untrustworthy individuals[3]. It saves data in obstructs that can verify data and are very difficult to break into. It eliminates the need for an outsider check, causing any component that relies on it to be unhappy. At any time when an outsider is involved in providing an exchange, Blockchain may take over. Every exchange of individuals in the general record should be double-checked by the majority of members in the framework, and once entered, data will never be erased since it is irreversible.

The Blockchain data structure is a time-stamped list of squares that stores and totals information on all transactions that have ever occurred inside the Blockchain network. As a result, Blockchain provides an immutable data storage system that only allows for the insertion of new exchanges and no updating or deletion of old exchanges, preventing any alteration or

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

modification. Before an exchange is integrated into the permanent information stockpile, the whole system must reach a condition of agreement. Various methods, such as Proof-of-Work or Proof-of-Stake, are used to choose the next essayist of new entries for the permanent information stockpile. The Blockchain technology itself is undeniable, has performed well over time, and is generally well-suited to both financial and non-financial applications. The concept of a Blockchain-based architecture has yet to be thoroughly explored, and nothing is known about the impact of incorporating Blockchain into product development.

Bitcoin is the most well-known example of a Blockchain-based product. It's also the most contentious since it created a multibillion-dollar global industry of unregulated exchanges with no government oversight. There is a significant amount of degree available to explore its use in many fields, including retail. This study argues for an infinite supply of retail areas where Blockchain innovation may benefit both customers and businesses.

4.4. Blockchain Technology:

A Blockchain is an open ledger that contains requested and time-stamped records of transactions organized in information bits that will use cryptographic permission to connect[3]. Blockchain is a system for meticulously documenting data and transactions. Each record is a square that is linked together in a chain. In the exchange information portion of a square, a piece of at least one new transaction is collected. Every transaction is hashed twice, and the hashes are then matched, hashed, merged once more, and hashed again until only one hash remains, the Merkle base of a Merkle tree that is stored in the square header. It connects the squares and ensures that an exchange may be changed without affecting the piece that records it or subsequent pieces. The exchanges are also binded together in the same way.

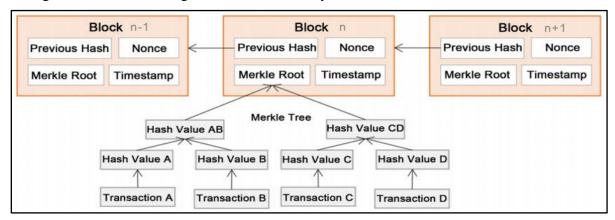


Figure 1: Typical Blockchain structure[4]

Figure 1 shows an example of a Blockchain. The record, on the other hand, isn't kept in a solitary vault or overseen by a single body; rather, it is distributed and existing on different PCs all the time, to the point that anybody with an interest may keep up with its replica. The piece approval structure ensures that no one can tamper with the records, and that previous exchanges are always preserved, while new exchanges are permanently added to the record. Anyone in the system has access to the record and may view an exchange history that is indistinguishable from that of others. To put it another way, Blockchain is a self-contained, simple, and everlasting database that exists in many locations and is shared by a group; thus the term common distributed record (MDL).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Isolated hindrances within the chain may sometimes be generated concurrently, resulting in a temporary fork. Aside from having a secure hash-based history, a Blockchain uses a specific formula to score several adaptations of the past, with the one with the most esteem being selected above the others. A couple of the components are vagrant squares, which were not selected for inclusion in the chain. Companions that assist the database have various adaptations of the history that continuously maintain the database's most amazing score form. When a friend receives a higher-scoring variation (the previous variant with a single additional square added), it expands or overwrites its own database and retransmits the update to its companions. The chain with the greatest aggregate confirmation of work is always deemed the significant one by the system in a Blockchain using the proof of work paradigm.

There are two types of Blockchain: permissioned and unpermissioned. Unpermissioned one makes use of open dispersed record innovation, which means the data is shared among many PCs in the system rather than being owned by a single person or database. Anyone may access the system and look at the exchange records. When a conversation is recorded, the material saved is time-stamped so that it can't be deleted or refreshed again. The subsequent additions to the record, as well as new records, are tracked and updated in real time for everyone with access. Since of its distributed structure, Blockchain is difficult to attack because all of the duplicates are located in different locations. Permissioned ones operate in the same manner, but they're better for restricting who may authorize trades in the system. By combining a cryptographic key with wallet code, a Blockchain promotes safe online transactions utilizing cryptography. An advanced mark is used in Blockchain to provide verification and non-renouncement so that only the keycontrolling element may execute transactions from its associated record. Disseminated records will also make it easier to code simple contracts that will be executed when certain criteria are fulfilled. Ethereum is an open source Blockchain project that was created specifically to investigate this possibility. It is still in its early stages, but it has the potential to utilize the benefits of Blockchain on a really global scale.

2. LITERATURE REVIEW

Blockchain, according to Anascavage et al., is a novel technology with significant implications for the future of information and money exchange in a globally networked society[5]. Because it is so new, there isn't much scholarly research on it yet, although it is developing fast. They started by gathering a sample of mainly peer-reviewed materials, as well as an instructive summary of publications from many additional sources, for this literature study. They were able to give a representative perspective of three main themes by choosing papers from a variety of sources. To begin, let's go through some of the most important current issues in Blockchain technology. Second, the topic's representative categories. Third, the possible future of Blockchain development, as well as its social and technological implications.

S. Johansen offers a thorough and in-depth analysis of the current technical and literary status of Blockchain technology in Information Systems study[6]. The study goes through exactly what is needed for Blockchain technology to serve as a technical facilitator for innovation, as well as the success criteria. The literature evaluation also divides the existing results into different idea groups in order to facilitate future study in the field. Finally, it should be emphasized that Blockchain technology in its present form still has a long way to go before it is deemed mature enough for widespread use.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Blockchain technology, according to Pawar et al., is a well-known recent innovation[7]. It has already influenced people's lifestyles in a variety of ways as a result of its significant effect on commerce and industry, and it is expected to continue to do so in a variety of sectors. Although Blockchain may provide dependable and convenient services, one of the main areas of worry is the security difficulties and concerns associated with newer innovation. The goal of their study is to aid in the adoption of the technology by thoroughly describing the idea of Blockchain, evaluating its benefits and drawbacks, and determining its real added value to a company.

3. DISCUSSION

a. Blockchain Market:

Blockchain innovation will provide a slew of benefits, including the ones listed below. As a result, the invention is discovered to be useful in both budgetary and non-budgetary areas.

- Reduces transaction costs and improves heartiness as compared to integrated solutions -Shares information in a "trustless" domain.
- An immutable open record makes it possible to track who is responsible for world/advanced resources. Transactions provide a simple evidence of provenance.
- Non-denial on both resources and business forms, with conditional installments and complicated business reasoning using smart contracts.
- Allows for true self-contained components (IoT devices, distributed networks) Entities may create rules, responsibilities, and authorizations.

According to a statistical surveying study, the global Blockchain appropriated record market was valued at \$228 million in 2016 and is expected to reach \$5430 million by 2023, growing at a CAGR of 57.6 percent from 2017 to 2023[8]. The fundamental forces driving this market are simplicity, permanency, and a lower total cost of ownership. Because of the widespread use of this distributed record innovation across many applications such as smart contracts, trades, computerized characters, installments, paperwork, and other comparable components, the Blockchain innovation showcase is rapidly expanding. Various industry verticals have received Blockchain arrangements, including banking, financial services, and insurance (BFSI), government and open part, social insurance and life sciences, retail and internet company, automobile, media, and stimulation, and others. As the business is altered by computerized innovation, the media and stimulation sector is expected to have the highest CAGR. According to Goldman Sachs, the use of Blockchain technology in stock trading may generate \$6 billion in annual industry cost savings.

b. Blockchain in Retail:

Nowadays, information is the driving force behind the retail industry. Retailers are attempting to focus more on personalized retailing in order to expand their client base and improve customer service[9]. The Blockchain innovation will act as an empowering force, allowing merchants to achieve their goals more efficiently. In the retail sector, the Blockchain has a lot of potential to assist merchants in improving their existing business models and accelerating their growth, and a few of these processes are discussed below.

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

i. Supply Chain:

In the manufacturing network, shipment tracking plays an important role. Blockchain may be used to record information about a shipment at each stage of the process, such as the location, date, and time of the cargo, the shipment's specific points of interest, temperature, and the condition of the bundle/item, among other things. This will allow you to check on a regular basis to see whether the cargo has been handled properly and has arrived on schedule at any particular location. It will also assist merchants in locating missing or damaged goods in shipments. A detailed record of shop network will allow merchants to identify the source of the problem, the products that are affected, that include the issues, and so on, during the item inspection. Furthermore, via the Blockchain shared ledger, Blockchain-based transactions will allow merchants to buy or sell from one another as well as distributors.

ii. Customer Profiling:

Blockchain may be used to collect data about a customer's buying habits, track position drift, and so on[10]. This data may be used to determine the area's specific demands, as well as the best stock to have on hand in order to enhance their in-the-moment stock office. Again, advanced data warehousing frameworks for merchants may be created using Blockchain innovation since the records are immutable and different systematic devices can operate on it. In terms of payment, Blockchain will reduce the risk of fraudulent financial transactions. Because Blockchain records every transaction, businesses may use it to check for installment designs on a continual basis if necessary. Reward points, money back, tailored retail prices and advances, and other incentives on customers' payment ways may all be evaluated, and various offers can be sent to them on a regular basis.

iii. Transparency:

Clients, retailers, and suppliers will be able to view the item source, regardless of whether the products are produced via illegal labor or whether any dangerous or hidden components are accessible; all of this will assist retailers and clients in making decisions regarding the items. This Blockchain-enhanced transparency will show client behavior patterns even more accurately.

iv. Authenticity and anti-counterfeiting:

Clients may go through the records on the products and avoid forging using Blockchain, increasing their confidence in the item's quality.

v. Loyalty:

By storing encoded client information, coupons, and rebates and making the information available to all shops, Blockchain may repair the unwaveringness framework, allowing for more inquiry into client data. Clients will be able to view all of their unwaveringness data in one location over the retailers thanks to a Blockchain-based trust guarantee. Greater customer loyalty, improved client buying propensities, more secure exchanges, and higher net revenues for merchants are all expected as a result of the previously stated Blockchain-enabled processes.

c. Challenges:

Because Blockchain innovation is still in its infancy and is still in the proof-of-concept stage, with only a few Blockchain-based frameworks being deployed on a large scale, real risks with Blockchain may not emerge for a few years until it becomes more mainstream. This invention

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

should be thoroughly examined before being accepted, and its acceptance should not be rushed. Real effects, and even basic risks, may arise from a failure to execute. Blockchain, being a common record structure, should also contain sensitive data. As a result, it must ensure that its cryptography and digital insurances are secure and compliant with industry best practices. Information security and isolation should be addressed for cloud-based retail agreements as well.

4. CONCLUSION

The Blockchain invention has been discussed in this paper, as well as some of its major features and benefits. Innovation is still progressing at a rapid rate for different places and companies, and it is poised to alter the world. Regardless, it isn't without movements; some of them have been included as well. Despite the fact that Blockchain is the technology that underpins Bitcoin, its applications aren't limited to the financial sector. The retail industry will begin to reap the benefits of Blockchain through improved item transparency, more efficient store network administration, improved loyalty administration framework, enhanced client profiling, and the fight against forging, among other things, resulting in increased consumer loyalty and higher net revenue for retailers. In 2016, Blockchain was shown to be a more problematic invention for the retail sector than for any other industry, and in 2017, Blockchain is gradually becoming the dominating construct state for retailing.

REFERENCES

- 1. "History of Blockchain." https://www.icaew.com/technical/technology/Blockchain/Blockchain-articles/what-is Blockchain/history (accessed Sep. 24, 2018).
- 2. "Gartner Says Worldwide Business Intelligence and Analytics Market to Reach \$16.9 Billion in 2016." https://www.gartner.com/en/newsroom/press-releases/2016-02-03-gartner-says-worldwide-business-intelligence-and-analytics-market-to-reach-17-billion-in-2016 (accessed Sep. 10, 2018).
- **3.** L. Carlozo, "What is Blockchain? Here is a primer on the potentially transformative digital ledger technology," J. Account., 2017.
- **4.** Z. Hong, Z. Wang, W. Cai, and V. C. M. Leung, "Blockchain-empowered fair computational resource sharing system in the D2D network," Futur. Internet, 2017, doi: 10.3390/fi9040085.
- **5.** R. Anascavage and N. Davis, "Blockchain Technology: A Literature Review," SSRN Electron. J., 2018, doi: 10.2139/ssrn.3173406.
- **6.** S. K. Johansen, "A Comprehensive Literature Review on the Blockchain Technology as a Technological Enabler for Innovation," Res. Gate, 2018.
- 7. S. Pawar, A. Saraf, S. Parade, and S. Sharma, "Review on Blockchain Technology," Int. J. Comput. Appl., 2018, doi: 10.5120/ijca2018918288.
- **8.** "FinTech Blockchain Market by Provider." https://www.marketsandmarkets.com/Market-Reports/fintech-Blockchain-market-38566589.html (accessed Sep. 24, 2018).
- **9.** A. Chakrabarti, A. K. Chaudhuri, and W. Bengal, "Blockchain and its Scope in Retail," Int. Res. J. Eng. Technol., 2017.
- **10.** A. Ramachandran and M. Kantarcioglu, "Smartprovenance: A distributed, Blockchain based data provenance system," 2018, doi: 10.1145/3176258.3176333.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

AN OVERVIEW OF THE USAGE OF ARTIFICIAL INTELLIGENCE-BASED INTRUSION DETECTION METHODS

Dr. Vinay Kumar Mishra*

*Associate Professor, Department of Computer Science, Faculty of Engineering,

Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: vinaym.computers@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02666.5

ABSTRACT

Huge numbers of computer across the globe, operating on a variety of hardware or software platforms, link to provide communication and commercial services over the Internet. However, since computers are interconnected, malevolent individuals may abuse resources and launch Internet assaults. The ever-increasing number of Internet assaults makes it difficult to create flexible, adaptable security solutions. One of the most significant components used to identify Internet assaults is the intrusion detection system (IDS). Various methods from various disciplines have been used in the literature to create effective IDS. Artificial intelligence (AI)based methods have an important part in the development of IDS as well as provide many advantages over other approaches. There is, however, no thorough evaluation of AI-based methods to evaluate and comprehend their present position in solving intrusion detection issues. Various AI-based methods have been discussed in this article, with an emphasis on IDS creation. The sources of data sets, processing criteria, method utilized, dataset, classifier design, dimension reduction technique used, and other experimental environment setup have all been compared. The advantages and disadvantages of AI-based methods were addressed. The article will aid in a better understanding of the many avenues in which IDS research has been conducted. The results of this article are helpful for individuals interested in applying AI-based methods to IDS and related areas, since they offer important insights into the literature. The study also discusses the research's future directions in this field.

KEYWORDS: Artificial Intelligence, Ensemble System, Hybrid System, Intrusion Detection System, Intrusion, Network Security.

1. INTRODUCTION

The Internet has become an integral aspect of everyday life, with applications in sectors such as commerce, communication, entertainment, education, and personnel day-to-day operations, among others. The Internet, in particular, has become an essential component of commercial transactions for accessing information. Access to information through the Internet allows for a variety of attacks on a computer system. More and more businesses are becoming susceptible to cyber-attacks and invasions. "Any collection of activities that try to undermine the security objectives" is what an intrusion or attack is described as. Availability, Integrity, Confidentiality, Accountability, as well as Assurance are all key security goals. Probing, Denial of Services

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

(DoS), User to root (U2R), and Remote to user (R2L) assaults are the four types of intrusions that may be categorized[1], [2]. A variety of anti-intrusion solutions have been developed to prevent a huge percentage of Internet assaults. Prevention, detection, preemption, deterrent, deflection, as well as countermeasures are the six anti-intrusion systems identified. The precise detection of an incursion is the most essential of these components. Many IDS have been created in the literature using AI-based methods as stated in Sect. 2. Some IDSs were created using a single classification method, while others (known as hybrid/ensemble IDS) used several categorization techniques. However, there is no thorough evaluation of these intrusion detection methods (ID).

The paper's three goals are as follows: The first goal is to provide a short overview of IDS, including its architecture and categorization. Second, the article examines the source of audit data, process criteria, or classification method utilized, classifier design, dataset, feature reduction, and other experimental environment setup to offer a review of different research of AI based approaches for ID. The focus of this article is on AI's basic methods, which include Decision Trees, Rule-Based Decision Making, Support Vector Machines (SVM), Neural Networks (NN), Fuzzy Logic, Data Mining, Genetic Algorithms, Bayesian Networks, Markov Models, and Clustering Techniques. The third goal is to identify current research problems and prospective research initiatives[3].

The remainder of the paper is laid out as follows. The intrusion detection architecture and categorization of IDS are briefly described in Section 2 based on the source of audit data, processing criteria, and response generating components. The existing IDSs are also highlighted in this section. Section 3 discusses different methods for identifying people. Section 4 delves into the specifics of the AI-based methods used for ID. The hybrid/ensemble method employed in ID is highlighted in Section 5. Section 6 compares several AI-based methods studies based on the audit data source, processing criteria, methodology utilized, classifier design, dataset, feature reduction approach used, and classification classes. Finally, Section 7 wraps up the paper and looks forward to the future[4].

1.1 System for detecting intrusions:

One of the standardized parts of security infrastructures is antivirus software (IDS), which is described as "an effective security technology that can detect, prevent, and potentially respond to computer assaults." It monitors specific sources of activity in computer and network systems, such as audit and network traffic data, and employs different methods to offer security services. The primary goal of an intrusion detection system is to quickly identify all intrusions. Network administrators may identify security goal breaches by using IDS. External attackers attempting to obtain unauthorized access to the shared security architecture or making resources inaccessible to insiders misusing their access to system resources are examples of security goal violations.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

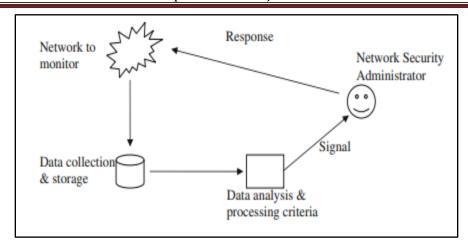


Figure 1:Illustrate the Architecture of IDS[3].

Host-based IDS gathers data from of the host that needs to be safeguarded. They gather information from a variety of sources, including operating system, operating system log files, NT events log files, CPU usage, application log files, and so on. The benefit of host-based IDS is that they've been not operational system dependent and are extremely effective at detecting buffer overflow attacks. In the event of encrypted data and a switched network, these solutions become ineffective. MIDAS is a host-based IDS that is available. Expert System for Intrusion Detection (IDES) Tripwire OSSEC HIDS. Network-based IDS: This kind of IDS gathers data from the network in the form of packets. These IDS are operating system agnostic and simple to install across a variety of platforms. NSM is a network-based intrusion detection system. NADIR (Network Anomaly Detector and Intrusion Reporter) is a network anomaly detector and intrusion reporter[5].

1.2 Techniques for detecting intrusion:

Many methods from various fields have been used to identify incursions in the literature. Statistical methods, knowledge-based techniques, and artificial intelligence (AI)-based techniques are the three main methodologies. The behavior of the system is depicted from a random perspective in statistics-based IDS. Knowledge-based IDS methods, on the other hand, attempt to capture the stated behavior from accessible system data (protocol specifications, or network traffic instances, etc.). Finally, AI-based IDS methods need the creation of an explicit or implicit model that categorizes patterns[6].

1.3 Techniques based on artificial intelligence (AI):

Ponce has outlined a number of benefits of adopting AI-based approaches over more traditional methods. Flexibility (vs. threshold definition of traditional method); Adaptability (vs. precise rules of conventional technique); Pattern matching (and detection of patterns); Fast computing (really quicker than humans); and Learning skills are among the main benefits. Many writers have classified AI-based methods into many categories.

1.4 Techniques based on decision trees:

Decision trees are effective and widely used classification and prediction techniques. Nodes, arcs, and leaves are the three major components of a decision tree. Each node has a feature property that is the most informative among the characteristics not yet evaluated in the route

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

from the root, each arc out of a node has a feature value for the node's feature, and each leaf has a category or class designated on it. Starting at the root of the tree and working through it until you reach a leaf node, a decision tree may be used to categorize a data point. The categorization of the data point would then be provided by the leaf node. Levin developed a collection of locally optimum decision trees from which the best subset of trees for forecasting new instances. For training and testing, 10% of the KDD Cups database is utilized. A random sample of data is taken from the full training data set. Different assault types in the KDD data set are detected using a multi-class detection method[7].

1.5 Techniques based on rules:

To categorize the audit data, rule-based methods usually use a set of association rules including frequent episodes patterns. When a rule says that "if event X happens, then event Y is likely to occur," then events X and Y may be represented as sets of (variable, value)-pairs, with the goal of finding the sets X and Y that "implies" Y. In the classification domain, we fix Y and look for sets of X that are excellent predictors of the correct categorization. The benefit of utilizing rules is that they are usually straightforward and intuitive, as well as unstructured and so less restrictive. However, rules are hard to maintain and, in certain instances, insufficient to describe many kinds of information. Inductive rule generating algorithms have been suggested in the literature in a variety of ways. Some of them start by creating a decision tree, then extracting a set of categorization rules from it. Other algorithms use a divide-and-conquer method to directly infer rules from data[8].

1.6 Network of neurons (NN):

The NN learns to anticipate the behavior of the system's different users and daemons. If developed and executed correctly, NN has the ability to solve many of the issues that rule-based methods face. The primary benefit of NN is their tolerance for erroneous data and unclear information, as well as their capacity to infer solutions from data without previous knowledge of the data's regularities. This, along with their capacity to generalize from learnt data, has made them a viable ID option. To apply this method to ID, we'd have to feed the NN data representing attacks and non-attacks in order for the network's coefficients to change automatically during the training phase. The following are some examples of how to utilize NN.

Unsupervised model: MIT Lincoln Laboratory's Cunningham and Lippmann performed a series of experiments using Neural Networks to identify abuse. In the network traffic, the algorithm was looking for attack-specific keywords. UNIX host assaults and attempts to get root privilege on a server have been detected using a Multi-Layer Perceptron. By categorizing the inputs into two (two) outputs, the system attempted to identify the existence of an assault (normal and attack). The system was able to identify 85% of assaults, with 17 out of 20 being detected. This system's major accomplishment was its ability to identify both old and new threats. The data for the new assaults was not included in the training.

Self-Organizing Maps (SOM) have been shown to be successful in novelty detection, automatic grouping, and visual organization when used in a supervised model. based on network user behavior breaches (Bivens et al. 2002). They used neural networks to evaluate user behavior depending on a time frame. After supervised neural network learning, the network data was categorized and grouped in various time periods using a Self-Organizing Map (SOM) neural network. Many academics have attempted to combine the Multi-Layer Perceptron (MLP) with

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the Self-Organizing Map (SOM) for intrusion detection. They tried to build an Intrusion Detection System that used MLP and SOM to identify abuse. They utilized a back-propagation learning feed-forward network with four fully connected layers, nine input nodes, and two output nodes (normal and attack). The network has been programmed to respond to a certain number of assaults. The network has identified the assaults for which it was prepared[9].

1.7 Model of Markov:

In this class, there are two kinds of approaches: Markov chains are a kind of data structure that may be used to A Markov chain is a collection of states that are linked by transition probabilities that define the model's structure and capabilities. The probabilities associated with transitions are calculated during the training phase based on the target system's typical behavior. Anomalies are then detected by comparing the anomaly score (related probability) acquired for the observed sequences to a specified threshold. Hidden Markov models: A hidden Layer is one in which the system of interest is considered to be a Markov process with hidden states and transitions. Only the productions are shown. Several techniques for identifying abnormalities in the use of network protocols by examining packet headers have been described in the literature[10].

2. DISCUSSION

Thousands of computers across the world connect to offer communication and commercial services via the Internet, using a range of hardware and software platforms. Due to the linked nature of computers, malicious people may take advantage of resources and conduct Internet attacks. The growing quantity of cyber-attacks makes it harder to develop flexible, adaptive security solutions. The intrusion detection system is one of the most important components used to detect Internet attacks (IDS). In the literature, different techniques from diverse fields have been utilized to develop successful IDS. AI-based techniques have played a major role in the development of IDS and provide many benefits over other approaches. However, there has been no comprehensive assessment of AI-based techniques to assess and understand their current position in resolving intrusion detection problems. This article discusses a variety of AI-based techniques, with a focus on IDS development. In various investigations of artificial intelligence (AI) based methods in ID, several variables such as the source of audit data, processing criteria, method used, classifier architecture, dataset, dimension reduction methodology used, or classification classes are compared. By considering appropriate base classification techniques, training sample size, and combination strategy, the detection accuracy of hybrid or ensemble approaches may be improved. Using a hybrid/ensemble approach, on the other hand, has resulted in a greater computing cost. The following issues with AI-based techniques in ID will be urgently investigated in the future.

3. CONCLUSION

This article has examined different intrusion detection systems (IDS) and their categorization based on various modules, albeit it has done so briefly. A thorough evaluation of different AI-based intrusion detection (ID) methods is provided. The use of a multi-classifier based method (hybrid/ensemble approach) to identify recognized and unknown objects is described. Attacks with great precision Various artificial intelligence (AI)-based methods investigations. Many factors, such as the source of audit data and processing, are taken into account when comparing ID. Criterion, method, classifier design, dataset, and feature reduction technique. There are many categorization classes. It can be shown that by using the correct base classification, methods,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

training sample size and combination method, hybrid and/or non-hybrid detection accuracy. The ensemble method may be enhanced. However, using a hybrid/ensemble method has resulted in a higher computational cost. In the future, there will be a pressing need to investigate the following AI-related problems.

REFERENCES

- 1. M. Alkasassbeh, "An empirical evaluation for the intrusion detection features based on machine learning and feature selection methods," J. Theor. Appl. Inf. Technol., 2017.
- **2.** W. Wang, M. Zhu, X. Zeng, X. Ye, and Y. Sheng, "Malware traffic classification using convolutional neural network for representation learning," 2017, doi: 10.1109/ICOIN.2017.7899588.
- **3.** G. Kumar, K. Kumar, and M. Sachdeva, "The use of artificial intelligence based techniques for intrusion detection: A review," Artif. Intell. Rev., 2010, doi: 10.1007/s10462-010-9179-5.
- **4.** Z. Jinbiao, "Research on intrusion detection system based on clustering fuzzy support vector machine," Int. J. Secur. its Appl., 2014, doi: 10.14257/ijsia.2014.8.3.26.
- **5.** J. Kusyk, M. U. Uyar, and C. S. Sahin, "Survey on evolutionary computation methods for cybersecurity of mobile ad hoc networks," Evol. Intell., 2018, doi: 10.1007/s12065-018-0154-4.
- **6.** V. K. Pachghare, V. A. Patole, and D. P. Kulkarni, "Self Organizing Maps to Build Intrusion Detection System," Int. J. Comput. Appl., 2010, doi: 10.5120/191-328.
- 7. D. KS and B. Ramakrishna, "An Artificial Neural Network based Intrusion Detection System and Classification of Attacks," Int. J. Eng. Res. Appl., 2013.
- **8.** G. Kumar and K. Kumar, "The Use of Artificial-Intelligence-Based Ensembles for Intrusion Detection: A Review," Appl. Comput. Intell. Soft Comput., 2012, doi: 10.1155/2012/850160.
- **9.** Y. Gao, Y. Liu, Y. Jin, J. Chen, and H. Wu, "A Novel Semi-Supervised Learning Approach for Network Intrusion Detection on Cloud-Based Robotic System," IEEE Access, 2018, doi: 10.1109/ACCESS.2018.2868171.
- **10.** C. Guo, Y. J. Zhou, Y. Ping, S. S. Luo, Y. P. Lai, and Z. K. Zhang, "Efficient intrusion detection using representative instances," Comput. Secur., 2013, doi: 10.1016/j.cose.2013.08.003.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

THE ROLE AND UTILIZING OF WEB BASED ONLINE EXAMINATION SYSTEM IN ALL EDUCATIONAL AREAS

Dr. Pooja*; Nodirbek Yuldashev**

*Teacher,

Department of Computer Engineering, Andijan state University, Andijan, UZBEKISTAN

**Student.

Department of Computer Engineering, Andijan state University, Andijan, UZBEKISTAN Email id: nodirbek4405979@gmail.com

DOI: 10.5958/2249-7137.2021.02727.0

ABSTRACT

The term "online examination system" refers to a web-based examination system that allows students to take exams online. Using a computer system, over either the internet or an intranet. Research and comparison of various web examination systems in the current individual field, proposed a set of design modes for a general examination platform that can be used in colleges and universities, researched and analyzed key technology, and proposed an improved scheme, resulting in a perfect system. Exam questions leakage, human errors during script marking, and score recording are all common problems with the traditional form of evaluation (examination). The growth of technology in the field of computer science has forced the use of computers in almost every aspect of human life and activity, including education. This project, Web-based Examination System, arose from a desire to address the issues plaguing the traditional (paperbased) examination system by providing a campus-wide service for e-assessment that is free of irregularities and generally fair to examinees, as well as improving instant feedback.

The method allows examination results to be released in record time and without error. Webbased Examination System can be an excellent option for mass education evaluation because it has several innovative characteristics that are not available in paper-based systems, such as real-time data collecting, management, and analysis, as well as distributed and interactive assessment to encourage distance learning.

KEYWORDS: Web-Based Examination System, E-Examination, Computer-Based Test, Web Server, Database.

INTRODUCTION

The Online Examination System is now regarded a rapidly emerging examination method because of its precision and speed. In addition, less staff is required to conduct the examination. Assessment tests, aptitude tests, psychometric tests, personality tests, entrance exams, and campus examinations are all conducted with it. Organizations can also simply track a student's development by administering an examination. As a result, the result takes less time to calculate. It also helps to reduce the use of paper. According to today's requirements, an online

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

examination project in various programming languages is highly good to study. The educational institution's use of an online examination system is critical for preparing exams, as it saves time and effort in checking exam papers and preparing results reports.

Furthermore, the system based on a Browser/Server framework to conduct the examination and auto-grading of objective questions. The system simplifies the administration of exams, the gathering of answers, the automatic marking of submissions, and the generation of test reports. It will be accessed over the Internet, making it appropriate for both local and remote testing.

The devised system decreases the amount of time spent on examinations, grading, and reviewing. It also has the potential to drastically reduce examination malpractice because examinees are duly authenticated online in real-time and their results are released a few minutes after the examination is completed. Instead of the lecturer spending weeks marking scripts and grading manually, the computer will grade the students as soon as they finish their paper, get their already stored continuous assessment, and produce their final result. It also enhances effective distance education as examinees can write examination in any part of the world and equally get their results instantly.

E-EXAMINATION (COMPUTER-BASED EXAMINATION)

The conduct of examinations, as well as the process of producing results, has been fraught with problems in many higher institutions across the Globe, resulting in the failure to release results on time, the inability of certain students to receive their results, and some incomplete results. These issues can be addressed through the utilize of electronic media.

As used in this document, e-examination refers to a system that involves conducting examinations through the internet or intranet utilizing a computer system. Because Internet and database technology have advanced, Computer Based Test, which was previously only available on personal computers (PCs) or local area networks (LANs), has been gradually upgraded to work on the Internet using browsers as the test interface, allowing users to access it from anywhere in the world. Web Based Examination has proven to be a useful tool for assessing large groups of students. Computer-based examination and test tools have been applied for different purposes [1]:

- placement tests,
- entry-level tests (prognostic tests),
- self-assessment tests,
- regular written and oral examinations (selective and diagnostic examinations),
- Online surveys.

METHODOLOGY AND SYSTEM DESIGN

This technical paper aims to demonstrate the development of an e-examination application for boosting successful distant education, with the goal of eliminating the digital divide in access to high-quality education around the world.

The application was created by utilizing a variety of programming paradigms and languages, including HTML, CSS, and PHP (for the front-end interface) as well as MYSQL, and was hosted on an Apache web server. The usage of HTML and CSS, which are respectively a markup

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

language for information presentation and a styling language, allows for the creation and proper layout of the user interface. To enable dynamic content production, PHP (a web scripting language) is utilized to generate dynamic material based on the system's user and the matching content contained in the MySQL-managed backend database. The web server is used to serve WebPages to users as needed, as well as to interpret the PHP scripting commands on the page. In other words, the computer simply serves as a platform for students to take exams, teachers to create tests, and test papers to be transmitted. [2]

DEVELOPMENT LANGUAGES

Cascading Style Sheet (CSS)

It is a set of rules that allows the user to control the appearance of a web content in a web browser. Colors, background pictures, typefaces (fonts), margins, and indentation are all examples of formatting applied to a website. CSS allows a designer to create a style (a list of formatting characteristics such as fonts, sizes, and colors) and then apply it to one or more portions of an HTML page using a selector. There are three places where CSS information can be specified: I within the document body's particular tags (Inline CSS), and (ii) at the top of the document within a<style> block, orcombined with named <div> or containers in the document body EmbeddedCSS), and (iii) in one or more separate files shared across many Web pages (External CSS).

Hyper Text Mark-up Language (HTML)

It is the core technology in which all Web pages are written. HTML is not a programming language rather it is a mark-up language for collection of mark-up tags to describe WebPages. Mark-up is made up of tags, and tag names are enclosed in angle brackets.

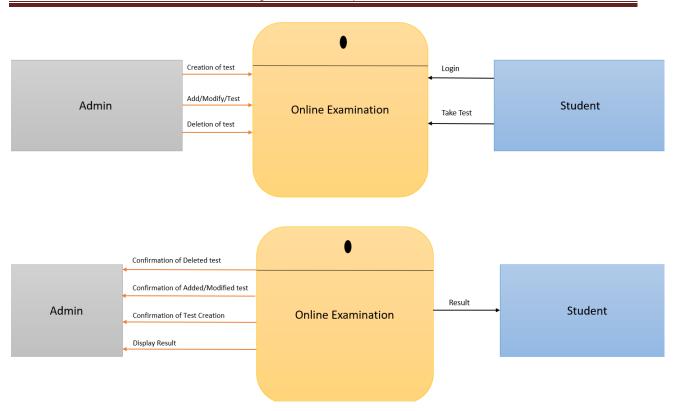
Hypertext Pre-processor (PHP)

It is a popular Open Source general-purpose scripting language that is well-suited for Web development and can be integrated in HTML. Unlike other CGI scripts written in languages such as Perl or C, where a large number of commands are typed to generate HTML, PHP code is surrounded in specific start and end tags that allow you to switch between PHP and other modes.

Structured Query Language (SQL)

This is the standard language designed to access relational databases.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



To make software development easier and faster, Integrated Development Environment(IDE) may be adopted. An IDE is a software application that provides comprehensive facilities to computer programmers for software development. An IDE normally consist of a source code editor; build automation tools and a debugger.

MySQL Workbench

MySQL is the world's most well known open source database, empowering taken a toll viable delivery of dependable, high-performance and adaptable web-based and implanted database application. The information in MySQL are put away in tables. MySQL workbench may be a bound together visual instrument for database models, engineers, and DBAs. It gives information modeling, SQL advancement and comprehensive administration tools for server setup, client organization, reinforcement and much more. MySQL workbench empowers a DBA, designer, or information planner to oversee databases. It includes everything a information modeler needs for making complex Entity Relational (ER) models, forward and switch designing additionally conveys key highlights for performing difficult change administration and documentation errands that regularly require much time and effort.MySQL workbench conveys visual instruments for making, executing and optimizing SQL inquiries. The SQL editor gives color language structure highlighting, auto-complete, reuse of SQL snippets and execution history of SQL. The database associations board empowers designers to effortlessly oversee database associations. The protest browser gives instant access to database construction and objects. [3]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

SYSTEM DESIGN

Database (Backend) Design

Database design is concerned with how data is represented and stored within the system. The examination questions, answers, grades, and reviews must be stored in a persistent way. Moreover, we need to keep information about the students. The system stores the above information in a MySQL Database server. Such database has been chosen since it is open source, and there are implementations available for the main architectures.

User Interface (Frontend) Design

Usability is the ease with which a user can learn to operate, prepare inputs for, and interpret outputs of system or component. This usability of a system is made less more or less stressful by the usability and complexity of the user interface. The user interface of a system is therefore the part of the system that the end user interacts with. User interface design is concerned with how users add information to the system and with how the system presents information back to them.

YII Framework

Yii is a generic Web programming framework, meaning that it can be used for developing all kinds of Web applications using PHP. Because of its component-based architecture and sophisticated caching support, it is especially suitable for developing large-scale applications such as portals, forums, content management systems (CMS), e-commerce projects, Restful Web services, and so on.

Yii is not a one-man show, it is backed up by a strong core developer team, as well as a large community of professionals constantly contributing to Yii's development. The Yii developer team keeps a close eye on the latest Web development trends and on the best practices and features found in other frameworks and projects. The most relevant best practices and features found elsewhere are regularly incorporated into the core framework and exposed via simple and elegant interfaces. It is flexible enough to work for many unique design needs.

FUNCTIONAL REQUIREMENTS

Functional requirement defines the capabilities and functions that a system must be ableto perform successfully. In software engineering and system engineering a functional requirement defines a function of a system or its component. These functions are the set of inputs, the behavior and outputs of the system in question. In order words it captures the intended behavior of the system. This behavior may be expressed as services, tasks or functions the system is required to perform and it shows the features that differentiate the system from other systems. Functional requirements should include:

- descriptions of data to be entered into the system,
- descriptions of operations performed by each screen,
- descriptions of work-flows performed by the system,
- which can enter the data into the system
- how the system meets applicable regulatory requirements.

The intended software's functions are highlighted below:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- The system has a homepage where respective users (administrator & students)can login to perform their different operations.
- The system has the test page where the student would be presented with test questions to be answered by him/her. The system then automatically adds the marks allocated in each question to determine the total mark for the test.

NON-FUNCTIONAL REQUIREMENTS

These define system properties and constraints e.g. reliability, response time and storage requirements. Constraints are I/O device capability, system representations, etc. It is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with functional requirements that define specific behavior or function.

SYSTEM IMPLEMENTATION

To test the effectiveness of the design, PHP and HTML were used, with MySQL as the back-end integration database. The choice of these programming languages is based on the features of the languages that make them very appropriate for this work.

SYSTEM REQUIREMENT AND SPECIFICATION

The minimum hardware and software requirements for the WES are: Minimum of PentiumIV or IBM compatible system, 500Mhz processor speed or higher, minimum of 512MBmemory capacity, minimum of Windows XP as the operating system (OS), support anyweb browser. Internet Explorer, Mozilla Firefox, Google Chrome and Xamp server.

INTERFACES

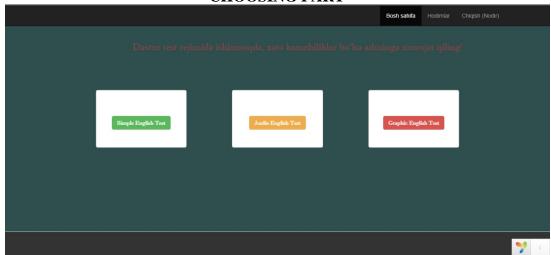


LOGIN/REGISTER PAGE

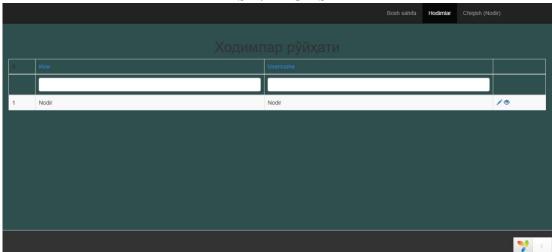
Login module helps the user (students or lecturers) to login to the site. The lecturer cannot login on this platform but would be done by the administrator. An administrator is to register the lecturers' credential and then provide each lecturer with login credentials. The students must register first before using the registered credentials to login. The login provision in this page helps the already registered user to directly access the site.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

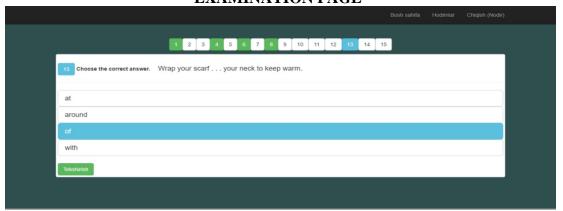
CHOOSING PART



THE LIST / PAGE STAFF

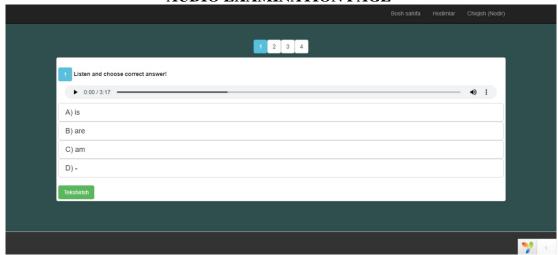


EXAMINATION PAGE

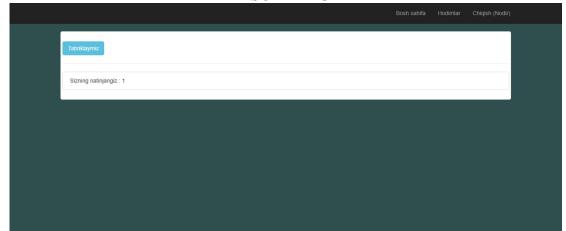


ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AUDIO EXAMINATION PAGE



RESULT PAGE



CONCLUSION AND RECOMMENDATIONS

It is not enough to focus on the passing required skills to the learners in distance education but to equally furnish them with their performances shortly after evaluation without hitch. Consequently, the developed WES is capable of solving the associated problems with the traditional test methods and equally promotes distance education.

When online method of instruction is used to acquire skills in higher education, the application can be used for efficient assessments regardless of the location of the examinees across the globe.

It is possible with this system to space the period of examination without compromising quality and integrity of the examination. The system has the potentials to reduce drastically examination malpractice as applicants are duly authenticated online, real-time before taking the examination and the integrity of the result could also be enhanced since the candidates have access to instant result checking.

If the e-examination system is fully optimized and it is introduced into the institutions, it will go a long way to control and check examination malpractices and all fraudulent acts associated with

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

the manual process of writing examination. However, for the system to be adopted on a large scale, efforts should be intensified to ascertain its disadvantage on accounts of IT illiteracy on the part of the students', by making the interface easy to interact with.

REFERENCES

- **1.** Lai AF, Liu IC. The Prospects of E-Examination. Turkish Online Journal of Distance Education-TOJDE, 2012;8(4):125-134
- **2.** Oktapiani R. Ramdhani LS. Kajian Penerimaan Sistem Ujian Online Menggunakan Technology Acceptance Model (TAM) Dan Theory of Plan Behavior (TPB) Di Smk Pasim Plus Kota Sukabumi. SNIPTEK. 2016. pp.98-107
- **3.** Andika E, Djajasukma D, Heryanto H. Analisis Manfaat Penerapan Sistem Informasi Ujian Online: Studi Kasus SMK Pasim Plus, JTERA (Jurnal Teknologi Rekayasa). 2017;2(1):47

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

QUALIFICATION OF FRAUD AND WAYS TO AVOID ONLINE

Khurshida Mirziyatovna Abzalova*; Dr. Bhupinder Singh**

BANKING FRAUDS: A STUDY FROM UZBEKISTAN AND INDIAN PERSPECTIVE

*Associate Professor, Doctor of Law, Tashkent State University of Law UZBEKISTAN Email id: khurshida.abzalova@yandex.ru

Associate Professor, CHRIST (Deemed to be University) INDIA **DOI: 10.5958/2249-7137.2021.02728.2

ABSTRACT

Currently, so-called "high technologies" are actively used in the banking sector, including remote banking systems or online banking. Meanwhile, the emergence of these banking services has significantly complicated the qualification of thefts committed in the field of banking services. Online banking is a set of information technologies aimed at providing banking services via the Internet, without a client's personal visit to the bank. The most common example of online banking is banking operations using telephones, computers, ATMs.

KEYWORDS: ATM, modifying, Criminal Code, globalization, regulatory, Triangle fraud, Banking, M-banking, BSBD, CCTV.

INTRODUCTION

At present, a number of problems can be identified that arise during the qualification of this type of theft. First of all, what will be the qualifications of thefts committed using these devices, if the offender uses the input or modification of computer information and deception of the victim at the same time. In this case, one and the same set of criminal acts often receives a different criminal legal assessment. For example, let's say a person finds advertisements for the sale of property on the Internet, contacts the advertiser and convinces him to provide his bank card number and access code. After that, the offender registers in automated systems on behalf of the cardholder and gains access to all the accounts of the victim. And then there is a transfer of funds from the accounts of the victim to the accounts controlled by the fraudster. [1]

In this regard, it seems appropriate to formulate rules for the qualification of theft committed simultaneously by entering (modifying) computer information (Article 278⁴ of the Criminal Code) and deception (paragraph "c" of Part 2 of Article 168 of the Criminal Code), which will solve this problem.

The Main Part

We believe that the distinction between fraud and fraud in the field of computer information should be based on the following rules.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Firstly, in cases where deception is used by a person to facilitate access to someone else's property, which is then stolen in another way, action cannot be qualified as fraud (under Article 168 of the Criminal Code).

Secondly, action cannot be qualified as fraud also if the opportunity for the criminal to dispose of the thing does not occur as a result of deception. [2]

Based on these rules, it seems necessary to make a number of clarifications to the Resolution of the Plenum of the Supreme Court of the Republic of Uzbekistan dated October 11, 2017 No. 35 "On judicial practice in cases of fraud". Firstly, it is necessary to establish that in cases where deception is used by a person to gain access to bank account data, and property is stolen by entering, modifying computer information, the deed should be qualified by a set of crimes in the form of fraud using computer equipment (paragraph "c" of Part 2 of Article 168 of the Criminal Code), and modification of computer information (Article 278 of the Criminal Code). Secondly, it should be indicated that if a criminal, using computer information (by sending via a mobile device via the Telegram messenger, e-mail or other means of sending various messages), acquires the ability to dispose of the property or property rights of the victim directly as a result of deception (for example, a person voluntarily transfers a sum of money to the criminal), then the action must be qualified as a fraud, taking into account the size of the stolen property according to the relevant parts of Article 168 of the Criminal Code, but without reference to paragraph "c" part 2 of this article, since a mobile device cannot be equated to a computer device. [3]

The second problem in the field of qualification of crimes committed using online banking systems is the qualification of thefts committed using payment cards using an ATM. Today, they have begun to receive a fairly noticeable spread. In this regard, in law enforcement practice and science, discussions began to arise regarding the qualification of these actions as fraud under paragraph "c" of Part 2 of Article 168 of the Criminal Code, since an ATM in its essence is a computer.

At the same time, many note the specifics of this fraud: the impact is carried out on computer information, and not on the consciousness of the victim; there is no deception of the person, there is no transfer of property or the acquisition of the right to property with the help of the victim; information, means of storage, transmission and processing of computer information is recognized as an instrument of crime.

It is worth noting that, for example, in foreign judicial practice (Resolution of the Plenum of the Supreme Court of the Russian Federation No. 51 of December 27, 2007 "On judicial practice in cases of fraud, misappropriation and embezzlement"), these actions are qualified as theft.

Getting a credit at a terminal and receiving money at an ATM using a fake card have a common feature - the absence of deceptive actions inherent in fraud. Therefore, for qualification of a getting a credit by using someone else's passport, from which a copy is automatically taken by the terminal, paragraph "c" of Part 2 of Article 168 of the Criminal Code cannot be used. These actions contain rather signs of theft and should be assessed by virtue of their identity in the same way as the theft of funds at an ATM by using a fake credit card.

It is hardly possible to recognize as justified the different qualifications of the theft of credit in the form of cash and cash from an ATM, if in both cases the counterparty in the transaction was

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

a computer, and not a person authorized by the organization, misled by the actions of the subject, and the item of the crime was cash.

At the same time, we believe that the actions of a person installing special technical devices on an ATM, followed by the theft of funds from a bank card (by reading information, codes and passwords of the card) should be qualified not only under paragraph "c" of Part 3 of Article 169 of the Criminal Code (with unauthorized entry into a computer system), but also under Article 278² of the Criminal Code (Illegal (unauthorized) access to computer information), since the disposition of the article refers, among other things, about "interception of information". [4]

As a solution to these problems, we propose to amend the Plenum of the Supreme Court of the Republic of Uzbekistan No. 35 dated October 11, 2017 "On judicial practice in cases of fraud" and state paragraph 20 of the Resolution as follows:

"20. Explain that fraud with the use of computer equipment (paragraph "c" of the second part of Article 168 of the Criminal Code) is understood as theft by deception of someone else's property located in financial, banking institutions, funds, etc. through manipulations performed with the help of computer equipment. Such fraud can be committed both by changing information processed in a computer system stored on appropriate media or transmitted over data transmission networks, and by introducing false information into the computer system of financial and banking institutions.

In the case when deception is used by a person to gain access to bank account data, and property is stolen by entering, modifying computer information, the action should be qualified as a set of crimes in the form of fraud using computer equipment (paragraph "c" of Part 2 of Article 168 of the Criminal Code), and modification of computer information (Article 278⁴ of the Criminal Code).

At the same time, if a criminal, using computer information (by sending via a mobile device via the Telegram messenger, e-mail or other means of sending various messages), acquires the opportunity to dispose of the property or property rights of the victim directly as a result of deception (for example, a person voluntarily transfers money to the criminal amount), then the action must be qualified as fraud, taking into account the size of the stolen property in accordance with the relevant parts of Article 168 of the Criminal Code, without reference to paragraph "c" of Part 2 of this article.

The actions of a person installing special technical devices on an ATM, followed by the theft of funds from a bank card (by reading information, codes and passwords of the card) must be qualified under paragraph "b" of Part 3 of Article 169 of the Criminal Code (with unauthorized entry into a computer system), as well as under Article 278² of the Criminal Code (Illegal (unauthorized) access to computer information)".

In our view, the introduction of these clarifications, in the absence of currently relevant articles on cyber theft in the Criminal Code of Uzbekistan, can assist law enforcement agencies and courts in the uniform and correct qualification of this kind of new types of theft. [5]

The Web Revolution has occurred in India over the previous decade, and it is one of the most significant events in human history. The fast expansion in the usage of the web, the Internet, Intranet and Extranet, e-business or e-commerce, and mobile commerce has transformed the way practically every company does business. Traditional financial intermediaries such as

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

commercial banks, investment banks, and specialist finance businesses are blurring due to technological innovation. The rise of e-business, along with technical advancements and globalisation, is forcing organisations to rethink their company processes in terms of value chain re-engineering and business model restructuring. The financial industry is most likely undergoing a transformation as a result of competitive, regulatory, and technological dynamics. The financial system, particularly the banking sector, is now under transformation. Banks are the engines that fuel the financial sector's operations, which are critical to every country's economy. One of the oldest industries in the world is banking. The Indian banking industry has not remained a completely oblivious observer of the global information technology revolution. The banking business in India has seen significant changes as a result of the 'web Revolution.' In today's digital era, computers and electronic media are used to conduct all financial transactions. To cope with the growing rate of change in the business environment, banks have placed themselves on the World Wide Web to take use of the internet's power and reach. 'PC banking,' 'online banking,' 'Internet banking,' 'Telephone-banking,' or'mobile banking' are all terms used to describe electronic banking. E-banking is a phrase that encompasses all of these methods of doing financial transactions online. [6]

In the world of internet banking, fraudulent transactions have become a significant concern. As technology advances, fraudsters' tactics of deception evolve as well. There are also growing technologies that allow fraudsters to imitate the transaction behaviour of actual consumers, and they are constantly modifying their approaches to make fraud detection harder.

The importance of fraud has a great economic impact on a society. This issue is certainly relevant in every country, but also in to every organization. Well-known world financial scandals warn that fraud is increasingly having not only individual characteristics but also organizational ones. In literature and practice. Numerous studies of this concept have been conducted on the basis of which numerous models of fraud have been conceived. The first model that was conceived, it was a model of the triangle of deception. This basic model has existed for 60 years and was proposed during that period are different elements of modification, but this model served and as a basis for designing other, new models. Theoretical and empirical research has shown that this model in modern business conditions it is no longer efficient either unreservedly applicable. [7]

The main issues highlighted in this paper relate to the various shortcomings that this the model shows. From the proposal to all three elements of the triangle mathematically ratify, through the economic logic of the triangle, to the psychological aspect of studying the triangle of deception. It's in the works presented one of the mathematical models which encompasses all three elements of the triangle and which tries to answer the requirement of practice and possible mathematical expression of the probability of committing fraud from the point of view of mathematical ratification all three elements of the triangle. The fraud triangle analysis is significant and because of audit and audit risk. An analysis of opinions is presented, which gives paramount importance to the interaction of management integrity and pressure and integrity management and opportunity. Model reviews triangle frauds are rooted in the shortcomings of this model. Behavior of individuals in the same situation as one commits fraud and the other does not, is one of the open questions for criticism and request for improvement of the base model. Triangle fraud describes the conditions under which fraud is committed, but not describes the actions taken by the fraudster.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The backbone of a country's economy is banking and financial services, and information technology serves to fuel this infrastructure. Financial systems should be stable in a developing economy. As technology progresses, the reach of Online Banking expands as consumers find it more convenient to perform their banking online rather than in person to visit the bank. For example, opening an account online, making transactions online, and double-checking all the information online. All of this is quite convenient for the consumers. As a result, the majority of banks are now insolvent offering people with internet services Banking entails preserving consumer relationships and, if necessary, trust nature is crucial. Customer happiness is critical to retaining long-term business.

A user can use the website of a financial institution to complete several activities on his account connected to finance in online banking. It's also known as 'Internet Banking.' Banking systems, as we all know, are where a bank employee physically deals with the consumer and answers his questions, but with Internet Banking, we're attempting to integrate the primary banking systems with Online Banking to make things easier for customers.

The Indian banking business is unique, with no analogues in the history of banking in any other country. The banking industry has gone through three stages since independence: character-based lending, ideology-based lending, and competitiveness-based lending. Despite having a robust regulator, the financial services industry has been identified as the most vulnerable to fraud. ICT has infiltrated practically every aspect of life. The primary consumers of the internet and online transactions are banking, insurance, and financial institutions. They utilise ICT to perform cash transfers, payments, account information submissions, and other remittance services. Banking services have, without a doubt, been greatly enhanced as a result of the usage of information and the internet. At the same time, internet transactions and data are vulnerable to hacking and manipulation. Financial scams related with these transactions are also on the rise, resulting in significant financial losses every year throughout the world. The use of possibly unlawful means by workers to get money, assets, or other property owned or held by a bank or other financial institution, or to collect money from depositors by falsely masquerading as a bank or other financial institution, which is a significant component of operational risk. In India, the number of bank frauds is significant, and it is growing with the passage of time and technology.

The internet and mobile phones are two technical advances that have had a significant impact on all of us in the previous decade and are presently on the rise. This association's goods are mobile data services. Services are being developed using a number of platforms to enable mobile devices to fulfil many of the traditional internet's functions, although in a compressed manner for mobile devices. Mobile banking is one of the areas of activity (one of the first areas of commercial transaction on the wireless internet). Banking has expanded in a variety of ways in recent years, notably through telephone and internet banking. M-banking adds another route for financial services, with the potential to become the major channel in emerging economies. The hottest area of growth in the banking business is mobile banking, which is a symbiosis of technology and financial services and is predicted to replace the debit/credit card system, as well as internet banking.

How to avoid online banking frauds in India?

The Reserve Bank of India has issued certain guidelines for users in case they fall victim to online banking frauds:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 1. Banks must create their banking system and procedures in order to make way for safe net banking for customers.
- 2. The liability of customers is limited in case of any unauthorised net banking transactions.
- **3.** The banks must inform their customers about SMS and email alerts for online banking transactions.
- **4.** If an unauthorised online transaction has taken place because of a third party and it is reported within 3 days by the customer, the bank must credit the amount back in the customer's account within 10 days of receiving the complaint.
- **5.** If a customer delays in reporting an online banking fraud within 3 days and delays for 4-7 days, the customer will be penalised with up to Rs. 25,000 fine depending upon the type of bank account, credit card held by the customer and any gift cards used.
- **6.** The liability for delay in reporting online banking fraud for Basic Savings Bank Deposit (BSBD) account is Rs. 5000; the liability for delay in reporting online banking fraud for Savings account, prepaid transactions, an overdraft account, Current account, cash credit account, gift cards accounts for MSMEs and accounts for individuals with an annual balance or limit of Rs. 25 lakhs, is Rs. 10,000; for other accounts with credit card limit of Rs. 5 lakhs, the maximum liability is Rs. 25,000.
- 7. For the loss caused by an unauthorised transaction, the bank will be held liable.
- **8.** For unauthorised transactions with third party liability, any delay in reporting will attract liability up to the amount of transaction.
- **9.** For a delay beyond 7 days, the customer liability will be determined in accordance with the bank's policy approved by the Board.
- 10. The banks must resolve the customer complaint within 90 days of receiving it.

For more queries or confusion regarding the legal nitty gritty of online banking fraud in India, ask for **expert legal advice** from us now!

How to file a complaint about online banking fraud in India?

The first step is to report the crime immediately to the bank. The bank has to ensure that reasonable measures are taken to provide sage net banking to its customers. The bank must install CCTV camera in bank premises and ATM outlets, notify customers through email and SMS alert about any transaction from their account, track irregular or unusual transaction, etc.

A person who falls victim to any online banking fraud can file an application with the Adjudicating Officer under Section 46 of Information Technology Act, 2000 for lack of reasonable security measures taken by the bank. Section 43A of Information Technology Act, 2000 states that the banks and other intermediaries that do not use reasonable security measures for safe banking will be liable to pay adequate compensation to the customer. The bank has the liability to prove that it took sufficient measures to prevent any illegal and unauthorised transactions.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES

- **1.** Orekhov VV. Necessary defense and other circumstances precluding the criminality of the act. St. Petersburg: "Piterubl", 2008. p.46.
- **2.** Kozak VN. The Right of Citizens to Necessary Defense. Saratov: "Publishing house Sarat", 1972. p.41.
- **3.** Borodin SV. Responsibility for murder: qualification and punishment under Russian law. M: Jurist, 1994. p 93.
- **4.** Kochoi SM. Criminal law. General and Special parts: Textbook. Short course. M.: "CONTRACT", 2009. p.78.
- 5. Naumov AV. Russian criminal law. A common part. Lecture course. M.: BEK, 1996. S. 509.
- **6.** Koni AF. On the right of necessary defense. M.: Ostozhie, 1996. p.73.
- 7. Pertsev DV. Criminal-legal and criminological problems of necessary defense: monograph. Kaliningrad: Publishing house of the Rgu im kant. Immanuel Kant Russian State University. 2009. p.102.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

LABOR AND EMPLOYMENT OF WOMEN IN THE ECONOMYTHE PROBLEM WITH SUPPLY

Nafisa Shonazarovna Abduxalilova*

*Master student,
National University of Uzbekistan named after Mirzo Ulugbek,
Tashkent, UZBEKISTAN
Email id: nafisa.abduxalilova@gmail.com

DOI: 10.5958/2249-7137.2021.02729.4

ABSTRACT

This article provides facts and opinions about the existing problems in the economy, in particular about the shortcomings in the employment and employment of women, as well as what solutions are offered to them today. Today, laws and programs aimed at comprehensive support of the population are being developed in our country, these programs provide ample opportunities, especially for women. It was noted that the introduction of the programs "Strategy of action", "Every family is an entrepreneur", the work systems "Youth notebook", "Women's notebook", established by the Decree of President ShavkatMirziyoyev, is the main reason for further increasing the role of women in society, turning them into an active stratum.

KEYWORDS: Employment, Employment Of The Population, Economy, Working Capacity, Employee, Labor Cooperation, Household Plots, Income From Labor, Labor Efficiency, Property, Jobs.

INTRODUCTION

As you know, the economy is one of the main foundations of the strength of the state. All developed countries of the world, first of all, pay great attention to the development of the economy, the improvement of the state labor market. The role of the concept of employment in ensuring sustainability and economic growth is enormous. Employment or employment of the population is the occupation of the able-bodied population with socially useful work; labor is the activity of citizens related to the satisfaction of their personal and social needs and does not contradict legislation, generating income. Employment expresses interpersonal relations involving an employee in a specific labor cooperation based on the social division of labor. Employment is not limited to employment in enterprises, organizations and institutions of various forms of ownership, but also includes entrepreneurship, self-employment, work in the household, employment in the household and raising children, performing state and public duties, full-time education in specialized secondary and higher educational institutions. [1] Guarantees of employment of the population in the country, the realization of human rights to employment are enshrined in the law"On employment of the population " dated January 13, 1992; Adopted in a new edition on May 1, 1998, defined. Employment problems in Uzbekistan require increased attention, since the republic has a difficult demographic situation, high rates of natural population growth, the population structure is dominated by young people, most of the population lives in villages. In 1998, 33.9% of the able-bodied population in Uzbekistan was employed at enterprises and organizations of the public sector, 66.1% - at non-state sector facilities, including private farms (2.7%). Due to the emergence of various forms of ownership

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

during the transition to a market economy, the number of employees in the non-state sector has increased. Their employment increased by 12% in 1994-96. The unemployed make up the unoccupied part of the able-bodied population. According to the Center for Economic Research, at that time, the model of Uzbekistan's labor policy lost its effectiveness, and a difficult situation developed in the country's labor market. Firstly, the number of jobs created was insufficient, and the number of jobs created was unstable. In 1991-2011, the share of the working-age population increased from 50% to 61.1%. During the same time, the share of employed working-age population decreased from 81.6% to 66.9%. In addition, job insecurity has increased: 30% of the new jobs created have been lost. The reason for the accelerating process of urbanization was the growing tension in urban labor markets. Secondly, the wide spread of the non-corporate sphere, i.e. self-employment, domestic work and various types of activities outside enterprises with the status of a legal entity, has led to an increase in the risk of irreversible growth. This is due to the fact that the corporate sphere reduced taxes to the state budget, imbalances in monetary and currency exchange deepened, the quality of the workforce decreased, since labor relations were not formalized. Thirdly, the country's labor policy weakly stimulated labor efficiency and inefficiently directed labor resources to those industries that could become new growth points. [2]

Materials and analysis

The main measures to increase employment are the structural redistribution of the employed population and the involvement of able-bodied youth in new advanced industries and spheres, which in turn is an important reserve for the effective use of labor potential. More than a third of all public production workers are employed in agriculture in Uzbekistan. Such measures as the release of a certain part of them and orientation to other sectors of the economy, primarily industry and services, the creation of jobs in agriculture, the use of advanced methods of labor organization, economically stimulating employment of adolescents, women with many children, pensioners and the disabled, reducing unemployment, improving the activities of labor exchanges, lead to an increase in employment. [3]

Today, Uzbekistan is not only becoming a country of new opportunities, but is also making great efforts to radically reform all spheres, study shortcomings in depth and find solutions to them. Thus, a number of measures, the adoption of new decisions, which are the basis of economic transformations related to the division of labor, unemployment, youth and women employment, have literally contributed to economic growth. Consequently, within the framework of 5 important initiatives of the President of the Republic of Uzbekistan in order to ensure the employment of women, the development of entrepreneurship, in particular family entrepreneurship, the promotion of crafts based on the traditions of "ustoz-shogird", the effective use of household plots of the population, the expansion of home work in the field of sericulture, the Cabinet of Ministers adopted several resolutions. The resolution approved the proposal of the Women's Committee of Uzbekistan, the Ministry of Employment and Labor Relations of the Uzbekistan, Uzpakhtasanoat JSC. Uztukimachiliksanoat Republic Uzbekipaksanoat Association and Hunarmand Association on measures to further improve the system of women's employment and entrepreneurship development among them within the framework of 5 important initiatives of the President of the Republic of Uzbekistan. The introduction of such programs as "every family is an entrepreneur", "women's notebook", also increases the role of women in society. Indeed, the principled nature of the laws and programs

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

adopted above is aimed at providing women with work, turning them into active layers of society. [4] In addition, the introduction of the "iron notebook", "youth notebook", "women's notebook" in makhallas gave an impetus to the opening of wide opportunities for women. The Women's Notebook is a database for identifying, eliminating and controlling the problems of unemployed women who have a need and passion for social, economic, legal, psychological support, knowledge training and profession. [5] The "women's notebook" includes the following categories of women over 30 years of age:

- unemployed women in need of social protection (not provided with work, willing to work, without a source of income, including partially disabled, but willing to work);
- needy women who have lost a breadwinner (without a breadwinner, in need of additional financial assistance);
- disabled women of groups I and II, in need of social support (disabled, in need of outside care);
- disabled women of group I who need to repair their housing (completely disabled, living alone, unable to repair their housing);
- women living in non-residential premises, who do not have residential premises in the name
 of their own or cohabiting family members (living alone or together with family members in
 administrative buildings, basements and other premises not intended for living, as well as
 needing to improve housing conditions in the absence of residential premises for permanent
 residence);
- single women who have one or more disabled children of group I or II dependent on them;
- women in need of medical protection (those who themselves and cohabiting family members are in a difficult social situation, have a disease leading to chronic or severe disability, a disability group has not been identified, do not have a sufficient source of income);
- women in need of legal assistance (those who wish to receive legal advice, who have filed a statement about the violation of their rights and legitimate interests);
- These are women who need psychological counseling (women who have suffered from harassment and violence, who have social problems).

On the basis of this program, in particular, support was provided to women from low-income families who have lost a breadwinner, who need financial and psychological assistance. They not only got a job, but also received the necessary help in creating their own business. At the same time, they managed to create vacancies for women like them. This, in turn, had an effective impact on the growth of the country's economy.

CONCLUSION

We can learn about the relevance of the News taking place in our country, reforms aimed at making life easier for the population, from a video conference chaired by the President of the Republic of Uzbekistan ShavkatMirziyoyev on July 14 on increasing the employment of young people and women, providing them with a source of income. At the video conference, special attention was paid to the issues of employment and improving the social conditions of women. It is noted with regret that about 20 thousand women live in difficult living conditions in the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

regions, many of whom are on preventive registration. The Ministry of Mahalla and Family Support has been instructed to organize short training courses on life motivation and vocational training for 33,380 women. Instructions were given to form a list of women's business projects in each district and city, monthly financing, allocation of simplified loans and grants within the framework of the women's entrepreneurship program. Young people and women intending to receive microloans will be trained in entrepreneurship for free, which will provide employment to 5 thousand young people and women per year.

REFERENCES

- 1. George BJ. Labor Economics (seventh edition). New York. 2015
- **2.** Mark G. Anwar MA. The world economy: to the labor market of the planet. 2019.
- **3.** Mankevich NG. (2016-12-05). Fundamentals of Economics (eighth edition). Boston, Massachusetts, USA. 2016.
- **4.** Tarling R. Labor markets. The new Palgrave Dictionary of Economics. 1987. 1-4 pp.
- **5.** Yoziev GL. Conceptual approaches to building a perspective model of national innovation systems: Lessons for Uzbekistan. South Asian Journal of Marketing & Management Research, 2021;11(3):46-52.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW OF WAL-MART, AMAZON AND ITS SUPPLY CHAIN

Vipin Jain*

*Professor,

Department of Finance & Marketing, Faculty of Commerce, Management & law,
Teerthanker Mahaveer Institute of Management and Technology,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: vipin555@rediffmail.com

DOI: 10.5958/2249-7137.2021.02667.7

ABSTRACT

In the highly world of the twenty-first century, when innovations are consistently re - engineering systems and processes, the role of the most demanding technologies, such as RFID (Radio Frequency Identification) as well as robotics, has piqued the interest of organizations and researchers in supply chain management. Although RFID and robotic technologies have a number of drawbacks, they may help companies connect their supply chains with their business partners, reduce inventory and process times, improve logistics, increase customer loyalty, and reduce overall costs. This study attempts to examine how technological advances such as RFID tags and robotics assist Wal-Mart and Amazon in managing their supply chains. There has been considerable study in the area of supply chain management to address current difficulties, but the issues are always changing as a result of technology advances and the fast growth of consumers. Despite the fact that considerable research has been done in this area, there is still a practical need for additional research to effectively address the current issues in supply chain management.

KEYWORDS: Amazon, Supply Chain, Robotics, RFID, Wal-Mart, Process Management, Business Growth.

1. INTRODUCTION

Due to technology advances, logistics management has become a very difficult problem all over the globe these days. The businessman is always attempting to resolve current supply chain management problems in the most effective and pragmatic manner possible. This good supply chain management and supply chain strategy is a critical job that affects a company's success. Web technologies are controlling and playing an important part in supply chain management in the contemporary day. Supply chain management is the practice of effectively managing and controlling goods and information throughout the logistics process, from raw material procurement through delivery to a final customer. Various approaches and strategies have been studied for efficient supply chain management, but robots and Radio Frequency Identification (RFID) are currently becoming more popular throughout the world for a variety of reasons[1].

The usage of RFID and robotics technologies in Wal-Mart and Amazon's worldwide supply chain management is steadily growing. These two technologies, robots and RFID, have opened the door to a new era in supply chain, which is also very difficult to achieve with current barcode

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

technology. Leading companies have recognized the inherent advantages of RFID and have lately pushed to integrate supply chain management technology by making RFID a requirement for manufacturers. In the corporate world, there is still apprehension about investing large amounts of money in new technologies that have yet to be proven. Furthermore, these technologies have been shown to be the most helpful in Wal-Mart and Amazon's supply chain management[2].

Wal-Mart is one of the largest retailers in the world, with operations in fifteen different countries. According to their case study, efficient supply chain management is the main basis on which the Wal-Mart company rises and achieves this position. They also claim that other retailers are copying their retail and supply chain methods, such as sharing supplier sales data, using RFIDs and bar codes, allowing in-house transit self-distribution, using a fully digital point of sale to manage inventory levels. Some responsibilities in the supply chain management process should be prioritized, such as purchasing products from manufacturers and wholesale wholesalers. The next stage is delivery, which requires a methodical strategy to save expenses and utilize the most cost-effective means of transportation. Any company's supply network is critical to its success. Although there are many phases in the ultimate manufacturing of a product, each stage of the product life cycle has an impact on supply chain management. Waldistribution Mart's strategy in China's different areas. The logistic distribution facilities of different causes in China are linked to the Wal-Mart China headquarters in this diagram. Due to the growing need to include environmental thinking into supply chain management, supply chain management is now acknowledged to have a significant impact on the natural environment. With the assistance of supply chain technology, many businesses across the globe are continuously shifting their tactics to more successful methods and using maximum resources more effectively[3].

The contemporary world is essentially an e-commerce era. E-commerce has evolved into a contemporary method of doing business and effectively growing it. In the area of supply chain management, recent technology advances in the fields of RFID and robots play a critical role in improving current business processes. E-commerce is a platform that satisfies the needs of businesses, customers, and suppliers at the lowest possible cost, with the quickest possible delivery, and the highest possible quality. The main elements of the supply chain technology strategy. The main components include strategic analysis, planning and decision support, as well as operation and transaction management[4].

Computer networks, as well as communication-related technologies, are continuously evolving, particularly in internet applications. During the previous decade, marketing techniques were used to manage the connection between customers and the supply chain. During the past decade, a number of academics have looked at a variety of methods for resolving supply chain management issues. The supply chain is mainly a collection of diverse organizations and business processes for selecting raw materials, converting them into intermediate and final products, and distributing the end product to customers.

Furthermore, the supply chain links a variety of suppliers, different industrial facilities, various distribution nodal points, transportation means, retail shops, raw material choices, and many other entities. the most important elements of supply chain technology strategy The main components include strategic analysis, planning and decision support, as well as operation and transaction management. During the past decade, Wal-Mart and Amazon have grown in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

popularity across the globe. Amazon provides a wide range of services and facilities to their consumers, which are well-known among the sellers that visit Amazon.com to keep their products in a warehouse and send them out after they have been purchased. Amazon charges different fees to clients depending on the services they use, and they offer world-class facilities to its customers all around the globe. Amazon and Wal-Mart are both attempting to adapt to new technology in order to grow their businesses in the most efficient and pragmatic manner possible. In contrast to other technologies, RFID technology is the most efficient and well-known[5], [6].

Wal-Mart is one of the most well-known and well-known retailers in the world. This business offers a wide range of services and facilities to customers throughout the world, depending on their needs. The success of Wal-Mart companies may be attributed to a number of elements and excellent tactics, like identical relationship management and the finest impact of E-commerce. This company is using a variety of cutting-edge technology to keep the supply chain running as smoothly and effectively as possible all around the globe. There are many reasons why Wal-Mart is growing more popular in comparison to others, including universal ideals, excellent administration, and corporate philosophy, all of which have contributed to Wal-success Mart's in a variety of countries. The impact of E-commerce on relationship management.

1.1 Technology's Functions Scanning that is completely automated:

The RFID technology offers a wide range of smart benefits, including the essential characteristic of not requiring line-of-sight in order to comprehend RFID tags. The broad implication is that no object, such as barcodes, has to be scanned in any specific orientation. The inherent technical characteristics act as a facilitator, resulting in many benefits at different stages along the supply chain management process. The RFID scanners can provide a communication connection with the tags in a matter of microseconds and can scan several objects at the same time. This comprehensive feature greatly aids the robots of various supply chain management that were previously reliant on labors such as verifying or scanning any arriving goods[7].

1.2 Reduced Labor:

RFID and robots have proven to be the backbone of business organizations in the contemporary world owing to a variety of benefits, including lower labor costs and quicker working times, which are both necessary in the modern world. RFID is a technology that promises to assist in the development of an automated supply chain at unprecedented levels while also reducing labor costs throughout the process. Various cost components have been found that need additional consideration, such as the total labor cost for every distribution facility. Several case studies have been performed over the last decade that are very much linked to the total labor cost as well as the time delay in any corporation's supply chain.

1.3 Wal-Mart shops throughout the world from 2008 to 2018:

Due to a variety of reasons, Wal-Mart has become one of the fastest-growing businesses in the past decade. From 2008 to 2018, this business established a total of 11,501 shops across the globe. This company was formerly known as Wal-Mart shops. During the past decade, this business has quickly established itself as a brand among a number of well-known retail brands. This business began as a single bargain shop in the United States (US). Currently, the Walmart Corporation operates a number of shops, supercenters, and local markets throughout the world. Furthermore, this business has grown into the world's largest retail corporation.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.4 Overall, Wal-Mart stores in the United States are as follows:

Wal-Mart is a fast expanding retail company with locations all over the world. Figure 5 depicts the total number of Wal-Mart locations globally in 2019. Various reasons are debated in the open literature as to why the Wal-Mart Corporation's expansion is accelerating dramatically. When many countries were struggling with bar code awareness, the Wal-Mart Corporation went ahead and successfully adopted them. The Wal-Mart Corporation initially announced its desire to integrate RFID technology into supply chain management in June of 2003, and many suppliers were unaware of this until January of 2005. While the plans called for enforcement from the top 100 suppliers, around 129 suppliers stepped into the fight, fearful of being left behind in the pursuit. The RFID technology was first investigated in 1969 and awarded a patent in 1973, after which the Wal-Mart Corporation received a request for its introduction after a 30-year wait. Although there are high expectations, RFID technology is still in its infancy[8].

1.5 Globally, the following are the largest retailers.

As illustrated in Figure 6, there are many major stores across the world, including Amazon, Walmart, Costco, and many more. Wal-Mart is one of the largest retail companies in the world, according to a study done in the year 2020. According to the poll, Amazon came in second place. The flexibility of the newest technology, like as robots and RFID, is the secret to these companies' success. These companies are quickly extending their operations throughout the globe. The producers' constant struggle to get the appropriate goods to the right retailer is the greatest problem in the contemporary world, according to different studies from across the globe during the past decade.

RFID and robotics technologies are a realistic option for resolving this problem, such as reducing inventory stages as well as distribution or managing total expenses by immediately providing the necessary real-time data. The most recent technology, such as RFID and robots, are more flexible and appropriate for improving the supply chain management of the world's top retailers, such as Wal-Mart, Amazon, and other major businesses. Amazon's top rivals throughout the globe. This table shows the headquarters and yearly income of the different top-ranked companies.

1.6 Commonalities in the Supply Chains of Wal-Mart or Amazon.com:

Wal-Mart but instead Amazon.com are two very distinct businesses. Wal-Mart is the world's biggest retailer, with thousands of retail outlets where consumers may choose products from shop shelves to buy. Amazon.com is the world's biggest online retailer, delivering products to individual consumers from its own distribution facilities and partner stocks. Despite their differences, Wal-Mart as well as Amazon.com both use the same supply chain management concepts to support their business objectives. Wal-Mart and Amazon.com both emphasize the one-stop shopping experience, whether it's via on-shelf availability in stores or having goods ready for delivery to online retail consumers through their distribution networks. In order to encourage growth, the two businesses also concentrate on operational efficiency to reduce expenses and then pass those savings on to consumers. They also recognize the value of profiling in balancing supply chain efforts to reduce costs while maintaining a high level of service. Finally, their supply chain's success is attributed to their capacity to utilize scale through using IT capabilities for improved visibility and efficient process enablement, vendor cooperation efforts, and the ability to exploit scale. These themes demonstrate that, despite the fact that Wal-

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Mart as well as Amazon.com have distinct operating models, supply chain themes such as onshelf availability, operational efficiency, process profiling, partner cooperation, IT capabilities, or leveraging scale are shared by both businesses.

2. LITERATURE REVIEW

Nair et al. studied about The goal of this review paper is to look at Amazon's position in the retail sector, which it has acquired mainly via high-level supply chain or logistical innovations. It covers Amazon's supply chain methods as well as a slew of new products and services, including anticipatory shipping, Amazon's Chaotic Storage Model, and Amazon's Logistics Network Plan. Constant innovation in the supply chain has more broad and important long-term impacts on business performance than high profit numbers, it becomes clear. When comparing Amazon to Walmart and other comparable businesses, it becomes clear that Amazon's supply network is more varied, indicating that Amazon and its supply chain integrate many of the services provided by rivals. Amazon's production line may be characterized as having efficient and flexible inventory control, quick delivery fulfillment, successful partner partnerships, smart acquisitions of supporting technologies and businesses, and a high degree of customer care. The findings of this review article may be used to guide future research into Amazon's further comparative advantages, as well as how possible threats and weaknesses in the supply chain may be addressed[9].

Mujtaba et al. conducted research on Wal-Mart is one of those businesses that has been affected by change at all levels as it conducts business and expands its operations across the world. Wal-Mart has also benefitted significantly from strongly held global ideals, philosophies, and managerial methods that have helped it succeed in a variety of nations. This business has become the envy of every big organization in the globe in a matter of approximately forty years. This case discusses how Wal-Mart has achieved such tremendous success, as well as its best practices in the worldwide retail sector, international growth trends and difficulties, and different lessons gained through its international development. The case focuses on delivering consumer value via cheap pricing, technology, and an organizational culture that values learning[4]. Amazon has one of the most complex supply-chain systems around the world, and it was developed from the ground up, according to Bacheldor et al. Warehouse management, freight forwarding, incoming and outgoing shipping, demand predictions, inventory planning, and more are all handled by homegrown programs. Amazon has sought to reduce the need for human involvement in its supply-chain operations, such as manually entering sales predictions into an inventory-management system, during the past four years. When most businesses have to combine a number of software tools as well as manual procedures, such as phone and fax orders, Amazon's supply-chain applications interact in real time, which is a rarity[10].

3. DISCUSSION

In the same way, Wal-Mart and Amazon.com are rivals. These companies prioritize variety, convenience, or affordability. Despite their techniques being similar, Wal-operational Mart's goal is supply chain efficiency to reduce costs and promote their everyday low price (EDLP) strategy. Amazon. com's primary goal is to provide a high level of service in which consumers can always find what they're searching for and select the amount of delivery and price they're willing to spend. Furthermore, distinct supply chain architecture and processes are required to support Wal-Mart and Amazon.com's varied operating models. Wal-investments Mart's in information services and equipment, vendor relationships, and commitment to process efficiency via product

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

profile research all contribute to the company's efficiency, service, and asset utilization goals. Amazon.com offers a wide range of products, convenience, and a low price by utilizing its scale, breadth, and service via new operating models, partnerships, and supply chain process efficiency. Both of these companies achieve supply chain excellence by focusing their supply chain activities on specific goals that support and reinforce their long-term competitive business strategy. In the contemporary world, technologies play a very important and vital part in the growth of companies. The enormous commercial development of well-known companies such as Wal-Mart, Amazon, and others is largely dependent on cutting-edge technology like as robots and RFID. These technologies are gaining popularity across the world owing to their simplicity of adaptation in a cost-effective way.

4. CONCLUSION

Nowadays, company development is largely dependent on companies' capacity to adapt to new technology. New technologies are being used by a variety of top-ranked companies in the twenty-first century, such as Amazon and Wal-Mart, to grow their operations in the most efficient and pragmatic way possible. This article offers a comprehensive review of the newest technology, such as RFID and robots, as well as their benefits for addressing a variety of supply chain management problems. This case study offers a comprehensive literature analysis on Wal-Mart and Amazon, as well as current supply chain management issues and how the newest technology improves supply chain management globally in less time. Furthermore, this report discusses the success of Walmart shops and how many were opened globally between 2008 and 2020. Various researchers have studied a variety of technologies over the last decade, such as RFID or robots, but there is a great potential to study more in this area to address the current supply chain management challenges.

REFERENCES

- **1.** A. D. Smith, "Exploring radio frequency identification technology and its impact business systems," Information Management and Computer Security. 2005, doi: 10.1108/09685220510582647.
- **2.** E. L. Plambeck, "The Greening of Wal-Mart's Supply Chain," Supply Chain Manag. Rev., 2007.
- **3.** Statista, "Worlds largest retailers," Statista, 2012.
- **4.** B. G. Mujtaba and S. Maxwell, "Wal-Mart In The Global Retail Market: Its Growth And Challenges," J. Bus. Case Stud., 2007, doi: 10.19030/jbcs.v3i2.4837.
- **5.** T. T. Ha Nguyen, "Wal-Mart's successfully integrated supply chain and the necessity of establishing the Triple-A supply chain in the 21st century," J. Econ. Manag., 2017, doi: 10.22367/jem.2017.29.06.
- **6.** Yieldify, "Yieldify," 2010.
- **7.** C. O'Connor, "Wal-Mart Vs. Amazon: World's Biggest E-Commerce Battle Could Boil Down To Vegetables.," Forbes.com, 2013.
- **8.** L. XU, Q. XU, and X. LIU, "Wal-Mart and Carrefour's Supply Chain Management Strategies in China," Int. J. Bus. Manag., 2014, doi: 10.5539/ijbm.v9n7p155.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **9.** S. V Nair and Sharanaya, "Supply Chain Management System of Amazon," Int. J. Latest Technol. Eng. Manag. Appl. Sci., 2018.
- **10.** B. Bacheldor, "From Scratch: Amazon keeps supply chain close to home," InformationWeek, 2004.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REVIEW ON SOCIAL MEDIA AND HIGHER EDUCATION

M.P. Singh*

*Professor,
Department of Education, Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA
Email id: studentswelfare@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02668.9

ABSTRACT

The purpose of this article is to examine empirical studies on the usage and impact of social media in higher education. The use of social media has been gradually growing in recent years. The bulk of the study, on the other hand, focuses on students' perceptions of social media's impact on learning. There is currently a scarcity of research on the impact of social media on student performance and teacher views. The empirical studies that included the use of social media is increasing in the computer area were the subject of this literature review. As a consequence of the literature evaluation, recommendations for future study paths were given.

KEYWORDS: Faculty, Higher education, Social media, Student learning, Studies.

1. INTRODUCTION

Over 70 percent of internet adults currently use a social networking site of some sort, according to the rise in popularity of social media sites over the past several years. Many social networking site customers have multiple accounts and check them numerous times each day. Educators have questioned the use of social media in higher education, despite the fact that it has been extensively embraced by many users. Although many professors in higher education use social networking sites for professional purposes, many are hesitant to use them for teaching and learning. Furthermore, despite having greater expertise with technology, computer faculty members have used social media for educational reasons at a lesser rate than faculty in other areas such as Humanities and Arts, Professions and Applied Sciences, and Social Sciences[1]

Web 2.0 (also known as the "social web") has attracted a lot of interest for teaching and learning because of its numerous advantages, including such social networking and consumer content. Over the past several decades, learning models have evolved from conventional classroom settings to include online learning, e-learning, collaborative learning, and a variety of hybrid forms. This transition denotes a movement away from instructor-led and instructionally learning settings toward learner-centered learning environments that emphasize knowledge production and development rather than information transmission.

Web 2.0 applications including such social networks, wikis, blogging, and micro blogging appear to be well suited for beginner environments at first glance, but a closer examination uncovers that the adoption of Web 2.0 devices and services in university education learning lags behind the overall adoption of Web 2.0 technologies. Many faculty members perceive limits and possible issues with the use of online and interactive technology in higher education, despite the fact that approximately 90% of young people (18-29 years old) use some kind of social

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

networking site. According to a study, 56% of faculty members believe that internet and mobile technology are more distracting than beneficial to students when it comes to academic work[2].

Several studies have looked at how social media is used in higher education, with many focusing on how students utilize Facebook in their classes. Although Facebook continues to win the social media scene and is popular across a wide range of socioeconomic profiles, other sites have grown in popularity, and many users now utilize several networks. However, because of Facebook's popularity, many instructors have begun to incorporate some of its features into their classrooms. According to several researches, it is a responsibility to educate students for the challenges they will face after they graduate from college and join the workforce. Other research looks at the link between social networking and informal and formal education. The diversity of choices and resources accessible via social networking may enable this kind of situational learning. Learning in a constructivist setting focuses on the individual learner and the situational context in which learning happens. Students with a variety of backgrounds, learning styles, and preferences may choose the resources that best suit their needs. Furthermore, these technologies have the potential to increase student involvement, which will help to establish and sustain a group of experts. Several studies concentrate on pedagogy, learning outcomes, or instructional methods are emerging. The majority of the studies are experimental studies investigating specific social networking tools (e.g., MySpace, Facebook, Twitter) in specific settings (e.g., business education, communication, medical school). To far, there has been minimal discussion of certain practical issues that instructors may have when incorporating this technology into the higher education learning process[3].

The rapid speed of technological development, as well as privacy and security issues, intellectual property, accessibility for students with impairments, and increasing workload for instructors, have received little attention. Many instructors are worried about some apps' short lifespans. For example, MySpace, which was formerly the most popular social networking site among young people, is now virtually non-existent on the list of social networks utilized by this demographic. Furthermore, it has lately resorted to mass-mailing former users in an attempt to persuade them to renew their still-active accounts Most of young people have also moved on from Facebook to certain other social networking sites, are active on several sites, and only visit their favorite site on a regular basis[4].

2. DISCUSSION

This article tried to examine certain empirical results that were discovered throughout the literature review. The research indicates some indication of progress in higher education in learning computer related topics when it comes to the issue of whether social media leads to any improvement in learning computing related courses. Although the empirical study's ability to collect objective data to demonstrate learning improved performance is severely limited, student self-reported data suggests that SNS use in higher education has a promising future. Furthermore, according to the literature, careful didactical consideration is required to ensure the effective use of SNS. More investigation, on the other hand, is unquestionably required. Research papers and survey data have identified the quality directly affects benefits associated with the use of social media in higher education for learning computing related subjects.

Better social support, greater retention rate via peer support, and standards established interaction were among the advantages noted. However, the empirical research also revealed that the usage of social media may have a detrimental effect on students' learning engagement. Students and

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

faculty members had comparable responses when asked about the perceived advantages of using social media in higher education for studying computing-related topics. Students love SNS activities because they believe it would enhance their interaction and desire to study. Faculty members appreciate the potential of improving dissemination and access to mentor or produced learning material via the use of SNS in addition to the advantages highlighted by students. The literature review did not reveal the specific concerns of computer faculty members[5].

However, a review of the literature reveals a list of possible concerns that are shared by the majority of faculty members. Faculty members, like students, are concerned about security, privacy, and the performance of the site/tool they are using. Furthermore, when it comes to using social media for learning, faculty members are worried about the problem of work load, the difficulties of performance assessment and monitoring, and the necessity for rigorous pedagogical design. Because of their knowledge with the technology, faculty members in the computer area may be more worried about the potential distraction of SNS and its security concerns. However, this has not been documented in the literature, and further research is required[6].

1. Student Perspectives:

The majority of the research looked at students' views on utilizing social media for educational purposes, using different social media platforms including Facebook, Blogs, Wikis, and in-house social network technologies, among others. The most commonly utilized site for the research was Facebook. This is in line with the results of Pearson's study on social networking for teaching and learning. Based on surveys of 191 students in use of Facebook for a closed group conversation, Gonzalez-Ramirez, Gasco, and Taverner reported that students' perceived weaknesses of Facebook in teaching included privacy issues, time required, and technical deficit; whilst also potential strengths predicted by students include achievement, communication, participation, and analytic ability. The most commonly examined variables were students' perceptions of the tool's use and their learning outcomes.

2. Student Perceived Learning Experience:

Many scholars performed exploratory order to examine the students' perceived learning experience in order to examine the effect of social media in higher education settings. Veletsianos and Navarrete examined students' perceptions of their learning experience in an online course using Elgg as the online social network. Overall, the kids said they liked the event. When asked to compare their experience utilizing a social networking site (SNS) for class purposes to their prior experience using conventional learning management systems (LMS), the majority of the students preferred SNS over LMS. However, when they looked into how kids were using the program, they discovered that they were only utilizing it for course-related and graded tasks, with minimal usage for social networking and sharing. Furthermore, students wanted greater assistance in controlling the quantity of information available on SNS, indicating the risk of information overload while using SNS. While social networking sites offer additional methods to communicate and the opportunity to access more information, several students stated that they struggled to locate and classify content for future retrieval. All of their results, however, were based on students' self-reported use and impression. There was no research into how pupils actually used the site[7].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Unfortunately, although most prior research has shown increases in students' perceptions of learning and social support, there have also been reports of detrimental effects. Junco, for example, performed a study to look at the relationship between Facebook usage and student involvement in learning. Students' involvement was shown to be negatively correlated with their self-reported frequency of Facebook usage. According to self-reported statistics, there is a negative correlation between the frequency with which students engage in Facebook chat and the amount of time they spend preparing for class. This result seems to be in line with the findings of Ozmen and Atici, who found that excessive usage of chat may be a learning distraction since it diverts time that could have been spent studying[8].

3. Academic Success of Students:

Unlike studies of the effect on students' perceptions of learning, actual learning outcomes were not examined as thoroughly. In a case study performed by Laru, Naykki, and Jarvela, 21 students worked in groups of four to five for 12 weeks to finish a wiki project. ShoZu, Flickr, Google Reader Mobile, Wordpress.com, Wikispaces, Feed Blendr, and Feed Burner RSS were among the social media technologies presented to the pupils. Video recordings, social software activity, and pre-and post-tests of students' conceptual comprehension of the contents were used to collect data. A comparison of the pre- and post-conceptual knowledge exam results revealed an increase in test scores. Looking at the connection between real activities and learning outcomes in more depth, the researchers discovered that a higher degree of wiki-related activities was an indicator for predicting the students' better results.

Hernandez et al. perform a study to see how various technologies supporting students' learning and perceptions of interaction affected their learning and perceptions of interaction. The students were divided into groups that utilized Facebook, Google Docs, or an LMS discussion forum with wiki-style document creation and wall/comment features. The number of messages posted was greater in SNS compared to those using conventional LMS forums, the time between postings was shorter in Facebook compared to the general population, and groups using Facebook also reported higher levels of perceived engagement. The end outcome, however, was the same for all groups [9].

4. Student Social Media Usage Pattern:

In addition to the possible effect of social media on learning, the patterns of postings in various tools were examined. Maleko et al. presented their results based on a case study that compared students' use of Facebook and Blackboard. They found that Facebook postings were distinct in that they were focused on expressing discontent, course administration, encouragement, conversations outside of programming, and general guidance, while Blackboard posts were more focused on community building and questions to the lecturer.

Furthermore, when no authoritative person was present, pupils indicated preferring to utilize Facebook for learning assistance. After students completed an online instruction on how to use the wiki, Kear et al. performs a survey after they were instructed to utilize an in-house wiki to co-edit a document. They gathered statistics on pupils' wiki use over time. Although kids learned how to utilize wiki, the authors found that usage declined with time. They discovered that the students were dissatisfied about modifying other students' work after additional investigation using the survey instrument. When asked to choose between a wiki and a conventional discussion forum for this type of collaboration, students chose the forum over the wiki[10].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

5. Faculty Opinions:

In contrast to students' perceptions, faculty perceptions of the usage of social media for educational purposes are varied. According to a study done by Pearson, one of the reasons why faculty members do not include SNS into their teaching is that they see it as a distraction. Faculty members had different views than students, according to Roblyer et al. They discovered that as compared to email, students are more willing to utilize Facebook for communication. Traditional technologies, such as email, were used more often by faculty members. Regarding the employment of Web 2.0 technology for learning, Brown conducted a poll and a follow-up the most in interview with faculty members. Faculty members' answers suggested that encouraging active student involvement, as well as improving distribution and access to mentor or produced learning material, are possible advantages[11].

6. Concerns of the Faculty:

Faculty apprehension about using SNS in the classroom may be justified by the issues raised in earlier research. Slight misalignment between both the increasing amount of cooperative group work anticipated and ongoing individual assessment, no "added Social Media and Higher Education: A Literature Review 101 value" to learning, and far too many constraints (due to university policy) are among the major concerns expressed by faculty members, according to Brown. In addition to the above-mentioned problems, the performance of the SNS utilized, difficulty in marking and monitoring students' work, and work issues are among the complaints expressed by teaching staff members, according to Kear et al.

3. CONCLUSION

Despite the fact that the literature study indicates that social media may be used for educational purposes, the technology's application is currently restricted, and there are few controlled assessments 102. In-depth investigations in education settings have already been performed by Y. Wang and G. Meiselwitz. First, additional empirical research is required to determine the real "added" advantages of SNS vs conventional LMS usage. One of the main flaws in the existing research is that the majority of studies utilized self-report data to investigate the impact of technology. As a result, the real application and teaching effectiveness should be handled and explored further. Although computer faculty members may be more knowledgeable about technology than faculty in other fields, their use of social media is behind. Is there a particular explanation for this? Is it because the nature of the subject makes it difficult to explain in text? Is it because faculty members are more concerned about security? To solve this problem, further research is required.

REFERENCES

- **1.** A. J. Lenartz, "Establishing guidelines for the use of social media in higher education," Cutting-Edge Technol. High. Educ., 2012, doi: 10.1108/S2044-9968(2012)0000005018.
- **2.** C. Guerin, S. Carter, and C. Aitchison, "Blogging as community of practice: lessons for academic development?," Int. J. Acad. Dev., 2015, doi: 10.1080/1360144X.2015.1042480.
- **3.** N. Merrill, "Social media for social research: Applications for higher education communications," Cutting-Edge Technol. High. Educ., 2011, doi: 10.1108/S2044-9968(2011)0000002005.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** C. E. (Catherine) Lee, S. K. V. Sooria, and S. P. Wong, "Exploring the use of Facebook in the Classroom: A Malaysia Case Study," Proc. 2Nd Eur. Conf. Soc. Media (Ecsm 2015), 2015.
- **5.** B. Mcewan, "Managing boundaries in the Web 2.0 classroom," New Dir. Teach. Learn., 2012, doi: 10.1002/tl.20024.
- **6.** E. Kowalik, "Engaging alumni and prospective students through social media," Cutting-Edge Technol. High. Educ., 2011, doi: 10.1108/S2044-9968(2011)0000002014.
- 7. N. Ford, M. Bowden, and J. Beard, "Learning together: Using social media to foster collaboration in higher education," Cutting-Edge Technol. High. Educ., 2011, doi: 10.1108/S2044-9968(2011)0000002009.
- **8.** A. Purvis, H. Rodger, and S. Beckingham, "Engagement or distraction: the use of social media for learning in higher education," Student Engagem. Exp. J., 2016, doi: 10.7190/seej.v5.i1.104.
- **9.** S. Zhang, C. Flammer, and X. Yang, "Uses, challenges, and potential of social media in higher education: Evidence from a case study.," Cutting-edge social media approaches to business education: Teaching with LinkedIn, Facebook, Twitter, Second Life, and blogs. 2010.
- **10.** N. Li, S. El Helou, and D. Gillet, "Using social media for collaborative learning in higher education: A case study," in ACHI 2012 5th International Conference on Advances in Computer-Human Interactions, 2012.
- **11.** E. Bogdanov, F. Limpens, N. Li, S. El Helou, C. Salzmann, and D. Gillet, "A social media platform in higher education," in IEEE Global Engineering Education Conference, EDUCON, 2012, doi: 10.1109/EDUCON.2012.6201105.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE ART OF JEWELERY-MAKING IN ANCIENT KHOREZM

Oydin Sobirjanovna Kambarova*

*Docent.

Head of the Industrial Design Department,
Tashkent State Technical University, Republic of Uzbekistan,
Tashkent, UZBEKISTAN
Email id: kambarova.oydin@mail.ru

DOI: 10.5958/2249-7137.2021.02731.2

ABSTRACT

The article analyzes the centuries-old history of the development of the jewelry art of Khorezm. The evolution of his artistic style is considered in the context of the aesthetic and ideological principles of a particular historical period, in close connection with material and spiritual culture.

KEYWORDS: Products, Jewelry, Bracelet, Color, Fabric, Coral, Plate, Helmet.

INTRODUCTION

Long-preserved and consistent shape of old jewelery items is one of important specificities of Khorezmian jeweler's art. For many centuries craftsman and their fathers, and wives and daughters assisted men this trade. In 1830s—1840s the most developed craft if Khiva was jewellery naking, also known as "the mastery of gold and silver smithery " (1, p 49). In 1850s-1860s among Khiva's quarter mosques were those named after craftsmen, such is Klychbai mosque, the "catchment" area of which was a quarter with nine households. The 1860 list of Khiva craftsmen included twelve jewelers (2, p.37). The decor of the 19th century jewelery was diminated by vegetable ornament, yet geometric and zoomorphic motifs were also used. Jewelery items can be conventionally divided unto severel groups: headpieces, forehead and temple pieces, forehead pieces, forehead-temple-neck pieces, temple pieces, pieces for hair plaits , nose , ears, neck , chest , shoulders, armpits, girdle and arms. These items were put together in sets worn at a certain age and in different situations (3, p79). The concept of a "set" usually did not correspond with the concept of "ensemble". Some items were made to order , some were inherited.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Materials

Most favoured jewelery item of Khorezmian women is shokila that consists of several elements a diadem with lots of pendants decorated with enamel of many colors; temple pendants, two or three necklaces of different length worn under the chin, on the neck and chest. At the end of the 19th century these items get separated, and a separate temple-chest piece, just as a forehead-temple piece, is also called shokila (3, p.110).

On Photograph 1, a girl sitting on the left hand side, wears a temple ple-chest shokila, and both girls wear chest peshkhalta, the evidence of their belonging to the well-to-do class. Shokila is wrough in a more modest fashion its chains consist of elements in the shape of numerial 8, attached to which are short pendants made of coral and stamped "grain" beads. Hanging from the sides are large filigree globes. Pendants were resplendent and known as guza, which means nut or ripe fruit.



The first description of shokila jewelery is found in the work by first lieutenant D. Gladyshev and land surveyor I. Muravin from the Russian Embassy, who is visited Khiva in 1740 - 1741. This is the mentioning of shokila of the Aral people, the northern group of Khorezmians, descendants of ancient Turkie nomands and Uzbeks of Dast-i-Kipchak orgin who joined sedentary farmers mostly in 15-16 th centuries.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



As noted by P. Ivanov, Khorezmian women "wear on their heads Kasavai, which are made round, glued with a canvas; sewn to this kasavai are some shevkalo made of pearls and maryan on threads; some have half-grains, and sewn to a glued canvas and when she puts it on, these shevkalo he over her cheeks, and are tied under the chin " (2. p.587).

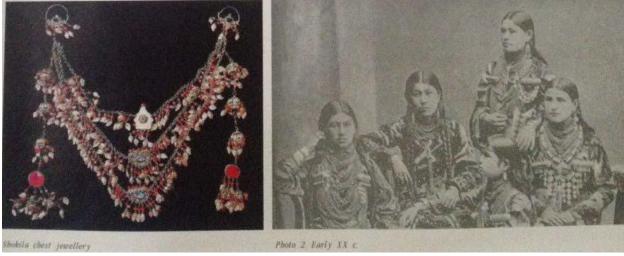
A girl on the right (photo 1) wears Khorezmian jewelery Peshkhalta, three layers of beads covering her neck, and Bukhara jewelery called jevak-Peshkhalta consists of centre piece - a larger cupola festively ornamented with chased and stamped design. Attached to the lower rim of the cupola there are many long, heavy chains alternating with corals and festive globes. Between the pendants there are four richly ornamented little cupolas, and hanging

from each of them thre are also pendants and eight cupolas.

Usually jewelers attached smaller elements to the larger elements of pendants jewelery looked very rich. From the bottom they attached from four to ten keys, sometimes identical and new. It was clear that nothing was open or locked with those keys. These were the keys to non-existant chest.

A. P. Khoroshkin noted. "Neck, and bosom are trimmed with a wide, predominantly black, silk or cotton ribbon with fringe at the waistline. To this fringe women of fashion attach keys from the chest that exist only in their imagination"

The jevak in three layers worn by the girl in Picture 1 is wrought following the Bukhara school of jewelery-making art. It was a festive and colourful piece of jewelery. It was a festive and colourful piece of jewelery, It was made either short or very long. with multiple layers. The stringing consisted of corals, lal, beryls, pearls and interim elements stamped as barley grains or other shapes, as well as medalhons in the form of blooming lotus flowers (medicinal herbs) (3. p.133).



The most senior of the five concubines in Picture 2 wears the smallest number of coral threads:

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

four by three layers. The others have several dozens of them, covering their necks from chin to collarbones and chest, reaching their waistline. Reasons could be any but aesthetic. It was believed the "against barrenness women wear necklaces of amber and small coins, as well as corals and cloves, to preserve their beaty and good complexion they put on only amber necklaces, and to keep a husband faithful a necklace of coral alone is worn." Besides, the four girls wear kush-namor and tanga-jevak jewlery made following a method developed in Surkhandarya school of jewler's art Kush-tumor pieces were mostly manufactured by masters from Tashkent and Samarkand. Every concubine has differently styled rings and earrings the youngest of them has kashgar-baldok earring of Fergana jewelery school, while the other wears oyna-zirak of the Tashkent school, perhaps this is an indication that the concubines came from different regions of Central Asia.

CONCLUSION

The basis for positioning pieces of jewelery came from an established custom of protecting woman's body from evil powers (3, p.131) Coral nackleces were worn by women not only in Khorezm, but also in Tashkent. The number of gems depended on the woman's economic situation. Apart from that , jewelery was apparently meant to highlight ethnic background of its owner.

D. A. Fakhretdinova noted that in the past, jewelery items performed socio-economic function, serving as visual indicator of a person's hierarchical and material situation in society. Not less important was their alethic function the expression of people's tastes, their worldviews and understanding of harmony and beauty, which delight a human being" (3).

REFERENCES

- 1. Ivanov MN. Khiva and the Amu Darya River St. Petersburg, 1873.
- **2.** Ivanov PP. Archive of Khiva khans of the XIX century. Leningrad: State Library, 1940. 289 p.
- **3.** Fakhretdinova DA, Art of jewelry in Uzbekistan, Tashkent, 1988.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

TESTING THE HUMAN PAPILLOMAVIRUS IN THE PRIMARY SCREENING OF THE CERVICAL DISEASE

Doniyorbek Shuxratbekovich Khasanov*; Dilfuzahon Zakirzhanovna Mamarasulova**

* PhD, Docent,

Department of Oncology and Medical Radiology, Andijan State Medical Institute, Andijan, UZBEKISTAN

**Associate Professor,
Doctor of Medical Sciences,
Department of Oncology and Medical Radiology,
Andijan State Medical Institute, Andijan, UZBEKISTAN
Email id: dilya2580559@gmail.com

DOI: 10.5958/2249-7137.2021.02740.3

ABSTRACT

This article discusses the issues of HPV testing by cytological screening. The combination of cytology and HPV testing is considered the mainstay of screening. These methods complement each other since cytological examination has high specificity, but low sensitivity, while HPV testing, on the contrary, is characterized by low specificity and high sensitivity.

KEYWORDS: Cervical Cancer, Screening, Cytology.

INTRODUCTION

Human papillomavirus (HPV) is a DNA virus that infects epithelial cells. More than 200 types of HPV are isolated, which clinical manifestations of infection with which range from asymptomatic, the development of simple papillomas and genital warts to squamous cell and invasive carcinomas of the mucous membranes. All types of HPV are divided into 3 groups according to oncogenic potential:

- Non-oncogenic, i.e. not capable of causing the development of a tumor;
- Optionally oncogenic or with low oncogenic potential, capable of causing the development of neoplasia under certain conditions;
- oncogenic, with a high risk of developing tumors, including invasive cancer.

The probable mechanism linking HPV infection and the development of cervical cancer is the ability of the virus to epigenetically inhibit the tumor suppressor gene [1, 2, 6, 8] and disrupt the regulation of mitotic activity of cells, affecting the G1 phase of the cell cycle [1, 3] by methylation of cell DNA [4, 7, 9]. Also, HPV, like other viruses, penetrating into the cells of the immune system, trigger methylation of signaling proteins, changing their informative function and disrupting a complex cascade of interactions of specific immunity effectors [12, 15, 10].

The prevalence of HPV is up to 40% in the general population, peaks between the ages of 14 and 30, when transient HPV infection predominates, and decreases with age. Among patients with cervical cancer, the incidence of HPV is 99.7% [1, 2, 5].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Primary screening programs in many countries are now reorganizing towards high-risk HPV testing (hrHPV), especially in women over 30 years of age.

Advantages and disadvantages

The use of hrHPV tests as the primary screening for cervical cancer has several advantages. Randomized controlled trials and meta-analyzes of randomized data demonstrate level of evidence A that the HPV test has a higher sensitivity and negative predictive value in detecting advanced stages of the disease compared to cytological research. Screening based on HPV is 60-70% more informative in terms of detecting invasive cervical cancer in women over 30 years old compared to cytology [3, 7, 6]. This advantage is especially pronounced for glandular lesions. Higher sensitivity allows the inter-screening interval to be lengthened: usually 5 years in case of a negative result, compared to 3-5 years and even more often for cytological screening. vrHPV is an objective test with high inter- and intra-variability. The test can be carried out in centralized laboratories to ensure quality control. Also, the test requires practically no special technical skills to assess the result. This reduces the requirements for staff, in particular the presence of a cytopathologist with specific skills that require periodic retraining and re-certification, hrHPV test allows to reduce the number of unsatisfactory screening results, it is possible to independently collect material with a sensitivity comparable to a medical procedure, with a slightly lower specificity. Self-collection of material is a good alternative for countries with a low level of healthcare organization, as well as for women living in remote and hard-to-reach regions [13, 7].

The main disadvantage of the hrHPV test is its very low age-dependent specificity compared to cytological examination, since the test can detect transient HPV infection without real carcinogenic potential [2, 5, 10]. The use of hrHPV in women under 30 years of age as a primary screening is not recommended, due to the high incidence of hrHPV infection in this group of women [9, 8]. In addition, HPV has an oncogenic potential for all epithelial tumors; therefore, its specificity in terms of cervical cancer is low [11, 15]. To increase the specificity and minimize the need for colposcopy, "key" tests are needed to detect an infection that tends to persist and is associated with carcinogenesis [13, 1]. The cost of HPVH, which was initially high, is now significantly reduced; in some regions, during tenders, it has reached a lower level than cytological examination. A cost-benefit study has shown that primary screening using the h-HPV test is more cost-effective than screening based on a cytological study, since the high cost of h-HPV testing is balanced by its high sensitivity and safe lengthening of inter-screening intervals [16, 15, 2]. A positive HPV test can have negative psychological consequences due to cultural and religious factors [4, 17].

Kits for vaginal h-HPV DNA determination can be used by women on their own, which makes screening affordable for women who do not participate in regular screening programs. Meta-analyzes demonstrates that self-sampling using PCR kits has the same accuracy as a medical sampling procedure [14, 12].

Characteristics of HPV tests

Most HPV tests are based on PCR (except Hybrid Capture 2 and Cervista). Most PCR tests use viral DNA amplification (except APTIMA, which amplifies RNA). Most tests identify 13 types of HPV with a high carcinogenic risk, in particular, the risk of cervical cancer. Most tests have comparable sensitivity and specificity characteristics.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Which hrHPV test to use

In the course of screening programs, it is preferable to use hrHPV tests with clinically proven reproducibility, high sensitivity for CIN2 +, CIN3 + and minimal, clinically insignificant sensitivity for detecting transient HPV infection. Processing and analysis of the collected sample should be carried out in a high-tech laboratory, accredited by the relevant authorities, equipped and operating in accordance with international standards [14, 3]. A laboratory involved in the cervical cancer screening program must conduct at least 10 thousand tests per year [11, 18].

By December 2019, 253 commercial alpha HPV tests and 452 variants of the original tests were available in the world [8, 10, 9]. However, more than 60% of the developed tests have no confirmed diagnostic sensitivity and are not reflected in refereed presumed publications [13].

Since there are many test options available, it is important to regularly evaluate them for use in screening programs. A recent systematic review [12] has listed hrHPV VLK tests that have been validated and validated in randomized trials that have shown a low incidence of cervical cancer in women with negative test results [11, 10], or meet equivalent international criteria based on cross-sectional analysis of data [9, 16]. International criteria are based on a comparison of the sensitivity of new HPV tests and one or two "standard" comparison tests (GP5 + / 6 + PCR-EIA or HC2) using the same molecular markers (in particular, hrHPVDNA). Tests are considered to be eligible if they demonstrate results that are not lower than standard tests.

By December 2019, a sufficient number of developed commercial tests have been validated for use as components of cervical cancer screening programs.

REFERENCES

- **1.** Abdumutalibova SK, Mamarasulova DZ, Ishanchaeva NQ, Nabijonova GKh. Etiology and diagnosis of benign breast diseasesand their relationship with diseases of thereproductive systeminfertilizedwomen. ACADEMICIA: An International Multidisciplinary Research Journal. 2021;11(9):947-952.
- **2.** Arbyn M, Ronco G, Anttila A, Meijer CJ, Poljak M, Ogilvie G, et al. Evidence regarding human papillomavirus testing in secondary prevention of cervical cancer. Vaccine. 2012;30:88–99.
- **3.** Bains I, Choi YH, Soldan K, Jit M. Clinical impact and cost-effectiveness of primary cytology versus human papillomavirus testing for cervical cancer screening in England. Int. J. Gynecol. Cancer 2019; ijgc-2018-000161
- **4.** Carestiato FN, Afonso LA, Moyses N, Almeida Filho GL, Velarde LG, Cavalcanti SM. An upward trend in DNA p16ink4a methylation pattern and high risk HPV infection according to the severity of the cervical lesion. Rev Inst Med Trop Sao Paulo. 2013;55(5):329–334.
- **5.** Mamarasulova D, Abduhakimov A, Tursunov D, Urmanbaeva D, Jalolov O, Isaev Z. Comparative Analysis of the Mortality Structure among the Population of Andijan Region for 2016-2018. J. Cardiovasc Disease Res., 2020;11(2):01–03.
- **6.** Meijer CJ, Berkhof J, Castle PE, Hesselink AT, Franco EL, Ronco G, et al. Guidelines for human papillomavirus DNA test requirements for primary cervical cancer screening in women 30 years and older. Int. J. Cancer. 2009;124:516–520.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **7.** O'Connor M, O'Leary E, Waller J, Gallagher P, Martin CM, O'Leary JJ, et al. Socioeconomic variations in anticipated adverse reactions to testing HPV positive: implications for the introduction of primary HPV-based cervical screening. Preventive Med. 2018;115:90–96.
- **8.** Poljak M, Kocjan BJ. Commercially available assays for multiplex detection of alpha human papillomaviruses. Expert Rev. Anti Infect. Ther. 2010;8:1139–1162.
- **9.** Ronco G, Dillner J, Elfstrom KM, Tunesi S, Snijders PJ, Arbyn M, et al. Efficacy of HPV-based screening for prevention of invasive cervical cancer: follow-up of four European randomised controlled trials. Lancet. 2014;383:524–532.
- **10.** Rebolj M, Rimmer J, Denton K, Tidy J, Mathews C, Ellis K, et al. Primary cervical screening with high risk human papillomavirus testing: observational study. BMJ. 2019;364:1240.
- **11.** ASCUS-LSIL Traige Study (ALTS). Group. Results of a randomized trial on the management of cytology interpretations of atypical squamous cells of undetermined significance. American journal of obstetrics and gynecology. 2003;188:1383–92.
- **12.** Schwarz TF, Galaj A, Spaczynski M, Wysocki J, Kaufmann AM, Poncelet S, et al. Ten-year immune persistence and safety of the HPV-16/18 AS04-adjuvanted vaccine in females vaccinated at 15–55 years of age. Cancer Med. 2017;6:2723–2731
- **13.** Torres KL, Marino JM, Pires Rocha DA, de Mello MB, de Melo Farah HH, Reis R, D. S, et al. Self-sampling coupled to the detection of HPV 16 and 18 E6 protein: A promising option for detection of cervical malignancies in remote areas. PLoS ONE. 2018;13:e0201262.
- **14.** Tsuda H, Hashiguchi Y, Nishimura S, Kawamura N, Inoue T, Yamamoto K. Relationship between HPV typing and abnormality of G1 cell cycle regulators in cervical neoplasm. Gynecol Oncol. 2003;91(3):476–485.
- **15.** Wright TC, Jr, Massad LS, Dunton CJ, Spitzer M, Wilkinson EJ, Solomon D. 2006 consensus guidelines for the management of women with abnormal cervical screening tests. Journal of lower genital tract disease. 2007;11:201–22
- **16.** Yakubbekova SS, Israilov RI, Mamarasulova DZ, Azizov YD., Inaqova ZT. Clinical And Morphological Features And Histological Variants Of Borderline Types Of Ovarian Tumors. The American Journal of Medical Sciences and Pharmaceutical Research, 2021;3(01):152-158.
- **17.** Yang H, Hu H, Gou Y, Hu Y, Li H, et al. Combined detection of Twist1, Snail1 and squamous cell carcinoma antigen for the prognostic evaluation of invasion and metastasis in cervical squamous cell carcinoma. Int J Clin Oncol. 2018; 23(2):321-328.
- **18.** ZurHausen H. Papillomaviruses causing cancer: evasion from host-cell control in early events in carcinogenesis. J Natl Cancer Inst. 2000;92(9):690–698.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

SOME ASPECTS OF INTERACTION OF THE INTERNAL AFFAIRS AND UNITS OF THE NATIONAL GUARD IN PUBLIC SECURITY

Timur Shavkatovich Sadullaev*

*1st year master's Student, Public Safety at the University of Public Security of the Republic of Uzbekistan Email id: sadullayevtemur@mail.ru

DOI: 10.5958/2249-7137.2021.02741.5

ABSTRACT

The article provides a scientific analysis of the legal and organizational foundations of cooperation between the National Guard and law enforcement agencies in the maintenance of public security, as well as offers and recommendations for the theoretical and practical improvement of this area. The results of ongoing reforms in this area were also scientifically analyzed and opinions were expressed about its role in society.

KEYWORDS: Maintaining Public Order, Ensuring Public Safety, Law Enforcement, National Guard, Patrol, Post, Patrol Service, Interaction.

INTRODUCTION

Within the framework of large-scale reforms carried out in our country, special attention is paid to ensuring the peaceful and peaceful life of the population, as well as the formation of a culture of obedience to the law and public safety in our society.

In particular, the introduction of completely new rules and procedures for the organization of work in the direction of ensuring public security on the basis of the principle of "serving the interests of the people" was carried out, mutual purposeful cooperation of state bodies with public structures was established.

At the same time, various risks and conflicts in the world, threats to the peace and tranquility of the country, pandemics, natural and technological disasters have imposed on the responsible state structures the task of further improvement of their activities on the basis of the prevailing idea that "all efforts are for human dignity[1].

It was also determined to categorize each district, city and neighborhood in accordance with the criminal situation in the regions, as well as to attract all the necessary forces and Means for the elimination of "criminal foci"in cooperation with the authorities, sectors and the public [2].

In a word, as correctly noted by the scientists of lawyers who conducted scientific research in this area, the reforms carried out with the internal affairs bodies in the activities of the National Guard are aimed at strengthening the rule of law, protecting the rights and freedoms of citizens, maintaining public order and increasing the effectiveness of public safety activities [3].

It is known that any state body can not ensure the effectiveness of its activities within the framework of its internal capabilities, without organizing cooperation with other structures. In particular, the internal affairs bodies interact with network services, other law enforcement

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

agencies, state and public organizations, which are included in the structural system in the implementation of the tasks assigned to them[4].

We know that today the interaction of internal affairs and National Guard bodies is strengthened by legislation. In particular, in normative legal acts, the bodies of internal affairs carry out their activities in an open and transparent manner, in cooperation with state bodies, self-government bodies of citizens, other organizations and citizens, as well as mass media[5] it is also established that the National Guard shall cooperate with state bodies and other organizations, civil society institutions and citizens in accordance with the procedure established by law in the performance of the duties assigned to him[6].

The laws of the Republic of Uzbekistan "on internal affairs bodies" and "on National Guard" are an important legal basis in this regard. In the subordinate documents adopted on the basis of this law, namely presidential decrees, decrees and orders, decree of the Cabinet of ministers, departmental normative-legal acts and joint decisions, the organizational bases of interaction of internal affairs and bodies of National Guard are established. In particular, the law of the Republic of Uzbekistan "on internal affairs bodies" and

Adopted in 2017-2021 in order to ensure the implementation of the tasks defined in the strategy of action on the five priority areas of the development of the Republic of Uzbekistan, the president of the Republic of Uzbekistan adopted a resolution "on the fundamental improvement of the effectiveness of the activities of Internal Affairs bodies, public order, the rights of citizens, decree of the president of the Republic of Azerbaijan on measures to ensure reliable protection of their freedoms and legitimate interests" № PF-5005 (April 10, 2017) is an important document regulating the activities of maintaining and ensuring the safety of public order.

The following important documents, which play a key role in the legal regulation of the activities of the Internal Affairs and public order maintenance and security of the National Guard bodies adopted within the framework of the execution of this decree: — Decree of the president of the Republic of Uzbekistan on measures to ensure more effective organization of the process of acquisition of rights over land parcels and other immovable property as part of the South Caucasus pipeline expansion project more ..., decisions of the PP-3786 (June 19, 2018) and PP-4075 (December 24, 2018)"on additional measures to improve the effectiveness of public security provision "(June 19, 2018) on additional measures to improve the profile of offenses and the effectiveness of combating crime have played an important role in the effective organization of the activities of the Departments of maintaining public order and ensuring

By the decree of the president of the Republic of Uzbekistan № PP-3528 (14 February 2018), the responsibility for the implementation of Public Order Maintenance in the regions of the sectors was imposed on the responsibility of the Departments of Internal Affairs, which were reorganized in the city of Tashkent, and their leaders were given the right to determine the Daily dislocation of

In order to strengthen peace and stability in our country, large-scale democratic reforms in the system of ensuring the security of the state, society and personality are continuing consistently. In order to ensure peace and tranquility of the population, the decree of the president of the Republic of Uzbekistan "on measures to raise the activity of internal affairs bodies in the field of ensuring public security and combating crime to a qualitatively new level" № PF-6196 (March 26, 2021) was adopted.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

According to the decree, as completely new elements of the organization of activities of the internal affairs bodies to maintain and ensure the safety of the public order were established::

first, on the basis of the base punches of the internal affairs bodies, a step-by-step Organization of the neighborhood law enforcement agencies was established. According to him, the neighborhood Law-Enforcement office is considered the main sub-branch of Public Security in the territory, prevention of violations and combating crime, on the basis of which the relevant sectoral services of the internal affairs bodies;

secondly, the "road map" on further improvement of the system of internal affairs bodies was approved by this decree. In accordance with it, it was determined to introduce a qualitatively new system of ensuring public safety, which provides for the following: confirmation of the concept of public safety of the Republic of Uzbekistan; determination of new rules for the mutual cooperation of the Departments of patrol-Post and Road-Patrol Services, profilactics of offenses and Probation Services;

In order to further increase the role and responsibility of the internal affairs bodies in ensuring the effective implementation of the new measures to ensure public safety, the decree of the president of the Republic of Uzbekistan "on additional organizational measures to further improve the activities of Internal Affairs bodies in the field of ensuring public safety and combating crime"PP-5050 (April

In order to prevent any threats to the peace and tranquility of our country, to establish a system of training of highly qualified specialists in the field of maintaining public order and ensuring security on the basis of advanced international standards, as well as to increase the personnel potential of its divisions in this field, the resolution of the president of the Republic According to the resolution, the National Guard Military-Technical Institute was reorganized as the University of Public Security of the Republic of Uzbekistan.

In accordance with the decree of the president of the Republic of Uzbekistan dated March 26, 2021 "on measures to raise to a qualitatively new level the activities of internal affairs bodies in the field of ensuring public security and combating crime"PF-6196, as well as in order to further develop the system of ensuring public security in our country and, Decree of the president of the Republic of Uzbekistan "on approval of the concept of public security of the Republic of Uzbekistan and measures for its implementation" (November 29, 2021) was adopted PF-27.

Today, it is worth noting that the number of crimes decreased by 12 thousand compared to 2017, and by the end of six months of this year, almost 50 percent of the existing 9 thousand 251 districts did not allow any crime. This is of course evidence of the positive effect of our reforms and it is necessary to continue our work consistently [7].

When considering issues of Organization of interaction of internal affairs and National Guard bodies in the field of maintaining public order and ensuring security, it is desirable to first give a definition to the concept of interaction in the object under study.

Interaction in ensuring public order and security is the effective use of forms and methods of activity, Service powers in a coordinated manner, based on the legislative and statutory legal acts of the subjects engaged in this activity[8], in which two or more services, ie separate non-subordinate members of the management, mutually agree on their actions[9]. Criminologist Z.S. Zaripov said, the organization of cooperation can also be viewed as the emergence of a goal that covers such issues as the division of labor in the system of internal affairs bodies, the division of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

tasks and obligations between structural divisions. The purpose of interaction refers to the proper distribution of power and means in solving the common tasks facing the management system[10].

Lawyer scientist I. In his research, Ismailov divides this cooperation into the following four areas: a) internal departmental cooperation; B) interagency cooperation; c) public cooperation; d) international cooperation[11]. Proceeding from this, it can be said that the interaction of the bodies of internal affairs and the National Guard in the field of maintaining and ensuring the security of public order includes a wide range of contacts and is the direction of external cooperation of the bodies.

Cooperation in all conditions is carried out by planning and conducting joint events, preparation of proposals on the issues of data exchange, protection of Public Order and submission to the relevant organizations[12].

Mutual exchange of information between internal affairs and National Guard bodies in the field of maintaining and maintaining public order is a common form of cooperation. According to the conclusion that the employees of the internal affairs bodies have developed on the basis of collecting, analyzing and sharing information, precisely in relation to persons who are prone to offenses or offenses, determine their destinies, it is noted that the acquisition and processing of information by some scientists is one of the main technologies of the activities of the Internal Affairs[13].

The following are the printouts of the interaction of the Internal Affairs and National Guard bodies in the field of maintaining and ensuring the safety of public order::

- Constitution and rule of law;
- pre-developed and conducted according to the agreed plan;
- subordination of lower organs to higher organs;
- not to deviate from the established scope of competence;
- organization and prompt resolution of any issues.

Studies have shown that effective organization of interaction of internal affairs and National Guard bodies in the field of maintaining and maintaining public order and ensuring security, first of all, depends on the legal regulation of this cooperation; second, on the clear definition of the main directions, methods and forms of interaction, forces and means, as well as on the fact that cooperation is clearly; from the four, the co-planning of cooperation, the effective implementation of the plans in force, and the joint analysis of the results of the work are largely dependent on this.

As a specific aspect of the interaction of the Internal Affairs and National Guard bodies in the field of maintaining and ensuring the security of public order, the following can be stated::

- availability of subjects, objects and subjects, common goals, tasks and directions of joint activities;
- solidarity, mutual assistance and mutual support;
- aspiration to achieve positive results;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- excellent (optimal) cooperation, application of optimal forms and methods for both sides;
- possession of information supply and analysis;
- the responsibility of the participants for the organization of cooperation and the evaluation of joint activities.

In conclusion, it is important to improve the legal and organizational-tactical framework for cooperation between law enforcement agencies and the National Guard in maintaining public order and security, identifying, preventing and allows you to effectively organize your activities, such as taking remedial action.

REFERENCES

- 1. Decree of the President of the Republic of Uzbekistan No. PF-27 "On approval of the Concept of Public Security of the Republic of Uzbekistan and measures for its implementation" (November 29, 2021) // National Legislative Database, 01.12.2021, 06/ / 27/1116-son
- **2.** Decree of the President of the Republic of Uzbekistan dated March 26, 2021 "On measures to raise the activities of law enforcement agencies in the field of ensuring public safety and combating crime to a qualitatively new level" PF-6196. y., 06/21/6196/0240-son.
- **3.** Selimanova S.M., Khudoiberdiev A.A. Ichki ishlar organlari milliy guard bÿlinmalari bilan xamkorlikda ommaviy tadbirlar ÿtkazish vaktida zhamoat tartibini saklashning asosiy yunalishlari // "Judicial and legal reforms: national and foreign experience": materials of the international scientific and practical conference (September 30, 2021). T .: University of Public Security of the Republic of Uzbekistan, 2021. P. 57.
- **4.** Ziyodullaev MZ Improving the management of community policing and security at police checkpoints. Jurid. fan. candidate. Dis.-T., 2008. B. 114.
- 5. Law of the Republic of Uzbekistan on Internal Affairs Bodies // Collection of Legislative Acts of the Republic of Uzbekistan, 2017. № 37. 978-m.
- **6.** Law of the Republic of Uzbekistan on the National Guard // National Database of Legal Documents, 19.11.2020, No. 03/20/647/1569.
- **7.** Mirziyoev Sh.M. Independence of our country is a source of strength and inspiration, the basis of development and prosperity for us // Speech by President Shavkat Mirziyoyev at the ceremony dedicated to the 30th anniversary of independence of the Republic of Uzbekistan / [Electronic source]. URL: https://president.uz/uz/lists/view/4596 (reference time: 04.09.2021).
- **8.** Afanasyev V. A. Organization of the work of the district police inspector. M., 1990. S. 38.
- **9.** Pulatov Yu. S., Ismailov I. U., Kurbanov A. Basics of dismissal in the internal affairs bodies. T., 2005. B. 104.
- **10.** Zaripov Z. S. Preventive function of the investigative units of the internal affairs bodies. T., 1980. S. 57.
- **11.** Ismailov I. Fight against terrorism // In defense of the law. 2004. № 7. Б. 30–31.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **12.** Administrative activity of law-enforcement bodies. Prof. V. Under the general editorship of Tadzhikhanov. T., 1996. B. 144.
- 13. Criminology / Ed. J. F. Sheley; Per. from eng. St. Petersburg, 2003. S. 465.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IMPACTS OF ACID RAIN ON ENVIRONMENT

Dr. S.R. Ali*

*Professor,

Department of Civil Engineering, Faculty of Engineering, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: drsrali.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02669.0

ABSTRACT

Acid rain is one of the important environmental threats and occurs due to the presence of certain acids in the atmosphere. Acidification of the rainwater is identified by the presence of sulphuric and nitric acids. Interaction of acid rain with environmental components results in their degradation. Acid rain reduces the soil fertility resulting in an adverse impact on the growth of the forest and crop fields. Acidification of the water bodies (lake/ponds) affects aquatic flora and fauna adversely. Acid rain also has some deleterious effects on human health, building and materials. The acid rain is responsible for the disturbance of several abiotic and biotic components of the ecosystem. Thus, the present review focuses on the causes, impacts and possible solution for the acid rain.

KEYWORDS: Acid rain, Causes, Effects, Acidification, Control strategies.

1. INTRODUCTION

Reduced reproduction of aquatic fish species, plant dieback and stunted growth, accumulation of toxic aluminum and heavy metals in soil and water bodies, biodiversity loss including corals and shellfish, and degradation of manmade structures have all been observed as a result of acidification around the world. Acid rain is produced by the release of SO2 and NOX into the atmosphere from different sources, which dissolve in atmospheric water and form acids in rainwater. SO2 does not react much with atmospheric chemicals, but it may travel longer distances faster and generates SO3 when it comes into touch with ozone or hydrogen peroxide, which is extremely soluble in water and forms sulphuric acid. Volcanic eruptions, marine spray, planktons, decaying plants, and forest fires all generate sulphur dioxide naturally. Sources of anthropogenic pollution, sulphur dioxide emissions from industrial combustion (point sources), household heating (firewood and coal) (area or non-point sources), and transportation (3.7 percent) account for 69.4 percent, 3.7 percent, and 3.7 percent, respectively (mobile sources).

It is also released from the manufacture of sulphuric acid during the production of disinfectants, bleaching agents, and fumigants, as well as from the smelting of metal ore, production of iron and steel, process pure metal (obtaining pure metals of Zn, Ni, and Cu), oil refinery, domestic and industrial boilers, and it is released from the manufacture of sulphuric acid during the production of disinfectants, bleaching agents, and fumigants. Natural sources of NOX include lightning, bacterial activity, forest fires, and volcanoes; man-made sources include cars (43%), fertilizer factories, power plants, and other industrial combustion (32 percent)The acid rain is considered as one of the Global ecological problems. It is considered as the precipitation of low

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

pH water (pH range: 4.2-4.7) in the form of rain, snow, fog, hail or even dust. The term acid rain is first used by Robert Angus Smith in 1872 to describe the nature of rain around the industrial town of Manchester, UK.

Wet deposition such as cloud water, rain, snow, hail, dew, fog or sheet) and dry deposition (SO2, NOx, other acid gas and particles) of acid components are responsible for the acid rain. Sulphuric and Nitric acids are considered as the major causes behind acidic rain whereas the formation of sulphuric acid and nitric acid in the atmosphere are the results of the atmospheric transformation reactions of the oxides of sulphur (SO2) and oxides of nitrogen (NOx) respectively. Nitrate levels in soil rise as a result of acid rain, resulting in nitrogen saturation. Excess nitrogen is removed from the soil by nitrate ions, which also remove extra calcium and magnesium. Several industries, motor vehicles, oil refineries and burning of fossil fuel are the important sources responsible for the generation of acid rain precursors. In the wet atmospheric conditions, these precursor gasses are converted in to sulphuric acid and nitric acid[1-3].

Acid rain is also known for its role in environmental damage and trans-boundary air pollution. Acid rain is a result of emission of SO2 (fossil fuel combustion and metal smelter) and NOx forming sulphuric and nitric acid in precipitation. Acid rain has several adverse effects on ecological aspects (it harms flora and fauna both), biogeochemical cycles, soil quality due to nutrient leaching from top soil to sub soil and below subs soil in the presence of acid rain. Apart from the above mentioned, acid rain also has several adverse impacts on human health such as itching, skin burn, respiratory problems (asthma, dry cough and irritation in throat), headache, brain damage and kidney problems. Degradation in building material (historical monument and sculpture all over the world), yellowing and weakening of fabrics are also results of acid rain exposure. Acid rain is the main reason for corrosion of several metals and structure made from it. It is also responsible for the loss of carved details and corrosion of copper, zinc etc. Acid rain is toxic to many aquatic organisms because it releases aluminum from the soil into lakes and streams. As the pH goes below 5, 75 percent of lakes and 50 percent of streams in the United States get acidified, according to natural surface effects of deposition.

Acid precipitation on vegetation reduces the photosynthesis and growth also increase the susceptibility to draught and disease, process called 'dieback' it causes browning of leaf and fall off, in addition, effects such as thinning of annual growth ring and reduction in biomass (due to reduced growth), it also damages the fine root system, affect root mycorrhiza. Man-Made Structures Effects Because nitric acid, sulphuric acid, and sulphuric acid concentrated in dew or rain deposited on automobile coatings cause paint fading, contemporary car manufacturers employ acid to coat their vehicles. Phosphorus deficiency decreases fruit output, while toxic elements like zinc and aluminum accumulate. Aluminum toxicity slows root development and causes chlorophyll loss.

Effects on the ocean surface Acid rain is harmful to many aquatic creatures because it transfers aluminum from the earth into lakes and streams. As the pH goes below 5, 75 percent of lakes and 50 percent of streams in the United States get acidified, according to natural surface effects of deposition. Similarly, 14,000 lakes in eastern Canada were found to be acidic. Acidification is more likely in soft waters with low alkaline metal ions. Acidification causes granite rocks to

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

release more aluminum. Aluminum causes chronic stress, which causes fish to lose weight or shrink in size, making them less effective in fighting for food and habitat. Furthermore, most eggs may not hatch, some adult fish may die, and partly sensitive animals like snails and clams cannot survive pH levels below.

However, certain species, such as frogs, can survive lower pH, but their prey species, such as mayflies, cannot, and a reduction in the prey population leads to a fall in the frog population. The ecosystem is affected by the food chain's interconnections and interdependencies. Toxic heavy metal ions such as copper, cadmium, nickel, chromium, cobalt, lead, and zinc released into the water decrease fish development and growth. Acidic conditions combined with heavy metal toxicity decreased fish development and increased stress, making the fish less immune and therefore more vulnerable to illnesses, killing eggs and larval stages, and reducing spawning and reproductive success. Another significant cause of episodic acidification is nitrogen dioxide deposition in water bodies; approximately 10-45 percent of nitrogen dioxide reaching water bodies is airborne, and it is mostly delivered to the atmosphere by human causes.

Similarly, 14,000 lakes in eastern Canada were found to be acidic. Acidification is more likely in soft waters with low alkaline metal ions. Acidification causes granite rocks to release more aluminum. Aluminum causes chronic stress, which causes fish to lose weight or shrink in size, making them less effective in fighting for food and habitat. Furthermore, most eggs may not hatch, some adult fish may die, and partly sensitive animals like snails and clams cannot survive pH levels. However, although certain species, such as frogs, can survive lower pH, their prey species, such as mayflies, cannot, resulting in a reduction in the prey population. Acid rain is toxic to many aquatic organisms because it releases aluminum from the soil into lakes and streams. As the pH goes below 5,75 percent of lakes and 50 percent of streams in the United States get acidified, according to natural surface effects of deposition. Similarly, 14,000 lakes in eastern Canada were found to be acidic. Acidification is more likely in soft waters with low alkaline metal ions. Acidification causes granite rocks to release more aluminum. Aluminum causes chronic stress, which causes fish to lose weight or shrink in size, making them less effective in fighting for food and habitat. Furthermore, most eggs may not hatch, some adult fish may die, and partly sensitive animals like snails and clams cannot survive pH levels below 5.5. However, although certain species, such as frogs, can survive lower pH, their prey species, such as mayflies, cannot, resulting in a reduction in the prey population[4], [5].

2. DISCUSSION

Biological consequences of acid rain are mostly visible in aquatic areas like streams, lakes, and marshes, where it can harm fish and other species. Acidic rain water can drain aluminium from soil clay particles as it passes through the soil and into streams and lakes[6]–[9]. Aluminum is discharged in greater quantities when more acid is added into the ecosystem. Acidic waters with moderate quantities of aluminium are tolerable to some plants and animals. Others, on the other hand, are acid-sensitive and will perish as the pH drops. Acid rain-affected regions are littered with dead or dying trees. Aluminum is leached from the soil by acid rain. Aluminum may be detrimental to both plants and animals. Acid rain also depletes the soil of minerals and nutrients that trees require to thrive. Acidic fog and clouds at high elevations may drain nutrients from tree foliage, leaving brown or dead leaves and needles. As a result, the trees are less able to absorb sunlight, making them fragile and susceptible to cold conditions. Acidic deposition isn't always moist. It's possible for dust particles to become acidic as well, which is known as dry deposition.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The nitric and sulfuric acid that makes acid rain and dry acidic particles acidic can drop on sculptures, buildings, and other built objects, causing damage to their surfaces.

The acidic particles damage metal and accelerate the deterioration of paint and stone. They also make buildings and other structures, like as monuments, filthy. The costs of this harm can be substantial. Humans are no more at risk from walking in acid rain or swimming in acidic lakes than they are from walking in normal rain or swimming in non-acidic lakes. When pollutants that produce acid rain are present in the air, such as SO2 and NOX, as well as sulfate and nitrate particles, they may be hazardous to people. Fine sulfate and nitrate particles are formed when SO2 and NOX combine in the environment, which humans may inhale. Many scientific investigations have shown a link between these particles and effects on heart function, such as heart attacks that end in mortality in individuals who have a higher risk of heart disease, and impacts on lung function, such as breathing problems in people who have asthma. Acid precipitation on vegetation reduces photosynthesis and growth, increasing susceptibility to draught and disease. A process known as 'dieback' causes browning of leaves and fall off as well as other effects such as thinning of annual growth rings and reduction in biomass (due to reduced growth). It also damages the fine root system, affecting root morphology. During the monitoring phase. The National Acid Deposition Program (NADP) uses wet and dry deposition collectors to monitor acid deposition The container on the left collects rain water, while the container on the right measures dry deposition[1], [2], [5], [10]–[12].

Acidification has an impact on shell-forming mollusks, shell fish, coral reefs, sea grass beds, and aquatic creatures in their juvenile stages. In an acidic climate, the calcareous shell or skeleton of shellfish and corals dissolves. Acid tolerant organisms, such as bacteria and protozoa, thrive in low pH environments. Acid rain isn't the only source of acidification; certain swamps, bogs, and marshes have pH levels that are naturally low. Furthermore, acid water drainage from coal mines may reach surface water bodies, resulting in fish deaths in Pennsylvania, West Virginia, and Virginia surface waterways in the United States and Canada, respectively.

The causative agents of acid rain, SO2, SO3 and NOx, may have a negative impact on health, especially SO2 & SO3's influence on asthma and emphysema patients, as well as a rise in the incidence of asthma and emphysema. Particles smaller than PM 2.5 may enter the bloodstream via the lungs and produce adverse consequences such as lung cancer. Because nitric acid, sulphuric acid, and sulphuric acid, which are concentrated in dew or rain and deposited on automobile coatings, cause the paint to fade, contemporary vehicle manufacturers cover with acid. Impairment of vision in the eastern United States, acid fog, especially sulfur dioxide and sulfur trioxide particles, decreases vision by 50-70 percent. Scrubbing can take the form of electrostatic precipitators, in which positively charged sulphur particles are attracted to a negatively charged plate, or chemical means, such as wet scrubbing (injecting water or a chemical solution like flue gas desulphurization (FGS), which removes SO2 at a rate of 80-95 percent, or dry scrubbers like lime injection Multi stage burning (LIMB) or fracking. To decrease NOx, techniques such as the selective catalytic reduction process (SCR), which reduces NOx by up to 80% by injecting reactive chemicals such as ammonia, which interacts with NOx and converts it to N2 and O2, altering the air-to-fuel ratio, and modifying the combustion temperature are used. Catalytic converters, such as three-way catalytic converters that convert NOx into N2 and O2, and conversion of CO into CO2, are used to reduce NOx emissions in automobiles. Hydrocarbon conversion to CO2 and water.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

During the years 1985 to 1987, each plant was granted a number of "allowances" based on yearly SO2 emissions. The program also promoted the use of renewable energy and energy saving. Solar, wind, and geothermal facilities are also eligible for tax breaks. The Title V acid rain permit scheme required plant or industrial owners to apply to the relevant government for legal authorization. The acid rain program was divided into two phases: Phase I took place from 1995 to 2000, and Phase II began in 2009 to track general changes in SO2 and NOx emissions in New England. A similar initiative, the Regional Acidification Information and Simulation Programme, is being implemented in Asia, where the danger is growing in emerging nations as their energy demands rise (Hunt, 1992, as quoted in Kemp, 2004). From 2003 to 2008, the NOx Budget Trading Scheme (NBP) was a cap-and-trade program in which businesses in the eastern United States were obliged to reduce NOx emissions during the summer season.

During the years 1985 to 1987, each plant was granted a number of "allowances" based on yearly SO2 emissions. The program also promoted the use of renewable energy and energy saving. Solar, wind, and geothermal facilities are also eligible for tax breaks. The Title V acid rain permit scheme required plant or industrial owners to apply to the relevant government for legal authorization. The acid rain program was divided into two phases: Phase I took place from 1995 to 2000, and Phase II began in 2009 to track general changes in SO2 and NOx emissions in New England. A similar initiative, the Regional Acidification Information and Simulation Programme, is being implemented in Asia, where the danger is growing in emerging nations as their energy demands rise (Hunt, 1992, as quoted in Kemp, 2004). From 2003 to 2008, the NOx Budget Trading Scheme (NBP) was a cap-and-trade program in which businesses in the eastern United States were obliged to reduce NOx emissions during the summer season.

In 1991, the United States and Canada signed a bilateral air quality agreement to minimize the impacts of trans-boundary acid deposition, and an integrated atmospheric deposition network (IADN) was created to gather and manage data on the subject. Similarly, the US EPA has been enforcing the Cross State Air Pollution Rule and Litigation (CSAPR) since 2011, which substantially lowers emissions that cross state lines. Since the 19th century, acid rain has been a significant environmental concern. This article examines the US EPA's 2012 progress report and analyzes the problem from different environmental perspectives. The active implementation of the Clean Air Interstate Rule (CAIR), Acid Rain Program (ARP), and NOx budget training program has resulted in significant reductions in SO2, NOx emissions, and acid deposition (NBP). The US EPA's Cross State Air Pollution Rule and Litigation (CSAPR) has reduced wastewater cross-border flow between the US and Canada since 2011. Between 1980 and 2012, the national composite mean of average SO2 annual mean ambient concentration in the United States decreased by 85 percent.

3. CONCLUSION

Coal combustion is the primary source of SO2, as well as car emissions and NOx emissions from different fossil fuel-based power plants. By interacting with atmospheric water vapour, SO2 and NOx create sulphuric and nitric acid, respectively, and precipitate as wet deposition such as rain, snow, sleet, and fog, as well as dry deposition such as dangerous PM 2.5 particles. Acid rain causes yellowing and leaf fall in forest trees, fish mortality in acidified rivers and lakes, and the loss of calcareous shell-forming species (mollusks). It also causes increased nitrification in soil microorganisms, which leads to eutrophication in water bodies and changes in biodiversity.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Coral reefs are also harmed by acid rain. It results in the leaching of metal ions, particularly harmful Aluminum and heavy metals like chromium, cadmium, and nickel, which has a negative impact on the soil microflora and aquatic biota. Acid rain corrodes metal buildings and fades paintwork, causing marble, stone monuments, and architecture to degrade. Liming is a process that is used to neutralize acidity in soil and water. Reduced sulphur content in fuels, scrubbers such as flue gas desulphurization (FGS), and lime injection multi stage burning (LIMB), or fluidized bed combustion (FBC or circulation dry scrubber) are all used to decrease SO2 and NOx emissions. To decrease NOx, techniques such as the selective catalytic reduction process (SCR), in which reactive chemicals such as ammonia are injected and react with NOx to convert it to N2 and O2, as well as altering the air-to-fuel ratio and the combustion temperature, are used. NOx is removed from automobiles using three-way catalytic converters.

REFERENCES

- 1. J. Kulp, "Acid Rain: Causes, Effects, And Control," Regulation, 1990.
- 2. E. M. Trisko, "Acid Rain: Causes And Controls.," 1983.
- **3.** M. E. Weaver, "Acid Rain.," Constr. Specif., 1988, Doi: 10.5949/Liverpool/9780853239239.003.0008.
- **4.** J. Mason, "Acid Rain Its Causes And Consequences," Interdiscip. Sci. Rev., 1988, Doi: 10.1179/Isr.1988.13.1.73.
- 5. J. L. Innes, "Acid Rain: Its Causes And Effects," Eurum-Eur. Umw., 1988.
- **6.** A. Singh And M. Agrawal, "Acid Rain And Its Ecological Consequences," Journal Of Environmental Biology. 2008.
- **7.** K. Rinkesh, "Causes, Effects And Solutions Of Acid Rain Conserve Energy Future," © 2017. Conserve Energy Future . All Rights Reserved, 2017. .
- **8.** A. Gandhi, P. Patel, And G. Bagale, "A Study On Acid Rain: Effects And Control," Int. J. Innov. Res. Sci. Eng. Technol., 2017.
- **9.** B. J. Mason, "Acid Rain: Its Causes And Its Effects On Inland Waters," Acid Rain Its Causes Its Eff. Inl. Waters, 1992, Doi: 10.1016/0143-6228(93)90070-H.
- **10.** O. Us Epa, "Effects Of Acid Rain Forests," United States Environmental Protection Agency, 2006.
- **11.** S. Sivaramanan, "Acid Rain , Causes , Effects And Contol Strategies," Cent. Environ. Auth., 2015.
- **12.** B. J. Mason, "Acid Rain Cause And Consequence," Weather. 1990, doi: 10.1002/j.1477-8696.1990.tb05058.x.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

AN OVERVIEW OF FACEBOOK

Vibhor Jain*

*Associate Professor,

Department of Marketing & HR, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: vibhor.management@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02670.7

ABSTRACT

From 2006 and 2012, this paper offers a critical assessment of scientific, peer-reviewed papers published on Facebook. While there are countless articles on various aspects of the social networking site, the review reveals that there are still many gaps to be filled. Due to the limited scope of many articles (in terms of large samples and the number of countries studied), as well as frequent changes to Facebook's design and features, many of these articles must not only be revisited, but also their research findings must be integrated. The review concludes with a critical discussion and research suggestions. Facebook is a social networking and online social media platform owned by Facebook, Inc. in the United States. It was founded in 2004 by Mark Zuckerberg, together with other Harvard College students and roommates Eduardo Saverin, Andrew McCollum, Dustin Moskovitz, and Chris Hughes, and takes its name from the face book directories that are often distributed to American university students. Initially, membership was restricted to Harvard students, but it has subsequently expanded to include students from other North American institutions and, since 2006, everyone over the age of 13. Facebook ranked sixth in worldwide internet use in 2020, with 2.8 billion monthly active users. It was the most popular smartphone app in the decade of 2010.

KEYWORDS: Disclosing, Facebook Initial, Motives, Social Networking Site.

1. INTRODUCTION

The birth and ascension of the social networking site (SNS) One of the most significant social trends of the last decade has been Facebook. Facebook claims servicing one billion monthly active members at the end of 2012, despite the fact that it just debuted to the public in 2006. Furthermore, 80 percent of these users are from outside the United States, and Facebook services are accessible in 70 languages, making it a truly global platform[1]. While there are concerns about the validity and consistency of these figures (the number of accounts that are commonly used may differ from the actual number of people using the platform) and neutral data is not available, one must agree that the size of this SNS is at least significant, and the growth rate impressive[2]. This pace of increase has piqued the interest of researchers from a broad range of disciplines.

In February 2013, a search on the ISI Web of Knowledge for the term "Facebook" yielded 3068 results. The scholarly literature on Facebook in the economic and psychological domains is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

reviewed in this article. As a result, we concentrate on the personality of users: why they joined, how they form networks, and how they engage, as well as how businesses can utilize and profit from Facebook. While many intriguing issues have been covered, the analysis clearly demonstrates that most of the work done so far has been fragmented and restricted to certain contexts. It analyzes the studies' strengths and weaknesses, combines study results, and suggests research paths for the future. We don't presume that all of our readers are acquainted with Facebook and the services it offers. As a result, we'll give you a quick rundown of its features. This analysis is based on the Facebook Timeline layout as it existed in October 2012[3]. Individuals may register for a Facebook account at facebook.com. The new user selects a password and gains account access after giving some personal information (name, date of birth, gender, and email address). Facebook has a very uniform user account layout. Many features show in the same location on the screen regardless of whose account it is, making it simple to identify and locate the information needed. This account has two essential pages: home and profile. Users display themselves on the profile page, often known as the "wall." A tiny profile image complements the big cover photo at the top of the website, which is followed by the user's name, some basic information, and a few links for friends, pictures, and "likes." The space below it is where "status updates" appear. Friends may react to this remark by making comments or like it, and users can write anything they wish in their status (shown directly below the status). Users are notified of status changes and other actions (joining groups or becoming a fan of something they enjoy) from their friends on the home page, commonly known as the "news feed." As a result, it automatically and chronologically displays the highlights of what pals have been up to in the last few hours[4]. After creating a profile, the new user may begin searching for friends and sending friend invitations[5]. When both people accept the invitation, Facebook links them by enabling them to view each other's profile pages and adds their activity to each other's news feeds. As a result, Facebook serves as an online application to see and be seen (Stroud, 2008) or to "prosume": simultaneously creating and consuming[6].

1.1 Initial Motivations to Join Facebook:

Sledgianowski and Kulviwat were one of the first researchers to look at why people wanted to join Facebook. Apart from normative pressure, trust, utility, and simplicity of use, the perceived fun and critical mass of the site were the primary drivers of intents to join, according to their convenience sample of 289 students from one American institution. The significance of pressure would later be confirmed by study[7]. For example, Cheung and Lee (2010) looked at a convenience sample of 389 students and found that social identity (being aware of group membership and attaching emotional value to it) and subjective standards were important (compliance)[8]. Kwon and Wen's (2010) study of 229 Korean respondents found a connection between the two studies by demonstrating a positive relationship between perceived usefulness and social identity. Users are dissatisfied with pressure to accept friend requests from colleagues and employers, according to Skageby's (2009) document analysis, which found that users are unhappy with pressure to accept friend requests from coworkers and employers after joining the SNS.

According to current research, Facebook was correct to focus on making it easier for new users to make friends (obtaining critical mass), for example, by providing the friend finder application, allowing newcomers to browse the friends list of new friends (snowball effect), and allowing users to suggest friends to the newcomer[9]. Group pressure seems to have taken care of the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

remainder after the critical mass was established. It is impossible to evaluate changes in motivation to join due to the short time period in which the aforementioned research were conducted. Because assessing experienced users' initial reasons to join is virtually difficult, future study should concentrate on current motivations to join (ideally in several countries) and compare them to existing studies. Because the motivations of early adopters may vary from those of the early or late majority, this may be a significant addition to our knowledge. Furthermore, as more people utilize social media, the temptation to react to friend requests from colleagues may be much greater now than it was five years ago[10]. It would also be fascinating to examine existing user motivations to join across nations and demographic groups; European users may join for different reasons than Asian users, for example, and the temptation to join may be greater for children than adults. This is particularly intriguing in light of results from a large-scale Facebook study of 721 million Facebook users, which revealed that users' friends were most likely of a similar age and lived in the same country. This implies that diverse groupings may occur. Finally, given the present level of SNS brand awareness, a research focused on the reasons why people do not join Facebook might be beneficial to our knowledge[9].

1.2 Characteristics of Facebook Users:

Gender, personality, socioeconomic position, age, and race have all been linked to variations in Facebook activity in the past. In terms of gender, Hargittai (2007) found that males were no more likely than women to use Facebook in a large survey of 1060 first-year college students in the United States. Raacke and Bonds-Raacke replicated this result in a smaller sample of 116 US students (2008). However scholar found that women were more likely than males to have a private profile, based on a sample of 1710 US undergraduates. In conclusion, these findings indicate that gender disparities in Facebook activity, rather than the choice to join Facebook, should be the focus of future study. But, for the time being, this is only a recommendation, since these studies are all centered on students and conducted in the United States. Before applying any of these study results to other nations or demographic groupings, we should proceed with care. There is a need for more international research. Some Facebook study is directly related to personality. For example, scholar found that extraversion was positively linked to Facebook usage in a short sample of 97 US undergraduates, which is consistent with more general studies. Openness to new experiences has also been linked to SNS usage, particularly among older people. However, SNS usage was adversely linked to conscientiousness and emotional stability. To summarize, our knowledge of Facebook users' personalities is still limited. Because social media platforms vary in terms of content, target audiences, and use, it's unlikely that findings from other platforms can be readily applied to Facebook.

A more detailed study of personality traits of Facebook users and non-users may therefore aid our understanding. Future study should look at additional demographic differences between users and non-users, in addition to gender and personality. Regardless of the publications listed above, it is apparent that further research into the relationship between personal traits and Facebook use is needed. Many of the studies are now based on a wider variety of SNSs, limited homogenous sample numbers, or are only conducted in the United States. This necessitates care when extrapolating study results. We should also take into account the year in which the papers were published. This is a remark that appears in many different parts of this evaluation. It is not, however, our goal to argue that the findings reached in these publications are obsolete by definition and should be ignored. Any remark about the year of publication should be taken as an

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

invitation to revisit these studies and see if any changes have occurred as a result of the rapid growth in Facebook membership in recent years, frequent changes in the platform's features and settings, or consumers' experience with the console. This is especially true when it comes to personal traits, since early adopters may vary from the early or late majority.

1.3 Motives For Disclosing Information on Facebook:

Gender, personality, socioeconomic position, age, and race have all been linked to variations in Facebook activity in the past. In terms of gender, Hargittai (2007) found that males were no more likely than women to use Facebook in a large survey of 1060 first-year college students in the United States. Raacke and Bonds-Raacke replicated this result in a smaller sample of 116 US students (2008). However, Scholar found that women were more likely than males to have a private profile, based on a sample of 1710 US undergraduates. In conclusion, these findings indicate that gender disparities in Facebook activity, rather than the choice to join Facebook, should be the focus of future study. But, for the time being, this is only a recommendation, since these studies are all centered on students and conducted in the United States. Before applying any of these study results to other nations or demographic groupings, we should proceed with care. There is a need for more international research. Some Facebook study is directly related to personality. For example, Ross found that extraversion was positively linked to Facebook usage in a short sample of 97 US undergraduates, which is consistent with more general studies on the subject. Openness to new experiences has also been linked to SNS usage, particularly among older people. However, SNS usage was adversely linked to conscientiousness and emotional stability. To summarize, our knowledge of Facebook users' personalities is still limited. Because social media platforms vary in terms of content, target audiences, and use, it's unlikely that findings from other platforms can be readily applied to Facebook.

A more detailed study of personality traits of Facebook users and non-users may therefore aid our understanding. Future study should look at additional demographic differences between users and non-users, in addition to gender and personality. Regardless of the publications listed above, it is apparent that further research into the relationship between personal traits and Facebook use is needed. Many of the studies are now based on a wider variety of SNSs, limited homogenous sample numbers, or are only conducted in the United States. This necessitates care when extrapolating study results. We should also take into account the year in which the papers were published. This is a remark that appears in many different parts of this evaluation. It is not, however, our goal to argue that the findings reached in these publications are obsolete by definition and should be ignored. Any remark about the year of publication should be taken as an invitation to revisit these studies and see if any changes have occurred as a result of the rapid growth in Facebook membership in recent years, frequent changes in the platform's features and settings, or consumers' experience with the console. This is especially true when it comes to personal traits, since early adopters may vary from the early or late majority. Second, differences in privacy attitudes may have an impact on the content and degree of disclosure. We've been focusing on the voluntary sharing of personal information on Facebook up until now. However, information may be shared with others without the user's permission.

Beginning in the mid-2000s, privacy issues on social networking sites became a prominent study subject. Hunter (2008), and subsequently Mansfield Devine. listed all possible Facebook privacy risks and claimed that users risk being followed, both online and offline, harassed, hacked (Greiner, 2009), and victimized by online identity theft. claimed that information published

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

about a group that a user previously joined may damage the user's privacy, while Zorkadis and Karras (2009) identified mobile transmission of personal information to Facebook as a security concern.

The research on how consumers react to this has the same flaws as the previous research. Fogel and Nehmad (2009) found that women utilize privacy settings and limit personal information more frequently than males in a small sample of 205 US undergraduates. We should point out that the data was gathered in May 2007, and that Facebook's basic privacy settings have been modified many times since then. Similar results emerge from Hoy and Milne's (2011) survey of 589 people, which found that although both men and women are worried about third-party usage of personal information, women are more concerned.

Furthermore, women are reported to be more engaged in privacy protection than they were a decade ago. It should be emphasized, however, that this study utilized a snowball approach, with US students asking their Facebook friends to participate. There is still a need for further investigation in different situations. It's unclear how well people are aware of and coping with these security concerns. Fuchs' (2010) research of 674 Austrian students found that public information and conversation may alter users' critical information behavior, although the study was not restricted to Facebook. Debatin et al. (2009) research of 119 US students focused on Facebook and showed that following privacy breaches, Facebook users altered their privacy settings, but not after hearing about others' privacy invasions. Finally, when privacy settings seem to be changed. I found that the Facebook activity of one's partner may trigger Facebookrelated envy in a sample of 308 US and German students, resulting from exposure to confusing information about the relationship that they would not have encountered if Facebook hadn't existed. It was also discovered that this kind of fresh information encourages people to use Facebook more, generating a Facebook-related activity loop. This tendency may be particularly noticeable in narcissists (who monitor and react to others' status more often; Buffardi and Campbell, 2008) and extroverted users.

2. DISCUSSION

Needham & Company (2007) estimated that Facebook had more than 21 million registered users who generate 1.6 billion page views each day. The site is closely interwoven into its users' everyday media habits: The average user spends about 20 minutes each day on the site, and twothirds of them visit at least once every day. In early September 2005, Facebook created a high school version, capitalizing on its popularity among college students. In 2006, Facebook launched groups for businesses; as of November 2006, over 22,000 businesses had Facebook directories. In 2006, Facebook was utilized at over 2,000 schools in the United States, and it was the ninth most popular website on the Internet in terms of total page views. Much of the current academic study on Facebook has focused on issues of identification and privacy. Gross and Acquisti (2005) argue that users may be putting themselves at risk both offline (e.g., stalking) and online (e.g., because of the amount of information they provide about themselves on Facebook, the relatively open nature of the information, and the lack of privacy controls enacted by the users), based on the amount of information they provide about themselves, the relatively open nature of the information, and the lack of privacy controls enacted by the users (e.g., identify theft). Other recent Facebook research looks at student perceptions of instructor presence and self-disclosure, use patterns over time, and the relationship between profile structure and friendship articulation. Unlike the popular press, which has mainly concentrated

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

on the negative consequences of Facebook usage, We're interested in instances when the intended audience for the profile (such as well-meaning colleagues and friends) and the actual audience are aligned, which stems from users' misunderstandings about the nature of their online audience. We utilize Facebook as a study setting to see whether online technologies can help people build offline social capital. According to the findings of our research, Facebook usage among college-age respondents was strongly linked with social capital indicators.

3. CONCLUSION

This study reveals that past Facebook research has covered a wide range of fascinating subjects, and that our understanding is rapidly growing. However, the study shows that our knowledge is still fragmented, and that we may be missing subtleties that distinguish various contexts, nations, and demographic factors. Now is the moment to take scientific research on Facebook to the next level by incorporating items and control factors from earlier studies into new and better study designs, as well as expanding these designs to a wider range of nations and demographic groups. In terms of both breadth and research subjects, this review has emphasized these factors and provided recommendations for further study. We think it will be useful to academics.

REFERENCES

- **1.** Y. Supriadi, "Komunikasi Politik DPRD Dalam Meningkatkan Peran Legislasi di Kota Bandung," Mediat. J. Komun., 2017, doi: 10.29313/mediator.v10i1.2119.
- 2. S. Hamburg, "Facebook 2," J. Chem. Inf. Model., 2013.
- **3.** P. Gundecha, J. Tang, X. Hu, and H. Liu, "Exploring personal attributes from unprotected interactions," 2016.
- **4.** J. Motta and E. R. Scharf, "A autoexpressão como dimensão inovadora de motivação no compartilhamento de vídeos em redes sociais," RACE Rev. Adm. Contab. e Econ., 2017, doi: 10.18593/race.v16i3.12370.
- **5.** Liza Shahnaz and Saodah Wok, "Religious Motives for Using Facebook among University Muslim Students," Semin. Kebangs. Media dan Dakwah, 2011.
- **6.** D. N. Hadimin, N. Nazsir, D. Mariana, and Y. M. Yani, "Political strategy in the election winning (case study of M. Ridwan Kamil and Oded Danial winning in Bandung mayor election in 2013)," International Journal of Applied Business and Economic Research. 2017.
- **7.** G. P. Gonzalez, "Faceboook plataforma para crear actividades autonomas," Centro de Lenguas Universidad de Chipre, 2012.
- **8.** R. Nadaraja and R. Yazdanifard, "Social Media Marketing Social Media Marketing: Advantages And Social Media Marketing," 2014.
- **9.** A. M. Nascimento, M. C. M. S. Luft, A. L. R. Dacorso, and J. da S. Correia Neto, "O uso do Facebook no Relacionamento com o Cliente: um estudo comparativo entre Pequenas Empresas Físicas e Virtuais," 2013.
- **10.** L. Shahnaz and S. Wok, "Religious Motives for using Facebook among University Muslim Students," 2011.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

INCREASING PEDAGOGICAL EFFICIENCY OF ECONOMIC INCENTIVES IN HIGHER EDUCATION OF UZBEKISTAN

Ochilova Gavharbonu Farkhodovna*

*Senior Teacher, Pedagogy and Psychology Department, Faculty of Art history, Navoi State Pedagogical Institute, UZBEKISTAN Email id: gulbahor75@rambler.ru

DOI: 10.5958/2249-7137.2021.02723.3

ABSTRACT

This article discusses the measures taken to provide financial incentives and effective work for teachers of higher education. At the same time, effectiveness and scientific-practical impacts of incentives for teachers in the educational process have been conducted from a socio-psychological point of view. Financial rewardings that specialized for professors and teachers of Uzbekistan also play a urgent role in scientific worldwide standards. Regardingly, the practical measures and decisions in our country in this field are analyzed in detail and clearly.

KEYWORDS: Material Incentives, Economic, Social And Moral Incentives, Incentive Function, Employee Behavior, Wages, Individual Benefits, Professional Growth, Motivator, Incentive, Responsibility, Incentives, Additional Fees And Bonuses

INTRODUCTION

Today, modernizationall spherasis considered to be the most conversive issue in our life such as in the education system. Creating an innovative educational environment, ensuring its full compliance with international standards is an important factor in the successful socialization of our youth in today's rapidly changing social life. The implementation of the "National Program of Personnel Training" involves improving the structure and content of the system of continuing education on the basis of modern scientific achievements and social experience. First of all, it is necessary to provide all educational institutions with modern teaching methods based on advanced, scientifically modern methods. The purpose that tasks and content of educating the younger generation is one of the most pressing issues facing the system. Nowadays, We all deeply understand that only young people who are taught on modern ways, who can compete with their peers of the most prosperous countries of the world, who are physically and spiritually fit and we can be able to continue the work we started and take it to a new level. In order to bring up well-educated, good behavior young people, it is necessary to have qualified, well-trained teachers. That's why there are so many tasks for teachers today.

In any society, younger generation education is based on a specific goal. The purpose of education is determined by the development of social society, its direction of development, the content of social relations. Incentives for teachers who are one of the most active participants in the educational process, and their financial support serves to increase the effectiveness of the development of the field.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The development of an incentive systemis an important factor in the effectiveness of any institution for the quality and effective performance of employees. Careful increase of the awarding system allows to mobilize labor potential, stimulates the interest of workers in the growth of individual results, helps to demonstrate creative personal potential, enhances their skills and improves the quality of workpotensial. Motivation is the first and foremost, an external motivation is an element of the working condition that affects a person's behavior in work environment together with a material shell of employee motivation. Meanwhile, it carries an intangible burden on its own, which allows the employee to understand themselves as an individual and as a worker. [1]

Performing economic Incentives has social and ethical functions. The economic function is to encourage the effective labor of one employee, helping to increase the overall labor productivity, which is reflected in the increase in labor productivity and product quality.

Moral function is expressed by the stimulation of labor and the formation of an active life position, the moral environment in society. Additionally, it is vital to ensure a proper and reasonable system of rewarding, taking into account traditions and historical experience.

Social function is provided by the formation of a social structure in many respects through different levels of income that depend on the impact of benefits on different people in society.

Incentives are often described as an external influence on an employee to motivate him or her to take effective action. Incentives have a certain dualism, which is on the one hand that means end from the point of view of the administration of the establishment (increasing efficiency) the labor of workers, the quality of the work they perform). On the other hand, the possibility of receiving additional benefits from the position of the employee (positive incentive) or the possibility of losing them (negative incentive). Also, we distinguish between positive stimulation (the ability to have something, the opportunity to achieve something) and negative stimulation (the ability to lose any need).

Developing the system of incentives for employees' behavior of higher education institutions will help to prevent the following problems [2]:

- High staff turnover;
- Contradiction;
- Low level of executive discipline;
- Neglect of work;
- Low level of interpersonal communication;
- Problems of team building;
- Dissatisfaction with staff performance;
- Lack of employee's initiative;
- Inadequate focus on learning and practice;
- Low mood in the team, etc.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Employee's iconomic support methods can be very diverse and depend on the complexity of the incentive system in the enterprise, in the whole management system and the specific characteristics of the enterprise.

Sociological research shows that among the forms of stimulation [3], the largest weight faculty consists of salaries and individual benefits which followed by various bonuses. Medical insurance, financial assistance, access to credit are different from others but the following forms are also considerd to be important: good moral environment in the community, career, good working conditions, extra payments, convenient time. Perfectly, the teacher incentive system should create conditions for employees to work "well" based on internal reasons rather than external labor obligations (should give maximum results in terms of quantity and quality of educational services provided). However, in reality, this task does not have a sufficient level of performance because not all employees are "in place" (they work in accordance with their work) and not all actions have an interesting content for the employee. Therefore, in order for the incentive system to be balanced, it is necessary to include in it both positive influence and negative stimuli elements.

The function of positive elements (motivators) is to arouse and support a positive attitude to the work of workers, which helps to increase the quality and productivity of labor, as well as to strengthen the desired production efforts.

Most motivators include the following factors [4]:

- 1. Achievement (quality activity) is the ability to successfully completing a giventask, perform planned tasks, solve problems, see the results of their work.
- 2. Recognition is the evaluation of a real achievement in a job that based on its value. Sources of recognition may include: direct supervisor, senior authorities, colleagues, clients, the public, subordinates. Means of expressing recognition can be: verbal praise or written gratitude, increasing the amount of reward or rewarding with a valuable gift, a new, more complex task.
- 3. The content of the work (internal aspects of the work) characterises in which a person experiences satisfaction and positive emotions (for instance, the criteria of the work are its creative nature, complexity and diversity, ability to perform the task from beginning to end). This factor has a long-term stimulating effect.
- 4. Responsibility is the actual position of the employee in the organizational hierarchy. It is characterized by the following criteria: the ability to work without constant supervision by acquaintances, to be responsible for their actions and results, to be responsible for the work done by other people; the ability to manage resources (e.g., mini-budgets), the right to sign.
- 5. Incentives are real changes in the official status or reputation of an employee in the organization. Often this is accompanied by feelings or opinions such as a person's professional and personal growth, recognition, success and responsibility.
- 6. Professional growth is an opportunity to develop and encourage your competencies.

The result of the incentive system should be increased through the efficiency of its activities, which in turn can be achieved by increasing the efficiency and quality of work of each employee.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

I would like to suggest the following recommendations to increase the independence and activity of employees [5], interest and mutual support of work outcome, to make work more interesting and colorful.

In the working place, a single team view needs to be formulated. It is necessary to explain to employees the purpose and mission of the organization, as well as to formulate the existing tasks with employees and ways to solve them. Furthermore, every employee wants to show what they are capable of and what it means to others, so it is important to recognize the results of a particular worker's performance. It is useful to organize internal competition, perhaps even competition among employees, to encourage them to work more efficiently. The main thing here is that competition does not lead to a situation where the failure of some becomes a reward for others. [5]

Giving the employee access to their knowledge and exchange experience that get help and support if needed. Trade union committees allocate more funds for recreation and leisure, providing free travel (or 50% of their value). All of these are examples of the material aspects of incentives.

The decree number 5847 in October 8, 2019 of the President of Uzbekistan "On approval of the Concept of development of the higher education system of the Republic of Uzbekistan until 2030", "Approval of the Concept of improving the normative activity The decision of the Cabinet of Ministers is the main measure to ensure the implementation of the tasks set out in the decree No. PF-5505 of August 2018 and to improve the system of appropriate incentives for teachers and staff at the expense of extra-budgetary funds. The main content of the decision is follows:

Material incentives for professors and other categories of employees of higher education institutions in the form of monetary rewards, as well as extra-budgetary through the establishment of bonuses and surcharges to basic salaries by management for high creative and production achievements at the expense of funds.

The amount of bonuses, bonuses and bonuses is determined by the individual contribution of each employee to the efficiency and effectiveness of the educational institution.

Supervisors, surcharges and bonuses to the heads of higher education institutions (rectors, vice-rectors, branch directors and deputies) for high creative and industrial achievements in their field are determined by the relevant decisions (consent) of higher organizations. [6]

In order to improve the quality of training, strengthen the scientific and intellectual potential and material and technical base of educational institutions, the administration (administration) of the educational institution annually provides financial incentives based on the effectiveness and quality of work performed by faculty and staff. must determine the order and size.

Financial incentives can be given not only to one teacher, but also to teachers' staff of the entire team, department, faculty, research laboratory and other departments that carry out public works by the management of the educational institution or other governing bodies. In this case, the list of employees who will receive financial incentives must be confirmed by specific indicators of the work performed, information about the results achieved and other documents.

Amount and sources of incentives

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

According to the resolution of the Cabinet of Ministers of the Republic of Uzbekistan from July 5, 1996 of No. 236 in the established amount, and for other categories of employees of the higher education institution the amounts are determined and paid by the order of the rector on the recommendation of the trade union of the institution. [7]

In order to attract highly qualified specialists in higher education institutions that have moved to a system of self-financing, to improve the quality of educational services, the types and amounts of bonuses and financial incentives for faculty and staff is determined independently. Funds for financial incentives of higher education institutions Proceeds from the payment of tuition contracts, proceeds from the provision of other educational services, sponsorship funds, proceeds from entrepreneurship and other extra-budgetary funds not prohibited by law.

Not more than 30% of the tuition fee can be spent on financial incentives for faculty and other staff.

The main criteria for financial incentives for professors and other staff of higher education institutions [5]

- Significant achievements in the organization of the educational process, their constant updating to world standards, achievements and prospects in the development of science, technology, new technologies and culture, the organization of special courses in areas that determine scientific, technical and social development;
- -have high pedagogical skills that ensure the effectiveness and quality of teaching and learning, scientific and methodological level of teaching, which enhances the creative and cognitive abilities of students:
- -use of active methods of teaching and control of knowledge, ensuring the harmony of education and upbringing, the formation of high moral values of the younger generation, the achievement of five initiatives;
- -creation and development of new generation textbooks and manuals;
- Improving the organization and conduct of all types of internships, management of student design circles, youth creative centers and student research, as well as the selection of talented students, active participation in competitions, conferences and symposiums; [8]
- -Development and introduction of new forms and methods of teaching using modern computer techniques in the educational process, the formation of independent learning of students;
- Participate in research on topical issues of higher education in order to improve the quality of trained specialists and their application in the educational process;
- effective work in scientific-methodical councils and educational-methodical associations, development of specific proposals for the training of specialists, taking into account the curricula and programs, as well as the real needs of the national economy;
- -Publishing articles, monographs and books that make a worthy contribution to the development of science and technology and the national economy;
- Active participation in various socio-political and public events in the interests of the Republic of Uzbekistan;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- Achieving positive results in the training of research and teaching staff, scientific guidance of doctoral students, including doctoral students in foreign countries;
- -to the applicant (if they are working in a higher education institution) and his / her supervisor after receiving the degree of Doctor of Science;
- Supervise diploma projects implemented during the reporting year;
- -organize the learning process using one of the foreign languages (English, French, German);
- to take personal initiative in increasing extra-budgetary funds, as well as to enrich the material and technical base of the educational institution on the basis of sponsorship;

The personal contribution of each member to the efficiency and effectiveness of the educational institution, the timely and quality performance of assigned tasks and active participation in public affairs are also very important. [9,10]

The conclusion is that if the pedagogical staff of any educational institution is well-off, it will be prevented from irresponsibility in their profession by giving in to work efficiency and other external influences. In addition, it is one of the most important factors in preventing corruption in higher education by teachers.

REFERENCES

- 1. Babynina LS. Forms of employee incentives. Manual on personnel management. 2004;(8).
- 2. Vesnin VR. Management for all. M.: Lawyer, 2005.
- 3. Vikhansky O, Naumov A. Management: man, strategy, organization, process. M., 2005.
- **4.** Jukov AL. Incentive methods based on organizational results. Personnel officer's reference. 2007;(6).
- **5.** Katkov V. Productivity: Incentives and Incentive Factors. Personnel service and staff. 2008;(11).
- **6.** Kibanov AYa, Batkaeva IA. Motivation and Motivational Work Activity: Textbook. M.: INFRA. 2010.
- **7.** Magura MI, Kurbatova MB. Modern personnel, technologies. M.: Personnel Management, 2003.
- 8. Petrovich MV. Organizational Management. Publishing House: Dictation, 2008
- **9.** Ruzhentsev NA. Employee satisfaction as an indicator of a company's efficiency and competitiveness. Standards and quality. 2001;(2).
- **10.** Fedorova NV, Minchenkova OYu. Organizational personnel management: textbook. M.: KNORUS, 2011.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

"IMPROVING USING MULTIMEDIA TECHNOLOGY IN MUSIC LITERACY OF SECONDARY SCHOOL STUDENTS"

Ochilov Zayniddin Saypiddinovich*

*Senior Lecturer of Art History Faculty, Navoi State Pedagogical Institute, UZBEKISTAN Email id: gulbahor75@rambler.ru

DOI: 10.5958/2249-7137.2021.02724.5

ABSTRACT

This article studies a new approach and direction in the use of multimedia technologies in music teaching and learning lessons, and discusses modern electronic gadgets and their potential in music practical lessons. The content of the multimedia is widely covered in the lessons and how music learners can use the multimedia freely and independently. Particularly, computer and electronic mobile gadgetswhich are visual and audio technologies from multimedia are great interest and motivation for the learners. In addition, the integrated use of multimedia in a variety of disciplines has been considered to enable effective study of the subjects.

KEYWORDS: Gadget, Electronic Textbook, Multimedia, Creative Environment, Motivation, Motive, Instrument Range, Music Teacher,

INTRODUCTION

Human thought is developing to such an extent that the process of technicalization and computerization is extensively entering not only the various spheres of production, but also the spheres of culture and education. The rapid development of computer technology has taken the educational process to a new level. Also, this is necessary for further enrichment with new knowledge and skills to revise the content, methods and forms of education.

Modern music lesson is a process including the performance of electronic musical instruments, using innovative pedagogical technologies and computer technology. Music lessons are characterized by the creation of a creative environment, as the content of music lessons consists of emotions and their subjective experiences. In the creative process of teaching computer music, there are a wide range of opportunities, both at the professional and amateur levels. Computer technology has opened a new phase in the technical replication of musical products: in music recordings, in applied music genres, in recording instruments, in improving the quality of sound reproduction equipment, in sound polishing, in theater and concert activities, in sound. Even electronic gadgets have become a great convenience in a musician's practice because the learner now has the opportunity to practice it using through electronic multimedia gadgets without having to buy an exact musical instrument. [1]

Multimedia (means "multidisciplinary") is a complex concept of modern information technology. Multimedia is the collection, storage, processing and transmission of information through various forms of information (text, tables, graphics, speech, animation, animation), video, music. Multimedia is a new improved stage of "human-computer" interactive (dialogic)

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

communication, in which the user receives a wide range of information. Multimedia is used in entertainment, education and advertising.

The use of multimedia in the educational process has great pedagogical and psychological importance [2]. Due to the fact that, the material is studied more deeply, saves time, the information is stored in the memory for a long time, the participation of small school-age students as passive listeners is reduced, multimedia programs are implemented to improve curiosity and cognitive activity. Art is added to the lim process.

Shortly, multimedia [3] activates and reinforces the motivations of education, such as emotional and aesthetic influence, goal-orientation and research. It is well known that the learner remembers only a quarter of the topic he or she first hears and only a third of the material he or she sees; remembers fifty percent of the information when both seeing and hearing. When using interactive multimedia technologies, the figure is 75%.

Advantages of multimedia technologies:

The use of multimedia technologies in education has the following advantages over traditional education:

- allows the use of color graphics, animation, soundtrack, hypertext;
- provides constant updating;
- Low costs of publishing and reproduction and operation;
- allows you to place interactive web elements, such as tests or workbooks;
- allows copying and transfer of parts for correction;
- allows the passage of the material to be non-linear due to the large number of hyperlinks;
- Establishes hyperlinks to additional literature in e-libraries or educational sites, as well as opens the door to large-scale data processing and learning.

Multimedia create opportunity the combination of verbal and visual-sensory [4] (pictorial) information, which helps to motivate students, creating a real environment for learning. For example, a child learning music will be able to work independently and create creative ideas without too much difficulty through multimedia.

Objective necessity of mastering information and computer technologies:

- Firstly, for the professional training of composers and performers;
- Secondly, for use as a source of auxiliary training material (reference, reading, editing, recording, sound restoration, voice bleaching).

In some Russian universities, electronic technologies related to musical creativity are studied as a subject of the curriculum. In such educational institutions computer systems are developing sound "dictionaries", lighting and color special effects, film-video sequences, musical compositions with the help of acting pantomimes.

Computer programs are also used to teach playing the instrument, to improve the musical ear, to listen music, to choose melodies and to arrange, improvise, type, and edit music lyrics. Computer

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

programs allow you to determine the range of the instrument, the fluency of the performer on the pieces, the performance of strokes and dynamic tones, articulation,

In addition, the computer gives opportunity you to study the pieces with an orchestra. It can also act as a conductive "simulator" (using television equipment). By computer programs you can perform musical and auditory analysis of the tones (themes) of works in the course of music history. For many music sciences, the computer appears to be a valuable source of bibliographic and encyclopedic information.

The use of information and communication technologies in the practice of music-pedagogical work opens up great opportunities. Colorful information presentations, videos, multimedia guides will help to diversify the process of introducing children to the art of music, to make the meeting with music more vital and interesting. Lessons using information technology not only enlarge and strengthen the knowledge gained, but also significantly increase the creative and intellectual potential of students.

The main purpose of the use of information and communication technologies in music lessons can be considered as the activation of students' cognitive and creative activities.

The use of information and communication technologies in the music education and upbringing of children also solves a number of important tasks [5]:

- increase students' motivation to study;
- developing students' interest in independent creative activity; increase students' creative potential;
- increase students' interest in music culture;
- Enriching the methodological capabilities of the organization of joint activities of teachers and students, giving it a modern level.

Innovative technologies [5] teach students in order to find solutions to difficulties toward their knowledge, learning and analyzing independently even to draw their own conclusions. Innovative technologies innovate, change and implement the activities of teachers and students in the pedagogical process. By "interactive" we mean team thinking. The word "innovation" means "innovation." The ultimate goal of innovative technology is for teachers and students to work together quickly and easily to achieve a guaranteed outcome. The teacher acts as a "Manager" and a "Guide" in this process. Students, on the other hand, act as the main "performers". If students are able to think independently, research, draw conclusions, and groups evaluate each other in the teaching process, then the teacher will provide them with opportunities and conditions for such activities, which is the basis of the teaching process. [6]

The use of information and communication technologies in music education and upbringing stimulates the development of students' thinking, comprehension and memory; allows to make the training material more understandable; expanding the conceptual scope of past musical themes; helps to improve the mastery of the learning material. The use of information and communication technologies in music education helps to develop the skills of active understanding of music, to enrich children's musical experience, to inculcate knowledge in them, which is an important condition for enriching the musical culture of students in general. [7,8]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

As a music teacher, he not only has a wide range of knowledge in his field, but also other aspects of music.

Have a good knowledge of sciences, such as literature and fine arts. A person who educates students in music, art, and aesthetics should have a worldview, thinking, dedication to their profession, and continuous improvement of their skills.

Experience in the use of multimedia technologies has proved that [9]:

- Students' interest and activity in work will increase sharply;
- Algorithmic style of thinking is developed, the ability to make optimal decisions, change actions is formed:
- The teacher is freed from the mass of regular work, provides an opportunity for creative activity based on the results obtained.
- Emergency leads to the creation of new ideas, while the motivation acquired in the lessons, both physically and psychologically, strengthens health, protects against disease and improves mood.

In short, the multimedia tools used in the field of music, which include creativity, guarantee a higher level of efficiency and results than expected. It would be better to rely not only on modern methods, but also on traditional ones [10,11].

REFERENCES

- 1. Shtepa V. Computer training programs in music lessons. M.: Education, 2011.
- 2. Clarin M. Pedagogical technology in the learning process. M.: Education, 2009.
- **3.** Beloborodova V. Methods of music education. M.: Academy, 2010.
- **4.** Sharipova G. Methods of teaching music. TDPU, 2004.
- **5.** Zakharova I. Information technology in education. Study guide for higher education. Learn Businesses. M.: "Academy", 2008.
- **6.** Dmitrieva A, Chernoivanenko N. Methods of teaching music at school. M.: Academy, 2011.
- 7. Selevko P. Modern teaching technologies. M.: Education, 2010.
- **8.** Shtepa V. Computer training programs in music lessons. M.: Education, 2011.
- **9.** Polat, ES. New pedagogical and information technologies in the education system. M.: "Academy" Publishing House, 2000. 417 p.
- 10. Yuldashev Sh, Usmanov S. Basics of pedagogical technology. Tashkent, Science, 2001.
- **11.** Khristochevsky SA, Basic elements of electronic textbooks and multimedia encyclopedias. Informatics systems and tools. M.: Fan. Fizmatlit, 2003;(9):263.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE ARTICLE EXAMINES THE FEATURES OF THE ARCHITECTURAL ORGANIZATION OF THE SCHOOL OF THE NEW DIRECTION USING THE EXAMPLE OF THE IRKUTSK SMART SCHOOL

Temur Khidoyatov*; Tatyana Nazarenko**; Dildor Begmatova***; Kamol Allayarov****

* Doctoral Candidate of Architectural Science, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN

**Associate Professor
Tashkent Institute of Architecture and Civil Engineering,
Tashkent, UZBEKISTAN
Email id: tanya.nazarenko.1990@bk.ru

***Senior Lecturer,
Tashkent Institute of Architecture and Civil Engineering,
Tashkent, UZBEKISTAN
Email id: arxitektor1991@mail.ru

****Senior Lecturer,
Tashkent Institute of Architecture and Civil Engineering,
Tashkent, UZBEKISTAN
Email id: toshkent13579@gmail.com
DOI: 10.5958/2249-7137.2021.02742.7

ABSTRACT

The article examines the features of the architectural organization of the school of the new direction using the example of the Irkutsk Smart School. A clear and so far the only example of building a school based on this concept is a school in the Irkutsk region. The features of the project, designed for more than a thousand students, are a compact low-rise closed planning composition of buildings with openness, thanks to extensive panoramic glazing into the surrounding nature. The features of the project, designed for more than a thousand students, are a compact low-rise closed planning composition of buildings with openness, thanks to extensive panoramic glazing into the surrounding nature.

KEYWORDS: Smart School, Architectural And Planning Composition, Development Perspective, Flowing Spaces, Progressive Trends, Original Architectural And Imaginative Solutions

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INTRODUCTON

A distinctive feature of modern design and construction practice is a noticeable intensification of the search for new directions in the architectural organization of secondary schools. Among them, the development trend of the so-called "Smart Schools" comes to the fore. For the first time in the entire post-Soviet space, the concept of "Smart Schools" originated in Russia in 2014-16. Its main goal was to create a variable form of education, in which each student has the maximum opportunity to receive his own individual education, i.e. the educational system is, as it were, adapted individually for each student. This concept assumes that each student develops his own educational attitude, the ability to set goals for himself, look for resources to achieve them, learn everything that will have to be faced in adulthood. It also assumes the absence of special selection, on the contrary, it proclaims the representation for children of a wide variety of abilities, equal opportunities on the basis of social justice. A clear and so far the only example of building a school based on this concept is a school in the Irkutsk region. For its construction, a plot of 20 hectares surrounded by a natural beautiful natural landscape was allocated near Irkutsk near the Chertugeevsky Bay, not far from Lake Baikal. The construction of the school complex was carried out according to the project of the Danish company CEBRA, the winner of the competition, in which more than 50 architectural bureaus took part. Specific local climatic conditions and the surrounding natural landscape have determined a closed volumetric-spatial composition with open recreation developed in its center (Fig. 1).



Figure 1.Smart school, general view

Therefore, the composition of the school. The complex included a special settlement for foster families, which houses 30 comfortable cottages and apartments for foster families, each of which is engaged in raising 5-6 children. All this taken together creates a generally comfortable environment for the learning and development of children from 3 to 18 years old with the aim of their maximum adaptation to the new living space. The features of the project, designed for more than a thousand students, are a compact low-rise closed planning composition of buildings with openness, thanks to extensive panoramic glazing into the surrounding nature. This architectural

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ensemble with a peculiar design combines, in addition to residential buildings, art and craft workshops, sports grounds and concert halls. All this is surrounded by a landscaped area filled with gardens and parks, sports, playgrounds, and a unique natural landscape, with which, thanks to the use of continuous panoramic glazing in the floor arranged in the recreational areas and living rooms of residential sectors, a visual connection is established between the surrounding landscape and the interior creating the illusion of flowing spaces (Fig. 2). For the sake of greater expressiveness, the technique was usedRice. 2 Visual connection between the interior and the surrounding landscape [1].



Figure 2. Visual connection between the interior and the surrounding landscape

"Play" geometry of window openings of arbitrary sizes, which seem to scatter along the facades of objects in a free and random order (Fig. 3).

Small cozy windows illuminate bedrooms, and spacious window openings for classrooms and libraries. Against the background of actively used wooden cladding of the facades in red, they give the appearance of the complex some originality and vivid figurative expressiveness. As conceived by the authors of the project, the students of the school will take an active part in zoning and filling the surrounding space, Fragment of the facadeto train and train your landscape design skills here.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Figure 3. Fragment of the facade

In a smart school, sectors of different functional purposes are united by a large-scale courtyard space intended as a single center for communication between schoolchildren (Fig. 4).



Figure 4. The device of continuous glazing of the courtyard facade of the school

As a result of this review, it can be assumed that the progressive trends developed in this school inspire optimism that this experiment, bold in its novelty, will give good shoots in the modern design and construction practice of general education schools not only in Russia, but also far beyond its borders. , including Uzbekistan. There is also hope that an unprecedented experiment will become a good "infectious" example for a "breakthrough" to improve the architectural organization of future schools in Uzbekistan, both in ensuring comfortable conditions for students to stay in the surrounding school environment, and in educational technologies and reaching the level of world standards. [2]

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES:

- **1.** Saidov AA. The basic principles of increasing the density of multi-story residential development. European Journal of Molecular & Clinical Medicine, 2021;8 (1):732-740.
- **2.** Saidov AA. The Planning Solution and Landscape Design of Courtyard Spaces in Multi-Storey Residential Buildings of Uzbekistan. International Journal of Advanced Research in Science, Engineering and Technology, 2018;5(11):7243–7248.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

PROSPECTS FOR DEVELOPMENT OF BIM TECHNOLOGIES IN **UZBEKISTAN**

Buronov Nizomjon Sobirovich*

*Doctoral Student, Tashkent Institute of Architecture and Civil Engineering, Tashkent, UZBEKISTAN Email id: buronov.ns@umail.uz

DOI: 10.5958/2249-7137.2021.02743.9

ABSTRACT

The article discusses the possibilities of application and the need to implement BIM technologies in the field of architecture and construction. The experience of foreign countries is analyzed, the possible benefits and prospects of using BIM technologies are summarized, and the reasons that prevent their implementation are derived.

KEYWORDS: BIM (Building Information Modeling), Design Technology, Automation Of Design Processes, Autodesk Revit, Architectural Education, Digital Twin.

INTRODUCTON

The active introduction of BIM technologies, and in general, the process of digitalization of the economy has captured all the CIS countries. The need for digital transformation of the country is recognized and recognized at the state level: by the Decree of the President of the Republic of Uzbekistan No. DP-2946 dated 05/02/2017, the concept of digital transformation "On measures to further improve the activities of design and survey organizations" was approved. One of the points of this Resolution provides for "strengthening the material and technical base of design organizations, the introduction of modern technologies for automated design of facilities using advanced licensed software products" [1]. Digital transformation is a natural stage in any modern state, which provides an opportunity to adapt the economy to new realities and world standards, guaranteeing the viability of the country's economic prosperity.

BACKGROUND OF THE STUDY

The real start of the implementation of digital technologies in the construction industry of Uzbekistan was laid by the Presidential Decree No. UP-5577 of November 14, 2018 "On additional measures to improve state regulation in the construction sector" [2].

The undisputed world leader in the implementation of digital technologies in the field of construction and design is the UK. Among the CIS countries at the state level, this process has been launched in Belarus since 2011, and in 2012 an industry program for the implementation of BIM technologies was adopted, since the technological platform for digital construction is BIM technologies that ensure the country's construction industry reaches a qualitatively new level. [3].

Russia and Kazakhstan began their state programs for the implementation of BIM technology in 2014. To date, these countries have approved "road maps", according to which measures are being taken to introduce BIM technologies into construction.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It is already an indisputable fact for everyone that the use of BIM technologies in construction guarantees enormous opportunities at the stages of design, construction, operation and disposal of buildings and structures. Indeed, today investors are concerned about the stage of operation and the demolition of an object no less than the construction itself.

RESULTS AND DISCUSSION

The informatization of the construction sector can hardly be called an innovation. It is believed that the idea of BIM was first formulated by Professor of the Georgia Institute of Technology (USA) Chuck Eastman back in 1975, that is, more than 40 years ago. But the technological level of development of that time did not allow the development and implementation of this idea [4].

The foundation of the digitalization process in the construction industry was the automation of architectural design, which was initiated by the Autodesk 2D vector graphics package AutoCAD in 1982, which made it possible to use a computer as an electronic drawing board for quickly and conveniently creating two-dimensional design documents. Then came three-dimensional and parametric modeling programs (ArchiCAD), where the designer was provided with the widest set of necessary tools and operations focused on architectural and construction design and allowing to create virtual models of objects parametrically corresponding to a real prototype. Virtual models allowed architects, builders and customers to view projects from all sides, extracting design and, first of all, visual information necessary for construction in the form of design documentation and demonstration materials: drawings of floor plans, sections and facades; statements, specifications, explications; photorealistic images, animated films. The computer model of a real construction object made it possible to work with closely interconnected elements, due to which all changes made to the model are automatically entered into the design documentation, which guarantees the exact correspondence of all drawings to the project, since the drawings are representations of the same model, but from different angles [5].

Revit software was developed in 1998, which, unlike ArchiCAD, could handle complex and more complex projects. Within a couple of years after its first release, Revit was owned by Autodesk. Since then, Autodesk has promoted it under its own brand and popularized this software product and the term BIM itself. Now, thanks to the Revit software, it is possible to enter not only the characteristics of materials and technological processes, but also information on purchases and supplies into the virtual model of the future building during the modeling process.

Thus, already at the design stage, you can:

- calculate and plan the time spent on the construction process (4D-time),
- calculate material and financial costs (5D-cost),
- Accumulate information about the construction object to determine the need for subsequent maintenance (6D-operation), restoration and demolition of the object (7D-disposal).

Thus, BIM is a new scenario for managing all life cycles of a real estate object from the moment of the inception of a project idea to the moment of its disposal.

The relatively small experience of Belarusian, Russian and Kazakh design companies shows that the introduction of BIM technologies already at the design stage makes it possible to shorten the construction period of an object, optimize all construction processes and reduce costs by 20%.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Despite the global trend and the boom in the transition to information modeling of construction projects, in Uzbekistan BIM technologies are practically not represented by local design companies.

There are several reasons for this:

- Lack of interest of industry organizations to switch to new technologies that involve additional costs associated with the purchase of new equipment, software and retraining of employees;
- Shortage of qualified and proactive personnel who own BIM technologies;
- deficiencies in the legislative framework, outdated building codes and regulations, inconsistency of the system of state standards for the implementation of construction projects using modern technologies;
- The lack of awareness of industry organizations about BIM technology and the effectiveness of its use, and therefore the lack of demand for the development and implementation of design and construction work using BIM technology.

The main driving force and the key to the success of the implementation of BIM technologies are qualified personnel. Basically, due to the novelty of BIM technologies, training of specialists capable of implementing, supporting and solving related tasks in one of the largest sectors of the country's economy, construction, is just beginning in Uzbekistan. Undoubtedly, it is worth noting the fact of creation, with the direct support of the Ministry of Construction of the Republic of Uzbekistan, on the basis of TOSHUIZHOILITI JSC, a retraining center for specialists of design organizations (BIM center). Such events will bear fruit in the near future.

But training and retraining of personnel is carried out separately, independently and often spontaneously. Until now, the doctrine is not clear and a unified strategy for the development of BIM technologies has not been concretized. If necessary, it is necessary at the state level to outline the first steps of the participants in the process, to recommend the number and list of required software products.

In turn, the teaching community of architectural and construction educational institutions is faced with the task of developing and introducing new teaching methods into existing educational processes. One of the advantages of BIM technologies is the principle of teamwork through a single information model of the construction object, which implies close interaction of all project participants at all stages of the construction object's life cycle. However, the existing education system, including in Uzbekistan, is aimed at training bachelors only within their own profile, which does not provide the necessary conditions for joint work on a BIM project.

First of all, for the training of specialists with such competencies, pedagogical personnel are needed who are able to develop such educational programs that will provide all the necessary set of knowledge, skills and abilities. Secondly, even despite the practical absence of teachers capable of introducing BIM disciplines into the educational process, it is necessary to open the specialties of "BIM designers" in educational institutions of all levels. Finally, we need to introduce widespread training in Autodesk Revit for all specialties of architecture and civil engineering universities.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The issue of retraining and advanced training of university teachers should be among the first to be resolved, since after the training of teachers, the first graduates will appear on the labor market no earlier than 5 years later, and personnel who own BIM technologies are needed today.

In December 2018, a group of teachers from the Department of Interior and Landscape Design of the Tashkent Institute of Architecture and Civil Engineering took the first step in mastering BIM technologies and were trained to work with the Autodesk Revit software product in the Republic of Kazakhstan (Autodesk Authorized Training Centers "CAD academy"). This not only expanded the number of programs taught in the already existing Authorized Center ("XLine Education"), but allowed already from the spring 2018-2019 academic semester to start teaching students in the specialty "Design", programs intended for project work using BIM technology. in particular - Autodesk Revit. It is worth noting that on the basis of the center it is possible to undergo training and receive an international certificate from Autodesk Corporation.

CONCLUSION

In general, despite significant advances in the implementation of BIM technologies in the construction industry of Uzbekistan, it is necessary to determine priority research and production, methodological and intellectual activities, as well as create an industry team of qualified specialists in this area. In the plans for the further development of BIM technologies, it is advisable for the Ministry of Construction to create a sectoral work program for the development and application of BIM technologies in order to bring existing developments to the production of products, create a BIM industry for the industry and ensure the competitiveness of the construction industry in the international market.

In the plans for the further promotion of BIM technologies, it is advisable to create an industry program for the development and application of BIM technologies. The creation of a BIM industry will ensure the competitiveness of the construction industry of Uzbekistan in the international market.

REFERENCES

- 1. Erkinovich MZ, Zayniddinovna ES. Hagia sophia as a synthesis of the types of Byzantine temple architecture and an example of the Byzantine building culture of the IV-VI centuries. Asian Journal of Multidimensional Research, 2021;10(8):294–297.
- **2.** Erkinovich MZ. Invitation Projects For Architectural Routes Architectural Environment. PalArch's Journal of Archaeology of Egypt / Egyptology, 2020;17(6):8154-8164..
- **3.** Erkinovich MZ. Cultural And Cognitive Aspect And Factors Influencing The Organization Of The Architectural Environment Of The Aralsea Region Tourist Routes, PalArch's Journal of Archaeology of Egypt / Egyptology, 2020;17(6):8139-8153.
- **4.** Shukhrat R, Zarif A, Zafar M. Role of the design code in improving the quality of the urban environment. Academicia: An International Multidisciplinary Research Journal, 2021;11 (1):1805–1812
- **5.** Adilov Z, Matniyozov Z, Vetlugina A, Xudoyarova D. Educational buildings solutions for typical landscape design, International Journal of Scientific and Technology Research, 2020;9(4):2825-2828

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

EMOTIONAL INTELLIGENCE: A REVIEW

Rashmi Mehrotra*

*Professor,
Department of Education, Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA
Email id: principal.education@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02671.9

ABSTRACT

The development of emotional maturity as a theory is traced in this article, which also includes a literature assessment. It goes through the many ideas and views about emotion and cognition, as well as how the theory of emotional maturity came to be. It also covers the three main models of emotional maturity, their contributions to the theory, and a short assessment of how the theory may be improved in the future.

KEYWORDS: Acceptance, Emotional Intelligence, Expression, Improvement, Feeling.

1. INTRODUCTION

Let us not forget that our little impulses are the huge captains of our life, and we blindly follow them. Van Gogh, Vincent, 1889. Emotions are what make a person who they are. Emotions determine a man's fate and form his outlook on life. Mano Matram Jagat; Mano Kalpitam Jagat (the world is as the intellect sees and feels it; the world as the brain knows of it) is a popular Sanskrit proverb. A dictionary definition of emotion is "a emotional state involving opinions, physiological changes, and a proactive attitude or behavior." However, theologians, psychologists, philosophers, scientists, and researchers have developed and continue to develop different theories to try to comprehend its bottomless vast stretches of intrigue and fascination. While theologians examine emotions, or rather their management, as a way of knowing the Supreme Being, social psychologists has debated the importance of emotions to the person and society[1].

Natural scientists, such as physiologists, are more interested in the origins, origins, and function of emotions. Humans are a highly emotional and rational species. While logic allows them to make mathematically precise judgments, emotions allow them to comprehend and sympathize with others, making them more "human." Traditionally, individuals with strong reasoning abilities and a logical bent of mind were thought to be cleverer. Only the thinking and logical ability of the individual were evaluated in the IQ tests that were intended to determine a person's intellect and competence[2]. IQ tests were deemed successful, according to Woodworth (1940), when they examined a person who was "not frightened, furious, or curious about topics that evoked emotions." Emotions were believed to be disruptive in nature, impeding a person's ability to think clearly. "Jupiter has given much more emotion than reason — you might calculate the ratio as 24 to one," Erasmus of Rotterdam, a sixteenth-century humanist, said. In contrast to Reason's lone might, he built up two roaring tyrants: wrath and desire. The ordinary life of man demonstrates how far reason may triumph against the combined powers of these two." Goleman (1995) cites this source. Young (1943) described emotions as "acute individual disruptions..."

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and thought that emotions caused individuals to "lose control." However, not everyone experienced or accepted feelings as "disorganized disruptions". "... emotions are of very remarkable significance in the overall economy of living beings and do not deserve to be pitted against "intelligence," according to Mowrer. Emotions seem to be a higher level of intellect in and of themselves." There was a change in emphasis from treating emotions as a source of disruption to treating them as a source of cognitive assistance. The "cognitive theorists," who believed that emotions were based on personal interpretation or evaluation of a specific experience, established the positive connection between emotions and cognition[3].

Any event or occurrence has a personal meaning for each individual, and the individual responds in accordance with this personal meaning and his assessment of the event based on his own well-being. Others, such as Stanley, Schachter, and Jerome Singer, argued that emotion included both physiological and cognitive activation. Even when individuals experienced a condition of "nonspecific physiological arousal," such as anger, happiness, or others, they attempted to analyze and reason it out to find out what such arousals meant for them. Some theorists described the process of emotion as first recognizing the objects or occurrences, then evaluation, third physiology, fourth action or expression, and lastly control, according to the author. There is no doubt that emotion will disturb cognition since the evaluation occurs first and then the emotion[4].

Researchers have progressed from believing that emotions are disruptive to believing that emotion and reason are intertwined and that, in most cases, cognition or reasoning comes before emotions. Intelligence and emotion, which were formerly regarded distinct disciplines, have now been combined into a single field called "Cognition and Affect". Emotions are seen from a variety of viewpoints. Because of the subjective character of emotions, it's difficult to come up with a universally recognized definition or theory. It's almost difficult to scientifically comprehend something that can only be felt and experienced. Various theories on emotions have been proposed in an effort to comprehend the nature of emotions and how individuals perceive them. While the James-Lange theory holds that a specific event or event produces a physiological change, which is subsequently translated into an emotion, the Cannon-Bard hypothesis holds that we experience both the physiological change and the emotion simultaneously[5].

The Schachter-Singer Theory incorporates a conceptual perspective that intervenes between physiological change and emotion categorization. The Lazarus hypothesis states that thinking comes first, followed by emotion perception, whereas the Facial Feedback theory states that emotions are experienced via facial expressions (for example, when someone smiles, he feels pleasure - the expression comes first, followed by cognition). Language impacted thinking, according to Sapir–Whorf, while language and cognition, according to Chomsky, are distinct mental capacities. There are many ideas and notions to consider. Although emotion is "a complex, diffuse concept that can be expressed differently at different levels of abstraction", the beauty and appeal of each of these concepts lies in the fact that they each have their own significance and have revolutionized how people perceive emotions. Emotions were no longer seen only as a source of distress; it was becoming clear that they played a critical role in cognition and motivation. "Emotions guide our attention and encourage us to participate in particular behaviors," writes Caruso (2008). Emotions, he claims, "do not obstruct excellent decision making; in fact, they are essential and crucial for all successful decisions." The

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

effectiveness of emotions will be addressed in more depth later, but for now, suffice it to say that emotions are not inherently antagonistic to reason, as was previously assumed; rather, they aid successful thinking and decision-making. But, before we go any further, it's important to understand the difference between the terms "emotion" and "feeling," as well as why "emotion" is chosen over "feeling." Although the two terms are often used and interchanged, it is important to be exact in word choice and use, particularly since the whole study is centered on emotions and their wise control[6].

2. DISCUSSION

1. Emotion or feeling:

"Feelings are what matter the most in life," stated scientist Charles Birch. It is debatable if it matters the "most," but it is undeniably important. As Wierzbicka points out, the words "feelings" and "emotions" are often interchanged, and some languages (French, German, and Russian) lack a comparable phrase for the English word "emotion." However, there are several key distinctions between "feelings" and "emotions." A "feeling" may be a bodily sensation that is felt, such as a flushed face, a knot in our stomach, or a general sense of discomfort that is caused by an emotion. It is possible to talk about a "hunger sensation" rather than a "hunger emotion." When asked to name a few feelings, one could answer things like happiness, sorrow, guilt, and so on. So, are "feelings" better for physiological or physical reactions, while "emotions" are better for thought? What does person mean when he or she expresses a "sense of loneliness" in this case? Is it something you've thought about or something you've experienced physically?

When we say "emotions," we're referring to the characteristics of all three - feeling, thinking, and bodily experience. Many psychiatrists prefer the term "emotion" over "feeling" since "emotion" seems to be more objective than "feeling", and objective things are simpler to logically and rationally evaluate than subjective things. If "knowledge" is defined as "thinking and reasoning," and emotions are defined as "the character of thinking combined with feeling," can it be assumed that feelings, like any other intelligence, can be studied and assessed? This is the foundation of the emotional intelligence hypothesis, which stresses the significance of emotional regulation and oversight in one's life. The next section recounts the theory's development[7].

2. The evolution of the theory of emotional intelligence:

Only intelligence and knowledge were ever associated with intelligence. It was thought that there was only one kind of "intelligence," referred to as "g" for general intelligence. A person is born with a particular level of intellect that may be measured using short response tests (IQ tests). Psychologists also thought it was difficult to alter this intellect. Can intelligence, however, be defined only by reasoning and mental skills? Gardner raises an interesting issue when he asks if, if IQ testing were to vanish from the world, it would be impossible to determine whether a person is bright or not. Such issues have led us towards a new realm of knowledge in which we have agreed that, in addition to academic power, an individual's natural talents should also be considered when evaluating his or her ability. When tracing the development of the emotionally intelligent hypothesis, one can see that Thorndike emphasized the importance of "non-intellective" components as early as 1920. "The fundamental issue is whether non-intellective, that is, emotional and conative skills, are acceptable as elements of general intelligence," wrote David Wechsler in 1940. Such variables are not only acceptable, but also essential, in my opinion. I've attempted to demonstrate that, in addition to intellectual considerations, there are

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

clear non-intellectual variables that influence intelligent conduct. If the preceding findings are true, we can't hope to assess overall intelligence unless we incorporate some measurements of non-intellectual elements in our tests [8].

3. The Trait Model of Bar-On:

Bar-concept On's of emotional intelligence is more procedure than outcome-oriented, focusing on the "potential for success" but instead of success itself. Emotional intelligence, he claims, may be taught and improved over time via training, coding, and treatment. In contrast to Goleman's approach, the Bar-On model incorporates stress management as well as general mood components such as optimism and pleasure. Aside from this, he uses reality testing to determine how conscious a person is of the difference between the actual meaning and his interpreted interpretation of a scenario, as well as impulse control, which is the capacity to keep oneself from responding recklessly to a circumstance On's model divides the world into five components, each of which is further divided into fifteen subcomponents.

Self-Respect: Emotional Self-Awareness, Assertiveness, Independence, and Self-Actualization are all intrapersonal traits. Empathy: Social Responsibility and Interpersonal Relationships are all interpersonal concepts. Adaptability: Problem-solving, flexibility, and reality testing Stress Tolerance: Impulse Control are two aspects of stress management. Optimism and Happiness are two general mood components[9].

4. The effectiveness model:

Mayer and Salovey described EI as "the capacity to monitor one's own and others' thoughts and emotions, to differentiate among them, and to utilize this knowledge to guide one's thoughts and behavior" when they first presented the term in 1990. They thought that every job included "affective information," and that knowing and controlling it would aid people in "solving issues and regulating behavior". They devised a set of abilities that they thought would aid a person in emotional regulation. They recognized three main skills: "emotion assessment and expression," "emotion control," and "emotion use," which were further divided into:

- A) Emotion evaluation and regulation: If oneself (verbal and non-verbal perception) and many others (non-verbal perception and empathy) a person who can correctly detect his feelings will be able to appropriately react to them, and therefore will be better at expressing them to others. At the same time, he should be able to comprehend other people's feelings. As a result, he is able to adjust to the circumstance and improve his social skills. Emotional intelligence necessitates the processing of emotions in oneself and others, thus these abilities are a component of it[10].
- b) Emotion regulation: in self and others Emotions may be triggered and controlled according to a person's will if he is skilled at consciously detecting those things that make him feel good and those that don't. This talent also sharpens his senses in terms of detecting others' emotions and successfully adjusting or influencing others depending on the circumstance. As the authors admit, this may have a detrimental impact since individuals may attempt to influence others to fulfill their own needs, whether good or harmful.
- c) Emotional intelligence: Flexible planning, creative thinking, redirected attention, and motivation this skill is included in the construct since individuals with emotional intelligence should be more adept at adapting to difficulties. He can organize his activities, think

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

imaginatively, shift his attention, and push himself to make the most out of any circumstance if he is conscious of his emotional condition. The original idea was to concentrate on recognizing and controlling emotions. The authors redefined the theory as "Emotional Intelligence is the able to sense accurately, properly assess, and express emotion; the way to obtain and/or start generating emotions to facilitate thought; the ability to empathize with other people; and the ability to manage stress to promote emotional and psychological well-being". Based on this description, a four-branch model was developed, with the four branches progressing from fundamental to more sophisticated psychological processes. They also think that someone with a high emotional intelligence may advance through these four stages and master the majority of them quicker than someone with a low EI. Each of the four branches was further split into four skill sets[11].

5. The Competency Model of Goleman:

As previously said, Goleman's impact to the area of EI is remarkable in the sense that he disseminated the idea to the point that it was featured on the front page of "Times" almost immediately. With his book "Emotional Intelligence: Why it Can Matter More Than IO" in 1995. he popularized the subject by making bold assertions that bordered on hyperbolic at times, such as EI being the cause for "almost 90% of the difference" between star performers and mediocre performers. Goleman continued research in emotional maturity after being inspired by Salovey and Mayer's results, and developed a four-branch model that was further categorized into twenty soft skills. He added some few personality characteristics including trustworthiness, inventiveness, team player, and others to Salovey and Mayer's EI model, earning the critique that it was "preposterously all-encompassing. He thinks that emotional skills may be learned and cultivated rather than being inherent abilities. As a result, a person's ability to acquire these emotional skills was determined by their emotional intelligence, which he considers to be a latent, inborn capacity. Emotional maturity and emotional competence are apples and apple sauces, respectively. Emotional skills are an outgrowth of EI, which is innate. a) Self-Awareness: Emotional Self-Awareness, Accurate Self-Assessment, and Self-Confidence, according to his four-branch model (2001). b) Ego: Self-control, dependability, conscientiousness, adaptability, achievement motivation, and initiative. c) Empathy, Social Orientation, and Organizational Awareness are all aspects of social awareness. d) Relationship Management: Coaching, Influence, Communication, Conflict Resolution, Leadership, Change Catalyst, Bonding, Teamwork, and Cooperation[12].

3. CONCLUSION

Individuals' life skills may be predicted and improved using the idea of emotional intelligence. The theory's proponents think that understanding, evaluating, and regulating one's own and others' emotions is the key to a better quality of life. Because theorists must first develop a tool or improve on existing measures to properly evaluate and evaluate a person's emotional abilities, the first and most important difficulty they confront is to operationalize their theory. This will also put to rest the second key issue as to whether emotional maturity is a different kind of intelligence or just old wine in a new bottle. Another issue with the concept is there are too many meanings and methods. While this is necessary and beneficial for any new theory, it often causes researchers to get confused about which term or approach to use. As a result, some have dismissed the idea as mere hype, dismissing and dismissing the hypothesis as non-existent. However, as Cherniss et al. (2006) point out, "there is still no agreement on what IQ is or the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

best method to test it" after a decade of study. It's time to reconsider using a different criterion to evaluate or condemn EI.

REFERENCES

- **1.** T. Tagoe and E. N. B. Quarshie, "The relationship between emotional intelligence and job satisfaction among nurses in Accra," Nurs. Open, 2017, doi: 10.1002/nop2.70.
- **2.** J. Carragher and K. Gormley, "Leadership and emotional intelligence in nursing and midwifery education and practice: a discussion paper," J. Adv. Nurs., 2017, doi: 10.1111/jan.13141.
- **3.** G. O. Celik, "The relationship between patient satisfaction and emotional intelligence skills of nurses working in surgical clinics," Patient Prefer. Adherence, 2017, doi: 10.2147/PPA.S136185.
- **4.** N. K. Ibrahim, W. A. Algethmi, S. M. Binshihon, R. A. Almahyawi, R. F. Alahmadi, and M. Y. Baabdullah, "Predictors and correlations of emotional intelligence among medical students at King Abdulaziz University, Jeddah," Pakistan J. Med. Sci., 2017, doi: 10.12669/pjms.335.13157.
- **5.** J. Z. Mukonoweshuro, C. Sanangura, and E. Munapo, "The role of servant leadership and emotional intelligence in managerial performance in a commercial banking sector in Zimbabwe," Banks Bank Syst., 2016, doi: 10.21511/bbs.11(3).2016.10.
- **6.** S. Kadic-Maglajlic, I. Vida, C. Obadia, and R. Plank, "Clarifying the influence of emotional intelligence on salesperson performance," J. Bus. Ind. Mark., 2016, doi: 10.1108/JBIM-09-2015-0168.
- **7.** M. K. Erdman, A. Bonaroti, G. Provenzano, R. Appelbaum, and M. Browne, "Street Smarts and a Scalpel: Emotional Intelligence in Surgical Education," J. Surg. Educ., 2017, doi: 10.1016/j.jsurg.2016.09.004.
- **8.** M. A. Khan, I. M. Niazi, and A. Rashdi, "Emotional intelligence predictor of empathy in medical students," Rawal Med. J., 2016.
- **9.** H. Saberi and M. Ghajarzadeh, "Emotional intelligence in patients with Spinal Cord Injury (SCI)," Iran. J. Public Health, 2017.
- **10.** M. H. Mahbob and W. I. W. Sulaiman, "The importance of emotional intelligence in organizational communication and its influence on job satisfaction," J. Komun. Malaysian J. Commun., 2015, doi: 10.17576/jkmjc-2015-3102-30.
- **11.** B. M. Kooker, J. Shoultz, and E. E. Codier, "Identifying Emotional Intelligence in Professional Nursing Practice," J. Prof. Nurs., 2007, doi: 10.1016/j.profnurs.2006.12.004.
- **12.** B. Öznacar, E. Yilmaz, and Z. Güven, "The relationship between teaching styles and emotional intelligence of teachers," Int. J. Econ. Perspect., 2017.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE BRIEF REVIEW ON THE GEARBOX FAILURE IDENTIFICATION

Mahir Hussain*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh
Email id: mahir.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02672.0

ABSTRACT

The gearbox is an important part of spinning machinery and has been utilized in a variety of industrial applications. Unexpected gearbox failure may result in significant financial losses. It's also critical to spot early indications of failure in gearboxes. Defects in the gearbox may be discovered in a variety of ways. Vibration signal analysis is the most common technique for monitoring the state of the gearbox and identifying problems. Vibration analysis was utilized as a support for system maintenance choices and as a predictive maintenance method. Shifts in vibration signals caused by defects may be detected using appropriate signal processing methods to assist assess the health status of the gearbox. It is feasible to evaluate the amount and severity of the fault and therefore predict the machine's malfunction by calculating and analyzing the machine's vibration. The vibration signal of the gearbox contains the hallmark of the failure in the gearbox, and it is feasible to identify the gearbox early using different signal processing methods by analyzing the vibration signal. This article gives a brief review of the many techniques for analyzing gearbox defects based on vibration analysis, as well as some insight into contemporary approaches to diagnosing gearboxes, such as the Artificial Neural Network, fuzzy sets, and other new technologies in gear fault diagnosis.

KEYWORDS: Fault Diagnosis, Vibration, Gearbox, Vibration Measurement Techniques, Vibration Signature.

1. INTRODUCTION

Both devices with moving parts produce sound and vibration. Each machine has a particular vibration signature related to the structure and condition of the machine. If the state of the system shifts the signature of the vibration[1]. Incipient faults may be detected using a difference in vibration signature before they become serious. Many forms of condition control start with these basics. By increasing maintenance productivity and avoiding breakdowns, condition tracking can save money and reduce the risk of serious injuries. Vibration analysis as a key method for condition control has been widely developed over a 35-year period [2]System monitoring is now almost completely automated, thanks to simultaneous developments in electrical devices, transducers, computers, and software. The authors provide a study of a variety of diagnostic methods for detecting gearbox defects, with a focus on vibration analysis, in this paper. Vibration techniques were created for two main reasons. Figure 1 shows the view of the gearbox.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal



Figure 1: The View of the Gearbox.

The initial objective is to separate the signal associated with the gearbox from other components and to reduce noise that may disguise the gearbox signal, especially early in the failure. The second objective is to categorize the gearbox's state, distinguish between good and faulty gear, and identify the damaged components. Waveform Analysis, Time-Frequency Analysis, Quicker Fourier Transform (FFT), Spectral Analysis, Order Analysis, Time Synchronous Average, and moments of probability density are some of the most frequently utilized gearbox methods [3].

A transmission is a mechanism that delivers regulated power application in a power transmission system. The gearbox, which employs gears and gear trains to offer speed and torque block conversions from a rotating power source to another device, is sometimes referred to as a 5-speed transmission.

The word transmission is used to describe the whole powertrain, which includes the clutch, gearbox, prop shaft (for rear-wheel drive cars), differential, and final drive shafts. The word is occasionally used in informal conversation in America to refer to the gearbox alone, though the precise meaning varies.

The most typical use is in automobiles, where the gearbox adjusts the internal combustion engine's output to the driving wheels. Such engines must run at a high rotational speed, which is inconvenient for starting, halting, and slower travel. The gearbox shifts the greater engine speed to the slower wheel speed, which increases torque. Transmissions are also utilized on pedal bicycles, stationary machines, and other applications that need varying rotational speeds and torques. A gearbox often contains various gear ratios (or simply "gears") that may be switched between when the speed changes. This may be done manually (by the operator) or automatically (by the system) (by a control unit). Control in both directions (forward and backward) may be available. There are also single-ratio gearboxes, which vary the speed and torque (and occasionally the direction) of the motor output.

Because internal combustion engines cannot operate below a certain speed, the gearbox is usually linked to the engine crankshaft by a flywheel, clutch, or fluid coupling in automobiles. The driveshaft transmits the transmission's output to one or more differentials, which drive the wheels. While a differential may also offer gear reduction, its principal function is to allow the wheels at each end of an axle to revolve at separate speeds when it changes the direction of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

rotation (important to minimize wheel slippage on bends). Speed/torque adaptability is not limited to conventional gear/belt transmissions. Torque converters and power transformation are examples of alternative methods (e.g. diesel-electric transmission and hydraulic drive system). There are also hybrid setups. Automatic gearboxes employ fluid pressures to change gears in response to the engine's RPM, speed, and throttle input.

Because of the ease of computation, vibration-based diagnostic methods have become the most popular monitoring methodology. Vibration analysis was formerly utilized mainly to identify faults and hazardous working conditions. Demands for condition control and vibration analysis are no longer confined to trying to minimize the consequences of system failures, but now include the ability to make more productive use of existing resources [4].

The results of a range of different noise components will be included in the measurement signal generated by the computer in the working region. One of the most difficult aspects of condition monitoring is locating and selecting the element of the signal that may be related to the monitored portion's state. The analysis of vibration signals received from the gearbox housing is recognized as one of the most sophisticated methods for gear diagnostics [5]. The primary objective is to detect and monitor the incidence and kind of defect at the start of production so that the system's residual life can be determined and an appropriate maintenance plan can be chosen.

The time-frequency domain average method (TSA) minimizes signal noise while capturing the features of a single signal cycle. In the detection and localization of gear fractures with different degrees of damage, the Wavelet Transform yields an accurate result [6]. Under varying load circumstances, time domain methods for vibration signal analysis such as waveform creation, indices (RMS value, peak value, and crest factor), and entire vibration level offer no diagnostic evidence. FFT was able to show whims at fault-characteristic frequencies and numerous frequencies in the frequency domain, however owing to the signal modulation effect, additional peaks are also visible [6].

For pumping, milling, and lifting, early transmissions featured right-angle drives and various gears in windmills, horse-powered devices, and steam engines. Most contemporary gearboxes are utilized to boost torque while lowering the output shaft speed of a prime mover (e.g. a motor crankshaft). This implies that the output shaft of a gearbox spins at a lower speed than the input shaft, creating a mechanical advantage that increases torque. A gearbox may be configured to accomplish the converse, increasing shaft speed while reducing torque. Some of the most basic gearboxes do little more than shift the physical rotational direction of the power transfer[7].

Many standard automotive gearboxes allow you to choose from a variety of gear ratios. In this situation, the majority of the gear ratios (often referred to as "gears") are employed to reduce the engine's output speed and boost torque. The highest gears, on the other hand, may be "overdrive" varieties, which enhance the output speed. The most basic transmissions, frequently referred to as gearboxes due to their simplicity (although complicated systems are often referred to as gearboxes in the vernacular), enable gear reduction (or, more rarely, an increase in speed), sometimes in combination with a right-angle shift in shaft direction (typically in helicopters, see picture).

Because the axial PTO shaft conflicts with the conventional need for the driven shaft, which is either vertical (as with rotary mowers) or horizontally stretching from one side of the implement

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

to the other, they are often employed on PTO-powered agricultural equipment (as with manure spreaders, flail mowers, and forage wagons). More complicated machines, such as silage choppers and snow blowers, feature drives with many outputs. Helicopters, too, employ a splittorque gearbox, which splits power from the engine into two directions for the various rotors.

The gearbox of a wind turbine transfers the turbine's sluggish, high-torque spin into the electrical generator's much quicker rotation. These are substantially bigger and more sophisticated than agricultural equipment PTO gearboxes. They weigh several tons and usually have three stages to create an overall gear ratio ranging from 40:1 to over 100:1 depending on the turbine size. (Though bigger turbines must revolve at slower rates for aerodynamic and structural reasons, the generators must all rotate at identical speeds of several thousand rpm.) For compactness and to disperse the huge torque of the turbine across more teeth of the low-speed shaft, the initial stage of the gearbox is commonly a planetary gear[8].

For a long time, the durability of these gearboxes has been a severe issue. These basic transmissions all have one thing in common: the gear ratio cannot be modified while in operation, regardless of where they are utilized. It is determined at the time the transmission is built. Continuously variable transmission, usually known as CVT, is a form of transmission that solves this problem. The internal combustion engine's characteristics necessitate the use of a gearbox in a car. Engines normally run between 600 to 7000 rpm (though this varies and is often lower for diesel engines), while the car's wheels revolve between 0 and 1800 rpm.

In addition, the engine's maximum torque and power outputs are distributed unevenly over the rpm range, resulting in a torque and power band. When the vehicle is going from a standstill or driving slowly, the highest torque is often necessary, while maximum power is required at high speeds. As a result, a system is necessary that changes the engine's output such that it can provide high torque at low speeds while simultaneously running at highway speeds while remaining within the motor's restrictions. This transition is carried out through transmissions[9].

The dynamics of an automobile change with speed: at low speeds, the inertia of the vehicle's gross mass limits acceleration; at cruising or maximum speeds, wind resistance is the primary obstacle. Many gearboxes and gears used in automobiles and trucks are housed in cast iron cases, while aluminum is increasingly being utilized for less weight, notably in automobiles. The main shaft, a countershaft, and an idler shaft are commonly the three shafts. The main shaft extends outside the case in both directions, with the input shaft facing the engine and the output shaft facing the rear axle (for rear-wheel-drive vehicles). The engine and gearbox are usually positioned transversely in front-wheel-drive cars, with the differential being part of the transmission unit.) The primary bearings hang the shaft, which is divided at the input end. A pilot bearing keeps the shafts together at the split point. The gears and clutches are mounted on the main shaft, with the gears free to rotate relative to the main shaft unless the clutches are engaged[10].

2. DISCUSSION

The initial objective is to separate the signal associated with the gearbox from other components and to reduce noise that may disguise the gearbox signal, especially early in the failure. The second objective is to categorize the gearbox's state, distinguish between good and faulty gear, and identify the damaged components. Waveform Analysis, Time-Frequency Analysis, Quicker

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Fourier Transform (FFT), Spectral Analysis, Order Analysis, Time Synchronous Average, and moments of probability density are some of the most frequently utilized gearbox methods.

Because of the ease of computation, vibration-based diagnostic methods have become the most popular monitoring methodology. Vibration analysis was formerly utilized mainly to identify faults and hazardous working conditions. Demands for condition control and vibration analysis are no longer confined to trying to minimize the consequences of system failures, but now include the ability to make more productive use of existing resources.

The results of a range of different noise components will be included in the measurement signal generated by the computer in the working region. One of the most difficult aspects of condition monitoring is locating and selecting the element of the signal that may be related to the monitored portion's state. The analysis of vibration signals received from the gearbox housing is recognized as one of the most sophisticated methods for gear diagnostics. The primary objective is to detect and monitor the incidence and kind of defect at the start of production so that the system's residual life can be determined and an appropriate maintenance plan can be chosen.

The most common use is in vehicles, where the gearbox regulates the output of the internal combustion engine to the driving wheels. These engines must rotate at a rapid rate, which is troublesome for starting, stopping, and slower travel. The gearbox transfers the higher engine speed to the lower wheel speed, resulting in more torque. Pedal bicycles, stationary machinery, and other applications that need changing rotational speeds and torques use transmissions. When the speed varies, a gearbox may have many gear ratios (or simply "gears") that may be shifted between. This may be accomplished either manually (by the operator) or automatically (by the system) (by a control unit). It's possible that control in both directions (forward and backward) is accessible. There are also single-ratio gearboxes, which adjust the motor output's speed and torque (and, on rare occasions, the direction).

In vehicles, the gearbox is frequently coupled to the engine crankshaft by a flywheel, clutch, or fluid coupling since internal combustion engines cannot work below a particular speed. The transmission's output is sent via the driveshaft to one or more differentials, which drive the wheels. While a differential may reduce gear ratios, its primary purpose is to enable the wheels at either end of an axle to rotate at different speeds when the rotational direction is changed (important to minimize wheel slippage on bends). Traditional gear/belt transmissions aren't the only ones with speed/torque flexibility. Alternative solutions include torque converters and power transformation (e.g. diesel-electric transmission and hydraulic drive system). Hybrid systems are also available. Fluid pressures are used in automatic gearboxes to change gears in response to the engine's RPM, speed, and throttle input.

The dynamics of a car alter with speed: at low speeds, the vehicle's gross mass inertia inhibits acceleration; at cruising or top speeds, wind resistance is the main stumbling block. Many gearboxes and gears in vehicles and trucks are contained in cast iron casings, but aluminum is increasingly being used in autos for weight savings. The three shafts are usually the main shaft, a countershaft, and an idler shaft. The input shaft faces the engine, and the output shaft faces the rear axle, therefore the main shaft extends outside the case in both directions (for rear-wheel-drive vehicles). In front-wheel-drive automobiles, the engine and gearbox are normally mounted transversely, with the differential integrated into the transmission unit.) The shaft is suspended by the main bearings, which are separated at the input end. At the split point, a pilot bearing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

holds the shafts together. The clutches and gears are positioned on the main shaft, with the gears free to spin relative to it unless the clutches are engaged.

3. CONCLUSION

The meshing frequency and the harmonics produced with the sidebands owing to modulation are widely known to be the most significant components in the vibration of the gear. Increases in the quantity and amplitude of sidebands may indicate a gearbox problem. Vibration analysis may be used to detect broken teeth, misalignment, damaged and/or worn teeth, excentric gear, and other defects in gears. Vibration analysis may detect rotor and shaft defects, as well as unbalance, bending shaft, misalignment, excentric papers, loose pieces, rubs, crucible rpm, broken shaft, and other issues. Vibration analysis methods may effectively detect race and ball/roller pitting, spalling, and other problems in roller bearings. The time-frequency domain average method (TSA) minimizes signal noise while capturing the features of a single signal cycle. In the detection and localization of gear fractures with different degrees of damage, the Wavelet Transform yields an accurate result. Under varying load circumstances, time domain methods for vibration signal analysis such as waveform creation, indices (RMS value, peak value, and crest factor), and entire vibration level offer no diagnostic evidence. FFT was able to show whims at fault-characteristic frequencies and numerous frequencies in the frequency domain, however owing to the signal modulation effect, additional peaks are also visible.

This approach makes detecting fault groups harder. Help Vector Machine may be utilized for automated fault diagnosis since it has a better classification capacity to identify various problems in the gearbox. The network will save maintenance costs and keep the production system constant, and it may even be utilized for online process diagnostics.

REFERENCES

- **1.** D. G. Lewicki, K. E. LaBerge, R. T. Ehinger, and J. Fetty, "Planetary gearbox fault detection using vibration separation techniques," 2011.
- **2.** A. Aherwar and S. Khalid, "Vibration analysis techniques for gearbox diagnostic: A review," Int. J. Adv. Eng. Technol., 2012.
- **3.** E. B. Halim, M. A. A. Shoukat Choudhury, S. L. Shah, and M. J. Zuo, "Time domain averaging across all scales: A novel method for detection of gearbox faults," Mech. Syst. Signal Process., 2008, doi: 10.1016/j.ymssp.2007.08.006.
- **4.** S. J. Loutridis, "Damage detection in gear systems using empirical mode decomposition," Eng. Struct., 2004, doi: 10.1016/j.engstruct.2004.07.007.
- **5.** L. Hong and J. S. Dhupia, "A time domain approach to diagnose gearbox fault based on measured vibration signals," J. Sound Vib., 2014, doi: 10.1016/j.jsv.2013.11.033.
- **6.** F. Herzberg, "Two-Factor Theory of Motivation.," in Motivation theory., 1959.
- 7. T. Praveenkumar, B. Sabhrish, M. Saimurugan, and K. I. Ramachandran, "Pattern recognition based on-line vibration monitoring system for fault diagnosis of automobile gearbox," Meas. J. Int. Meas. Confed., 2018, doi: 10.1016/j.measurement.2017.09.041.
- **8.** Q. Wang, Y. Zhu, Z. Zhang, C. Fu, C. Dong, and H. Su, "Partial Load: A Key Factor Resulting in the Failure of Gear in the Wind Turbine Gearbox," J. Fail. Anal. Prev., 2016, doi: 10.1007/s11668-015-0057-y.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **9.** C. Black, "Q&A: Colin Black: A Passion for Energy Education," J. Pet. Technol., 2017, doi: 10.2118/0817-0046-jpt.
- **10.** P. J. Link, "Minimizing electric bearing currents in adjustable speed drive systems," 2009, doi: 10.1109/papcon.1998.685519.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ACMELOGICAL MECHANISMS OF PROFESSIONAL AND CREATIVE DEVELOPMENT OF THE FUTURE TEACHER

Dawkeeva Aydin Oralbaevna*

*Acting Associate Professor,
"Psychology" NDPI named after Ajiniyaz,
UZBEKISTAN
Email id: adawkeeya@mail.ru

DOI: 10.5958/2249-7137.2021.02736.1

ABSTRACT

Acme logical competence of the future teacher's development is defined as the unity of theoretical and practical training and the ability to professionally carry out professional activities.

KEYWORDS: Acme Logical, Competence, Future Teacher's, Theoretical And Practical Training.

INTRODUCTION

The development of a person occurs in the process of activity. It is known that a person develops and demonstrates its essence in his activity, is formed in it, acquires creative features and qualities, and at the same time has a transformative effect on the activity itself [1]. But at the beginning of any activity, there must be reasons to move the person. Unless the subject is understood and the basic goals and intentions are formed for him, he will not be able to carry out this activity. Action affects the nature of the activity: it determines the energy, the measure of action, the degree of conscience, the degree of action to the result, the psychological state of the subject. Consequently, the effectiveness of the activity depends on what values motivate the person, the motivation of his work. The motive of activity is an external expression of need, which in turn is the initial mechanism of activity [2]. We are interested in professional (especially pedagogical) activities, so the orientation of Acme logical competence to professional activities is one of the mechanisms that motivates the future teacher to improve these activities.

S.L. Rubinstein understood some dynamic tendencies under the direction of the individual, as these motives are determined by human activity, in turn, by its goals and objectives. Orientation involves two interrelated ideas: an objective content that represents a clearly focused object; the force that determines the reference source [3]. A.N. Leont'ev, S.L. Developing Rubinstein's ideas, he called the basis of the individual as a system of stable, hierarchical motives as the main drivers of activity. Some motives (meaning-provoking) that motivate an activity give it a personal meaning and a certain direction, while others play the role of a motivating factor. Work is only effective if there is a sense of activity. Meaning is the basis for a person to assess the importance of professional activity for himself. An adult is characterized by a constant search for the meaning of life, work. Value-oriented, ideals only become meaningful when the individual is emotionally diverse. A.K. According to Markova, the ratio of tendencies, motives, goals, meanings creates a certain professional direction of a person - a profession, special education,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

success in it, a certain social status, and so on [4]. In our view, this is aimed at a profession that ensures that the future teacher strives to achieve Acme logical competence.

The idea that only a person engaged in a selected activity does not develop true professionalism is A.A. According to Derkach, it is not possible without high professionalism, although the special abilities of a person developed in a certain activity, as well as the relevant knowledge and skills, but the most important condition for achieving this is a strong development of general abilities and general change. It has been said that human values represent the moral upbringing of the individual [5]. In our opinion, the Acme logical competence of a future teacher is defined as the unity of theoretical and practical training and the ability of the future teacher to carry out professional activities in a professional manner. This concept is defined by a combination of professional skills that ensure the effectiveness of the specialist's work in the process of solving professional problems. Based on the above, we can distinguish the following elements of Acme logical competence:

- special and professional competence in the field of science taught;
- Methodological competence in the field of methods of formation of knowledge and skills of students;
- psychological ability in the field of communication;
- Psychological ability in the field of introspection.

The professionalism of the future teacher combines pedagogical, psychological, research competence based on the ability to independently generalize and systematize the acquired knowledge. Pedagogical activity synthesizes a whole set of pedagogical and special knowledge, the interdependence of the task and the means of solving it. This is a characteristic of the future teacher's activity, its versatility requires a lot of hard work from the student in the acquisition of professional knowledge and skills, and for this process to be successful, it must give a stable impetus to the profession.

In this regard, the axiological mechanism of activity is of particular importance. The problem of values as a regulator of activity has long maintained the methodological content of axiological relations as subject-object relations. In addition, the assessment of this subject is considered in terms of their focus on external reality - the world of society, the ideal world (including the values expressed in it).

The proposals expanded the context of the implementation of interpersonal relationships, including interpersonal relationships, to interpret the subjective values realized in the subject-object and subject-subject interactions of the personal relationship plan.

The transition from the concept of subjective values to the concept of personal values is to reveal a topic, their role, which is actively connected not only with the external but also with its inner world. It can be argued that the formation of personal values is related to the dynamics of awareness processes and the transition to the semantic scope of cognitive-personal actions. This formation involves at least two components - the formation of personal meanings itself and personal values. Only when a professional activity has a personal meaning for the subject does he or she successfully develop only after realizing its importance.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The transition from the concept of subjective values to the concept of personal values is to reveal a topic, their role, which is actively connected not only with the external but also with its inner world. It can be argued that the formation of personal values is related to the dynamics of awareness processes and the transition to the semantic scope of cognitive-personal actions. This formation involves at least two components - the formation of personal meanings itself and personal values. Only when a professional activity has a personal meaning for the subject does he or she successfully develop only after realizing its importance.

The activity demonstrates the unity and contradiction of the procedural and discrete aspects of motivation. How the current level of motivation is affected. The direction of activity and the nature of the activity can predetermine changes in the motivational area, and the nature of the activity can predict changes in the motivational area. From a pedagogical point of view, it is important to observe how action can influence the formation of motivation.

In order for a student to understand the need for some science (in knowledge, new ways of acting), he or she must present the topic as it is needed for him or her, for the profession, now or in the future. As a result of the information obtained, an object capable of satisfying his need is reflected in his mind - knowledge about the subject of his need emerges. The teacher should focus the student's attention on the topic of need: the student receives information that is important to him or her and the need is actualized based on it. We find the basis for this in the teachings of IP Pavlov. In his view, the body establishes a link between any stimulant rather than vital, which encourages the development of rules by psychologists on the importance factor [6]. Therefore, before starting work, the teacher should explain to students the meaning of their future activities, determine the theoretical, practical and social significance of the acquired knowledge, skills and work.

External causes, ie. the conditions created by the teacher fulfill the need, motivating the person to perform certain actions, but the student himself also decides to act. Occurs in a subjective position, i.e., the subjectivity of an individual's position is one of the mechanisms of Acme logical competence.

Apparently, motivational activity, that is, interest in the subject, evokes positive emotions, creates a sense of satisfaction. Satisfaction with professional activity is determined by the degree of claims, the nature of the motives, and the interdependence of the actual success of the professional activity. Satisfaction can increase if satisfaction occurs not only with the individual result, but also as a result of participation in joint professional activities, social involvement, separation of satisfaction with other people. The desire for self-affirmation is an innate property of man. It is a natural mechanism of personality development. Best of all, this mechanism was developed by the science of psychology on the idea of identification and isolation.

Identification is presented as the process of emotionally (and any other) identifying someone with another person, group, pattern. It is a mechanism of socialization that adapts the individual. Attracting attention to other people, introducing oneself to them, comparing their actions with their thoughts, joins the world of human relationships, emotions, values in a person. The development of the ability to identify determines the formation of socially significant traits, such as feelings and active moral attitudes toward humanity and oneself. In the process of identification, a person learns to live by norms, rules, that is, between people. At the same time, when recognizing oneself, a person can become "average" and become like others, dependent on the opinions of others, losing himself, losing his personality. Separation is a mechanism in which

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

a person who, as an individual, protects his nature and human nature, separates himself from others, as if temporarily hiding from them, has the opportunity to separate himself from the ordinary "we" and become a person. The process of separation is always to have a certain autonomy, to understand a person's "uniqueness," a desire for independence from others, a sense of resistance to oneself. Objectively, isolation works as a mechanism of individualization of the individual. Psychological research shows that a person can develop in three directions:

- 1. Constant, hyperbolic, willing to meet other people.
- 2. In the direction of alienation from other people.
- 3. In the appropriate interaction of identification and provision in accordance with the internal needs of the individual and the social need.

It is this direction that allows a person to assimilate the values developed by society, to join other people's spiritual world, but at the same time to understand their uniqueness, difference from others, to express themselves in the world. Naturally, only a mature, socially defined person who has created his own system of ideas about the world, who has developed his own system of vital values, can truly understand his own characteristics, similarities and differences from other people, his uniqueness and creative expression in his work. However, the formation of this process should take place at a university where conditions need to be created to improve Acme logical competence.

As mentioned above, the essence of Acme logical competence is to direct the specialist to professional self-improvement in the future. Professional self-improvement is a conscious, focused process of raising the level of professional skills and developing qualities of professional importance in accordance with external social requirements, conditions of professional activity and personal development program. At the heart of this process lies the psychological mechanism of constantly overcoming internal contradictions between the level of personal professionalism ("I am a true professional") and his imagined (modeled) state ("I am an ideal professional"). In the mind, the personality and its demands on the "I" of public opinion are interrelated. Also, the mismatch between the 'I-concept' and the ideal 'I' idea of self-worth encourages people to personal growth, including professional growth. In this regard, we can consider the impact on the 'I-concept' as a mechanism of Acme logical competence. The future teacher must understand his or her professionally significant personal characteristics in order to be sufficiently and actively involved in education and subsequent professional activities. Since self-testing can be done as a self-directed and controlled process, it should manifest itself through self-awareness, giving students knowledge of how to manage the process. Management uses an activity-based approach because it has all its components, including: purpose (professional self-development); motives (success in educational and professional activities); ways to achieve the goal (training); results (gaining professional self-development experience).

Thus, professional self-activation is a mechanism of Acme logical competence of the future teacher, aimed at recognizing their professional characteristics and actively expressing them in the process of teaching and subsequent professional activity.

REFERENCES

1. Leontev AN. Activity, Consciousness, and Personality. M.: Prosveshchenie, 1977. 304 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **2.** Makarov SV. Psychologo-didactic conditions and factors for the development of Acme logical competence of personnel management: avtoref. dis. ... cand.psychol. nauk. M., 2004. 21 p.
- 3. Rubinshteyn SL. O myshleniiiputyax ego issledovaniya. M.: AN SSSR, 1958. 147 p.
- **4.** Markova AK. Psychology professionalism. M., 1996. 308 p.
- 5. Derkach AA. Methodologically-applied bases akmeologicheskixissle-dovaniy. 1999. 392 p.
- 6. Abulxanova-Slavskaya KA. Strategy life. M.: Mysl, 1991. 299 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IMMEDIATE AND LONG-TERM RESULTS AND PROSPECTS OF RECONSTRUCTIVE AND RESTORATIVE SURGERY OF THE LIVER AND EXTRA HEPATIC BILIARY TRACTS

Turakulov U.N*; Akbarov M.M**; Saatov R***; Matkarimov Sh. U****

*Republican Specialized Center of Surgery named after acad. V.Vakhidov, Tashkent Institute of Postgraduate Medical Education, Tashkent, UZBEKISTAN

**Republican Specialized Center of Surgery named after acad. V.Vakhidov, Tashkent Institute of Postgraduate Medical Education, Tashkent, UZBEKISTAN

***Republican Specialized Center of Surgery named after acad. V.Vakhidov, Tashkent Institute of Postgraduate Medical Education, Tashkent, UZBEKISTAN

****Republican Specialized Center of Surgery named after acad. V.Vakhidov,
Tashkent Institute of Postgraduate Medical Education,
Tashkent, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02737.3

ABSTRACT

Acme logical competence of the future teacher's development is defined as the unity of theoretical and practical training and the ability to professionally carry out professional activities.

KEYWORDS: Acme Logical, Competence, Future Teacher's, Theoretical And Practical Training.

INTRODUCTION

Increased frequency of gallstone disease morbidity, as well as improving biliary tract surgery in recent decades has led to a significant increase in the number of surgical interventions performed. In Uzbekistan around 7-8 thousand operations are performed each year on the organs of bile-excreting system, about 400 thousand operations are performed in the CIS countries and, according to WHO, about 2.5 million - worldwide. Since operations on biliary tract today are performed in almost all hospitals by differently-skilled surgeons, this leads to an increased frequency of various complications, including iatrogenic injuries, which are responsible for the formation of cicatricial strictures of extra hepatic bile ducts [1].

Treatment of patients with injuries and cicatricial strictures of the bile ducts is one of the most difficult problems of biliary tract surgery. Thus, according to a number of authors, the frequency of bile duct injury is 0,2-2,8% of the total number of operations on the biliary system, and mortality at reconstructive and restorative interventions reaches 15-50%, post-operative stricture recurrences occur between 5,8% and 35% of cases [2].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In 95-97% of cases the cicatricial stricture formation is a consequence of iatrogenic bile duct injury, inaccurate surgical manipulations on the duct during the execution of cholecystectomy. The same problem can be caused by stricture development at the choledochotomy hole at application of rough suture material and non-atraumatic needles. In addition, cicatrices choledoch may occur in case of the wrong choice of the diameter of drainage, injury at its removal, at fixation of the drainage with nonabsorbable sutures or rough suturing of choledoch wall to drainage pipe. Rarely strictures are congenital in nature or occur as a result of primary sclerosing cholangitis [3].

One of the reasons for damage of bile ducts is the misperception of their anatomical structure because of edema or infiltration hepatoduodenal zone, anomalies of cystic or hepatic ducts, lack of experience of the surgeon.

In recent years cicatricial strictures of hepaticocholedoch occur in connection with the widespread technique of laparoscopic removal of gall bladder, especially at the stage of learning of this technique. Thus, the frequency of iatrogenic bile duct injuries has been stable in recent decades at 0,05-0,2% rate, and application of laparoscopic cholecystectomy increased this number to to 0,3 - 3% rate [4].

As a result of thermal burn during an allocation of the biliary cyst cervix or hepaticocholedoch wall injury during postoperative period a bile efflux may occur and, subsequently, develop into cicatricial stricture of the bile ducts. In addition, careless imposition of a clips on the cystic duct or cystic artery may lead to partial or complete compression of the bile duct, especially in congenital anomalies of the bile ducts.

Until recently even the leading hepatologist surgeons believed that the greatest difficulty of surgical interventions are observed at the treatment of patients with cicatricial strictures of the bile ducts [5]. However, recent decades show that together with the significant development in medical science and surgical technology, including in hepatobiliary surgery, the most complex interference have occurred in liver and extrahepatic bile ducts in a wide variety of diseases. The development of such techniques as liver transplantation, surgery of tumors and cysts of the liver, and endovisual and radioendovaskular surgery, application of new surgical materials, along with the undoubted success and renewed hopes also poses a number of challenges related to eliminating the inevitable complications.

Paying tribute to the thorough study and development of reconstructive hepatobiliary surgery it must be noted that many issues in this direction are far from being resolved, and some of them are in their infancy. This is especially true for iatrogenic cicatrical injuries of bile ducts.

The frequency of bile duct injury during open cholecystectomy is approximately 1:400. Similar frequency was observed at laparoscopic cholecystectomy (1:200-1:400)]. According to various authors mortality at reconstructive and restorative interventions reaches 15-50% [6].

Leading hepatologist surgeons insist that using the principle of prevention of liver and biliary tract diseases and prevention of development of severe consequences of surgical interventions in this anatomically sensitive area, it is possible to achieve the lowest mortality. However, unfortunately, the leading hepatology centers continue to accumulate the new clinical data on the treatment of patients with bile duct strictures, continuously and critically reinterpreting views on key issues of this problem.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Restoring the adequate bile secretion is a great difficulty. The main casuses of the difficulty are gross violations of topographic and anatomical relationships and commissural processes at the gates of the liver, severe general condition of patients caused by prolonged mechanical jaundice and recurrent purulent cholangitis.

The issues of tactics of surgical treatment of this most severe group of patients has repeatedly been the subject of discussion at numerous conferences and symposia. As a result, a significant progress has been achieved in reconstructive surgery of biliary tract associated primarily with active introduction of modern methods and radioendovascular endoscopic surgery, application of precision technology and biomaterials [7]. However, despite this fact, reconstructive operations on bile ducts in 4,5-25% of cases are accompanied by the development of constrictions of the biliary-enteric and bilio-biliary anastomoses, repudiating the results of reconstructive surgery and exacerbating the severity of the condition of patients. In the long-term periods the primary reason of unsatisfactory results of reconstructive operations on bile-excreting system is reflux-cholangitis, leading to restenosis and cholangiolitic abscesses. Frequency of cholangiolitic restrictures in the long-term period of observation is 8,4-28,3%. Smaller percent in the structure of complications is occupied by relapse cholelithiasis, cholangiogenic abscesses of the liver, biliary sepsis.

In this regard, the issues such as the choice of optimal technology of reconstructive restorative interventions, indications for trans hepatic bile duct draining, defining the role and place for endoscopic methods of correction remain disputable.

Thus we must recognize that only the study of long-term results of treatment of this category of patients can provide an objective assessment of the correctness of the chosen direction.

Diagnostic activities at patients with cicatricial strictures of the bile ducts are aimed at establishing a causal factor, the level of the stricture, the length of the affected area, the definition of the bile duct condition above and below the level of destruction.

To streamline the terminology describing the level of bile duct strictures many classifications have been suggested. So far, the most attractive and easy to use is the classification by H. Bismuth (1982), whereby cicatricial strictures are divided into five types: type 1-2 - low strictures and type 3-4-5 - high strictures. However, the author does not address the subtle details of the location of the site of narrowing in the proximal segments in the gate area of the liver, which drastically reduces the possibility of using this classification in selecting the optimal method of reconstruction of the bile ducts above the bifurcation.

The most feasible and practical is the classification by E.I. Galperin and N.F. Kuzovlev, which divides cicatricial strictures into:

- Strictures of type 0 (zero type) (the free segment of the common hepatic duct less than
- 1. cm or stricture confluent)
- 2. Bifurcational
- 3. Sub-bifurcational (subconfluent)
- 4. Monoductal
- **5.** Biductal
- Strictures of type 1 (the free segment of the common hepatic duct is of the length of 1 to 2 cm)

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

• Strictures of type 2 (the free segment of the common hepatic duct is of the length of not less than 2 cm).

Besides consideration of the levels of layout and extention of choledoch strictures some authors propose to add to the classification the clinical factors. Ratchik V.M. et al. propose a modified classification by Shalimov A.A. taking into account the clinical and anatomical features. The authors by the etiology divide iatrogenic strictures (surgical history), inflammatory strictures (cholelithiasis, chronic pancreatitis, peptic ulcer, etc.).

By localization: low (supraduodenal part of the choledoch), medium (hepaticocholedoch area), high (lobar hepatic ducts - the gate area of the liver).

By prevalence of duct lesion: 1st degree - less than 2 cm, 2nd degree - less than 3 cm, 3rd degree - more than 3 cm.

By cholestasis intensity: partial (transitory bilirubinemia of up to 50 micromole/l, moderately increased alkaline phosphatase), total (refractory bilirubinemia of more than 50 micromole/l).

By clinical course: stage of formation of cicatricial stricture (narrowing of the ducts from 1/3 to 2/3 of the diameter) - is characterized by cholangitis occurences, intermittent jaundice, stage of evident signs (narrowing of ducts over 2/3 of the diameter) - characterized by jaundice, skin itching, cholangitis, multiple organ failure.

To date ERPHG is considered the optimum method of investigation of extrahepatic bile duct. This method allows to fully investigate all segments of bile-excreting system. If in some cases ERPHG is impossible, then it is complemented by percutaneous transhepatic cholangiography (PTC) which significantly supplements the information on the status of the bile ducts.

Great value in the study of bile duct strictures is also contributed by magnetic resonance imaging, multislice computer tomography with biliary tract contrasting. Magnetic resonance cholangiopancreatography, being a non-invasive technique of visualizing the bile ducts, has gained popularity in recent years as an accurate method of assessing biliar anomalies.

Thus, it is assumed that the successful solution of the issues of reconstructive surgery of biliary tract is directly dependent on the quality of preoperative diagnostics, detailed study of the nature, mechanisms of development of pathological processes. Along with this, in many cases the results of a diagnostic method are studied beyond their pathogenetic connection and interdependence. This raises a number of discussions and creates certain difficulties in formulating an optimal solution.

Currently hepatologist surgeons are mentioning several problems associated with surgical correction of cicatricial stricture of the bile ducts:

- 1 possibility of recovery operations through the implementation of bilio-biliar anastomoses or surgical intervention using autovenous inserts or allogeneic materials;
- 2 the need of application of a frame drainage for the imposition of BDA;
- 3 Types of frame drainages, duration of their presence in the biliary tract, the diameter of the tube and the material for its production;
- 4 The advantages of using for jejunal BDA or KDP;

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 5 Choice of the optimal method of reconstructive and restorative operations at duct injury and the timing and phasing of these operations;
- 6 The role and place of radiological and endoscopic techniques in correction of cicatricial stricture of the bile ducts.

Each case faced by a surgeon in such situations during the operation is strictly individual, forcing to choose the optimal way out of a number of variants of surgical interventions.

In recent years for improving immediate and long-term results of the operations and prevention of digestive-biliary reflux various operations are offered with the formation of the valves in the area of anastomosis between the bile ducts and various segments of the gastrointestinal tract.

This idea still attracts the attention of many surgeons and requires new experimental clinical studies. This, apparently, reasons the attempts of antireflux surgery and the development of so-called "areflux" BDA with the formation of valves between the bile ducts and small intestine.

At the same time, the role of pathologic reflux is still under discussion [8].

One of the promising directions in reconstructive surgery of cicatricial strictures is application of different materials and allogeneic biotransplantants.

Surgical interventions, often performed at elderly patients with severe concomitant pathology under emergency indications, are accompanied by a large number of complications, and the mortality reaches 15-30%.

In this connection in recent years a growing interest is arisen by non-invasive methods of restoration of bile secretion and, primarily, endoscopic interventions. At present endoscopic methods of diagnostics and treatment play an important role at hepatopancreabiliar system diseases. With regard to therapeutic possibilities of endoscopic methods, along with the traditional methods sanitization of hepaticocholedoch and restoration of an adequate passage of bile, such as EPST, nasobiliar drainage, clinical practice widely uses new endoscopic interventions: mechanical lithotripsy, duodenobiliar drainage of hepaticocholedoch using transpapillar endoprosthesis, diatermic widening of a narrowed BDA and cicatricial strictures of the bile ducts.

Application of these methods allows to easily and quickly prepare the patients with symptoms of MFs, purulent cholangitis, PPN for the upcoming scheduled or deferred surgical interventions. In most cases the above endoscopic interventions may be an alternative to surgical interventions.

To date it became apparent that despite the introduction of high-tech, minimum-invasive diagnostic and treatment methods into surgical hepatology, the progress in reconstructive surgery of biliary tract, only the study of long-term results of treatment of this category of patients can provide an objective assessment of the correctness of the chosen direction.

REFERENCES

- **1.** Bret PM, Reinhold C. Magnetic resonance cholangio-pancreatography. Endoscopy 1997;29 (6):72-86.
- 2. Carrillo E, Platz A, Miller F, et al. Non-operative management of blunt hepatic trauma. Br J Surg. 1998;85(4):461-8

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **3.** Fletcher DR, Hobbs MS, Tan P, et al. Complications of cholecystecromy: risks of the laparoscopic approach and protective effects of operative cholangiography: a population-based study. Ann Surg 1999;229:449-457.
- **4.** Jeng KS. Treatment of intrahepatic biliary strictures associated with hepatolithiasis. Hepatogastroenterology. 1997;44(14):42-51.
- **5.** Mazzeo F, Rendano F, Piccolboni D, Aliperti G, Petré C, Mosella G. Hepatico-Jejuno-Duodenoplasty for Biliary Stricture. Int. Surg. 1984;69(4):331-3.
- **6.** McSherry CK. Percutaneous Dilatation in primary sclerosing cholangitis two expereiences. Amer. J. Roentgenol. 1989;137:603-605.
- 7. Padillo F J, Gallardo J M, Naranjo A, et al. Changes in the pattern of visceral proteins after internal biliary drainage in patients with obstructive jaundice. EurJ Surg 1999;165:550-555.
- **8.** Tocchi A, Maoni G, et al. Management of benign biliary strictures: biliary enteric anasloinosis vs endoscopic stenting. Arch Surg 2000;135:53.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

DIFFERENT TYPES FAILURE IN GEARS-A REVIEW

Anurag Srivastava*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: anurag.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02679.3

ABSTRACT

The purpose of this study is to discuss current advances in the field of gear fault detection. We may learn about several sorts of finding defects and analyzing approaches that are used to minimize gear failure with the help of this research. The primary reasons for gear failure are misaligned of gear, spalling, pitting, and other factors that are identified in this work. The purpose of this paper does not provide a detailed overview of the factors that cause of gear failings, but to concentrate on the different kinds of research methods that have been used by various researchers in the past few years to find out the causes of gear failings or what the end result is to decrease gear failure. The purpose of this study is to discuss current advancements in the field of gear failure analysis. We may learn about several sorts of failure detection and analyzing techniques that are used to reduce gear failures with the help of this study. The most common causes of gear failure include misalignment, spalling, pitting, and other factors. When the working stress surpasses the maximum allowed stress, gears usually fail. In current history, advancements in engineering technology have increased demand for gear teeth that can function at ever-increasing load capacities and speeds. When tooth stress exceeds the safe limit, the gears usually fail. The technology of gears is described in this paper, as well as the numerous sorts of failure that gears have. The reasons for these failures are investigated. This paper describes the sort of stress-related gear tooth failure caused by stress concentration (fatigue failure).

KEYWORDS: Gear Failure, Gear Wear, Misalignment, Pitting, Spelling.

1. INTRODUCTION

At small distances, gear is the most important component of transmitting power. This is a very cost-effective and efficient type of power transmission[1]. It is utilized for transmitting power in practically all technical applications. A gear is a machinery component that transmits mechanical energy from one mechanical unit to the next. Because gears are built for a certain use, their design and functionality are generally closely linked. Spur gears, helical gears, straight and spiral bevel gears, and hypoid gears are the most prevalent types of gears devised to serve various duties[2]. Many mechanical design textbooks go over the features of these distinct gear types. Gears do sometimes fail in operation for a variety of reasons, just like any other mechanical component. In most situations, total gear failure is also the first indicator of an issue, other from an increased in vibration and noise[3].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Fatigue, collision, wear, and plastic deformation are only a few of the types of gear failure that have been documented. Tooth bend fatigue is among the most common reasons of gear failure. The most prevalent failure in gear is fatigue. Two of most typical modes of gear fatigue damage[4] are teeth bend fatigue and interfacial surface fatigue. Fatigue cracking has been linked to a number of factors. Improper gear set design, wrong gear assembly or misaligned, overloads, unintentional stress raisers or subsurface defects in crucial regions, and the use of unsuitable metals and heat treatments are just a few examples. Gear failure owing to mismatch of gear teeth during meshing with one another is given specific attention, while other ways are also explored. This document contains numerous overviews by various researchers who used various approaches to estimate different aspects of gear failure and reached the conclusion that gear failure can be reduced to some extent. Gear failure[5] can happen in a variety of ways. This chapter goes into the specifics of failure. A sound gearing design can be evolved if attention is given during in the designing stage to avoid every one of these defects. In mechanical devices engineering, gear are the most prevalent mechanism of conveying motion and power. A gear is an element of a transmission mechanism that transfers rotary motion from one gear or device to another. A gear differs from pulleys in that it has a circular wheel with connections "teeth" that mate with the other gear teeth, allowing force to be transferred completely without slippage. A gear is a mechanical component that transfers force and motion from one mechanical unit to another. Spur gears, helical gears, strait and spiral bevel gears, and hypoid gears are some of the most popular types of gears that have been invented to serve diverse functions. For high-speed machinery, such as an automotive transmission, changing the rotation speed of the machines and equipment shaft and also the axis of rotation is the best medium for minimum energy loss and high accuracy.

3. DISCUSSION

2.1. Analysis Gear Failure:

Gear failure can happen in a variety of ways. Details of failure are provided in this document. A sound gear design can be evolved if care is taken throughout the development stage to avoid each of these failures.

2.1.1 Scoring:

The combination of the two unique actions results in scoring: first, lubricating failing in the contact area and second, the creation of metal to metal to metal contact. Later, the metal is removed swiftly and constantly by welding and ripping action caused by metallic contact, as long as the load, speed, and oil temperature stay constant. The scoring is divided into three categories: beginning, moderate, and damaging[6].

A. Initial Scoring:

The first scoring happens where earlier machining has left high places. As lubrication failure at these points causes first scoring or scuffing. As the load is distributed across a greater area once these high points are removed, the stress decreases. If the load, speed, and temperature of the oil remain constant or decrease, the scoring will come to an end. The initial scoring is non-progressive and comes with a corrective action.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

B. Moderate Scoring:

If the load, speed, or oil temperature increases after the initial score, the scoring will extend across a broader region. The scoring is progressing at a reasonable pace.

2.2 Wear

A surface phenomenon in which layers of metal are removed, or "worn away," from the contacting surfaces of the gear teeth in a more or less regular manner. The term "wear" refers to the loss or removal of material from the gear flanks. When it comes to gear failure, it's primarily about the deterioration of a gear profile, such as tooth layer damage. Important forms of wear include adhesive and abrasive wear. When abrasive particles cut away at a surface, this is known as abrasive wear[7].

2.2.1 Abrasive Wear

Abrasive wear has taken place, contacting surface (show in figure 4)signs of a lapped finish, radial scratch marks or grooves, some other unmistakable indication that contact has taken place.

2.2.2 Adhesive Wear

Result from high attractive forces of the atoms composing each of two contacting, sliding surfaces. Teethcontactatrandomasperities and astrong bond is formed. The junction are agrows until aparticle is transferred across the contact interface.

2.2.3 Excessive Wear

This is simply normal wear which has progressed to the point where a considerable amount of material has been removed from the surfaces. The pitch line is very prominent and may show signs of pitting[8].

2.2.4 Corrosive Wear

This is a deterioration of the surface due to chemical action. It is often caused by active in gradients in the lubricating oil, such as acid, moisture, and extreme-pressure additives.

2.3 Fatigue/Pitting Of Gears:

Pitting is the most prevalent mode of fatigue and a type of spalling that happens when repetitive stresses are lower than ultimate tensile strength but higher than the "fatigue limit." Pitting is a type of gear tooth surface fatigue failure. It occurs when the contact stress exceeds the material's surface fatigue strength owing to repetitive loading of the tooth surface. The material in the fatigue region is removed, resulting in the formation of a pit. The pit itself will create stress concentration, and the pitting will quickly spread to nearby areas, eventually covering the entire surface. As a result of the increased impact stress caused by pitting, the already weakened tooth may fracture. The failure process, on the other hand, occurs across millions of cycles of operation. Initial and progressive pitting are the two types of pitting.

2.3.1 Initial / Incipient Pitting:

Initial pitting occur during running- in period where in oversized peaks on the surface get dislodged and small pits of 25 to50 µmdeep are formed just below pitch line region. Later on, the load gets distributed overall larger surface area and the stress comes down which may stop the progress of pitting.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2.3.2 Progressive or Destructive Pitting:

If the loads are high during first pitting and the initial pitting correction measure is unable to stop the pitting, destructive pitting occurs. Pitting occurs along the entire length of the tooth. Pitting causes increased pressure on the unpitted surface, which squeezes the lubricant into the pits and eventually causes the surfaces to seize. Due of the low sliding velocity, pitting begins on the tooth flanks near the line along the tooth passing through the pitch point, where there are considerable friction forces. Then it spreads throughout the flank's entire surface.

2.4 Cracking

Small stress raisers near the root of a gear start cracking[9]. This results in unintentional overloads with a fast sliding speed, raising the temperature of the hardened case. Thermal fatigue cracks or hardening cracks associated with heat treated gears are caused by cold lubrication and hot gears. Grinding cracks are similarly caused by localized overheating, but they appear on the tooth surface after the tooth pair has stopped grinding. Process The following forms of failure can occur as a result of related failure:

- Quench Cracks, Grinding cracks
- Grinding cracks
- Nicks, scratches
- Electric arcing
- Grinding "Burns" And Improper Edge Break.

2.5 Fracture

Tooth fracture[10] is also known as tooth breakage or tooth rupture. It is one of the most serious gear failures because the gear may be damaged or other components such as shafts or bearings may be destroyed. A brittle fracture occurs quickly and with little deformation, whereas a ductile fracture occurs slowly and with deformation before a section of the gear breaks. Mixed mode fracture refers to a fracture that is both brittle and ductile. An overload of a single tooth causes a shear fracture(as shown in figure 9). It all starts with a weak spot in a gear that builds up more stress than the material's strength allows. As a result, a minor crack can develop and a tooth may break off. It can be one of the following types of fractures, depending on how it happens.

- Overload
- Random Fracture
- Root/Rim/Web
- Resonance

3. CONCLUSION

In this study, the author provides a brief overview of gear fault detection, including both traditional and new methodologies, for helical and spiral bevel gears that have experienced fatigue failure during operation in diverse regions. Following that, points were determined based on literature evaluation of this paper. In this study, a quick review of gear failure analysis was presented, with different traditional and new methodologies for helical and spiral bevel gear through fatigue failure in gear while operating in various regions reviewed. The strains caused by the gear tooth were found to be higher than the permissible/safe level. High stress, low cycle fatigue fracture, abrasion wear, and plastic deformation are the most common failure types in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

most gear. Under these conditions, the heat created at the point of contact is much greater, increasing the risk of scuffing significantly. Among the most common reasons of gear teeth fatigue damage is misaligned during mesh generation. As a result of all this, a break appears around the gear teeth. To prevent this failure, the gear wheel and pinion must be properly aligned. Gear crack is mostly caused by the having a large number of inclusions clusters including Al2O2 Complex inclusions in the fracture origin regions. To minimize the item, pay attention during the carburizing quenching process, where the fracture forms due to the existence of inclusion clusters. A transmission electron microscope with an Energy dispersive x - ray facility was used to analyse the failure zones. Further research is needed. Near to the fracture beginning, a SEM investigation revealed that the fracture in the bevel gear was caused by fatigued formation of cracks. The pinion gear was under higher friction stress during the operation, according to the SEM analysis. The findings prompted greater research into how to reduce gear fatigue failure by incorporating other characteristics and symptoms into fatigue features and developing more strong expert systems for gear fatigue failure.

REFERENCES:

- **1.** T. C. Lim, S. Theodossiades, and P. Velex, "Power Transmission with Gears," Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science. 2016, doi: 10.1177/0954406216645042.
- **2.** W. Li, T. Shi, G. Liao, and S. Yang, "Feature extraction and classification of gear faults using principal component analysis," J. Qual. Maint. Eng., 2003, doi: 10.1108/13552510310482389.
- **3.** U. Aridogan and I. Basdogan, "A review of active vibration and noise suppression of plate-like structures with piezoelectric transducers," J. Intell. Mater. Syst. Struct., 2015, doi: 10.1177/1045389X15585896.
- **4.** A. Neviaser, N. Andarawis-Puri, and E. Flatow, "Basic mechanisms of tendon fatigue damage," Journal of Shoulder and Elbow Surgery. 2012, doi: 10.1016/j.jse.2011.11.014.
- **5.** "Gear failures," in Lubrication and Reliability Handbook, 2001.
- **6.** T. Tevruz, "Experimental investigation and calculation of scoring on gears with hardened and unground tooth profiles," Wear, 1999, doi: 10.1016/S0043-1648(99)00162-3.
- 7. Y. Dogu, M. C. Sertçakan, K. Gezer, M. Kocagül, E. Arican, and M. S. Ozmusul, "Labyrinth seal leakage degradation due to various types of wear," J. Eng. Gas Turbines Power, 2017, doi: 10.1115/1.4035658.
- **8.** M. A. Elsaady, W. Khalifa, M. A. Nabil, and I. S. El-Mahallawi, "Effect of prolonged temperature exposure on pitting corrosion of duplex stainless steel weld joints," Ain Shams Eng. J., 2018, doi: 10.1016/j.asej.2016.09.001.
- **9.** X. X. Bian, "Analysis on Gear Cracking in Bucket Wheel Stacker Reclaimer," Appl. Mech. Mater., 2015, doi: 10.4028/www.scientific.net/amm.713-715.61.
- **10.** H. B. Endeshaw, S. Ekwaro-Osire, F. M. Alemayehu, and J. P. Dias, "Evaluation of fatigue crack propagation of gears considering uncertainties in loading and material properties," Sustain., 2017, doi: 10.3390/su9122200.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW OF BACTERIA-BASED SELF-HEALING CONCRETE

Rahul Rathore*

*Assistant Professor,
Department of Computer Science, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: rahul.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02674.4

ABSTRACT

This article examines the many kinds of bacteria found in concrete and how they may be utilized as healing agents. This article also includes a short explanation of the different characteristics of concrete that change when microorganisms are added. Concrete has micro-cracks by nature. This results in concrete degradation, which leads to the entrance of harmful chemicals into the concrete, causing structural damage. As a result, the concrete must be repaired. Self-healing methods are used to overcome these problems. Calcite precipitation in concrete is caused by the combination of urease-producing bacteria and a calcium supply. The use of bio-mineralization methods to seal micro cracks in concrete has shown to be effective. The continuous hydration process in concrete may cover up newly formed micro-cracks. The ureolytic bacteria Bacillus Pasteurii and Bacillus Subtilis, both of which may produce urea, are combined with the calcium source to seal the newly formed micro fissures with CaCO3 precipitation. The bacterial concentrations were adjusted for improved outcomes in improving pore structure in concrete. According to the literature, the encapsulation technique produces better results than the direct application method, and the employment of bacteria may improve the strength and durability of concrete.

KEYWORDS: Bacteria, Caco3 Precipitation, Micro-Cracks, Micro-Organism, Self-Healing Concreate.

1. INTRODUCTION

Concrete is one of the most frequently utilized building materials. Concrete is brittle in tension yet robust in compression, thus fractures are unavoidable. When fractures appear in concrete, it may shorten the life of the building[1]. The fractures may be repaired using a variety of methods, but they are all very costly and time-consuming. Self-healing concrete is a modest method for repairing fractures in concrete on its own. At the time of mixing, bacteria with a calcium nutrition source are introduced to the concrete. If there are any fractures in the concrete, bacteria will precipitate calcium carbonate[2]. The cracks will be sealed as a result of this. Bacterial concrete will have a higher strength than regular concrete. A biotechnological approach based on calcite precipitation may improve the strength and durability of structural concrete. Cracks larger than 0.8mm are more difficult to mend, although cracks may heal with the assistance of bacteria and calcite precipitation. When lightweight aggregates are used in lieu of fine aggregate, the strength of the bacteria-based mortar is reduced[3]. Bacterial lightweight mortar has a higher

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

strength than regular lightweight mortar. Wherever low weight constructions are needed, this may be utilized.

These low weight aggregates serve as bacterium carriers, improving healing efficiency and structural durability. Due to calcite precipitation, the addition of bacteria to Rice husk ash concrete may improve the strength characteristics of the concrete at all ages[4]. With maximal calcium carbonate precipitation, the M50 grade concrete may be raised by up to 24 percent. Adding Sporoscarcina Pasteurii bacteria to fly ash concrete increases its strength while reducing porosity and permeability. This leads in a 22 percent improvement in compressive strength and a four-fold decrease in water absorption over regular concrete. Recently, self-healing methods have shown encouraging results in repairing fractures that are still in the early phases of development[5]. Calcite precipitation in concrete specimens through hydro gel encapsulation, capsules, and vascular systems, on the other hand, seems to be excellent at self-healing in building operations and research. By using cementitious elements in concrete, self-healing processes may be feasible. For the bacteria to precipitate calcite, a variety of calcium sources may be used. Recent advancements such as Biotechnology and Nanotechnology are utilized to improve the characteristics of concrete, such as durability[6].

The goal of this research is to look at how the characteristics of concrete change when microorganisms are added. And the microorganisms that cause calcium carbonate precipitation in concrete. Damage or fissures in a perfect self-healing system should trigger the release of the healing agent. Self-healing procedures are effective methods for repairing micro cracks in concrete. The autogenously healing methods have shown to be effective in the repair of microcracks on the concrete surface[7]. Bacteria will create a pervious layer on concrete fractures, which will control the precipitation of calcium carbonate. Because concrete is an alkaline substance, the bacteria introduced must be able to survive the alkali environment. Microbiologically induced calcium carbonate precipitation aids in the filling of micro fractures and the binding of other components in concrete such as sand and gravel.

The presence of microorganisms in calcite precipitation may improve concrete's durability. Bacillus Sphaericus may precipitate CaCO3 in a high alkaline environment by converting urea to ammonium and carbonate. Concrete cracks of smaller than 0.2 mm may be filled by the concrete itself. However, if fractures are larger than 0.2 mm, concrete fails to repair, allowing harmful elements to enter. The development of any fractures in self-healing concrete causes microorganisms to awaken from their hibernating state. Calcium carbonate precipitates into the fractures during the self-healing process due to the metabolic activities of bacteria[8]. Bacteria enters a state of hibernation after the cracks are fully filled with calcium carbonate. If any fractures develop in the future, the bacterium becomes active and fills them. Microbiologically Induced Calcium Carbonate Precipitation is a method through which bacteria serve as a longlasting therapeutic agent (MICP). According to their metabolic pathways, several microorganisms can mediate the production of calcium carbonate. Precipitated calcium carbonate has been shown to be more prevalent in heterotrophic processes than in autotrophic activities. Autotrophs are creatures that create complex organic molecules from simple components, often utilizing energy from light (photosynthesis) or chemical processes (chemosynthesis); heterotrophs, on the other hand, are organisms that cannot fix carbon and must rely on organic carbon sources for growth. Calcium carbonate is generated by the microbes and creates a mineral coating that protects the bacterial cells[9].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The breakdown of urea by bacteria with the help of the bacterial urease enzyme is perhaps the route that has been researched the most for engineering reasons. As part of their metabolism, bacteria produce urease, which catalyzes the conversion of urea to carbonate and ammonium, resulting in a rise in pH and carbonate concentration in the bacterial environment. These components then hydrolyze into ammonia and carbonic acid, resulting in calcium carbonate production. The capacity to precipitate calcium carbonate through urea lysis is possessed by a number of microorganisms. Bacterial applications have been discovered after a comprehensive study of the literature. With lightweight aggregate and graphite nanoplatelets, the Bacillus Subtilis bacterium may improve the concrete's strength. The presence of Bacillus Aerius bacteria in rice husk ash concrete was examined, and it was discovered that the concrete's durability had improved. The introduction of Bacillus Megaterium bacteria in concrete resulted in a 24 percent improvement in compressive strength[10]

2. DISCUSSION

Bacillus Sphaericus increases the durability of concrete by depositing calcium carbonate in it. Through a self-healing action, the Sporoscarcina Pasteurii bacteria employed in fly ash concrete has improved the strength and longevity of the concrete. Through the self-healing action of the Sporoscarcina Pasteurii bacteria employed in silica fume concrete, it was discovered that the strength and durability of the silica fume concrete improved. The surface treatment of concrete was tested using Bacillus Sphaericus bacteria, and the findings show that bacterial carbonate precipitation may be utilized as an alternative surface treatment for concrete. According to the literature, there are two ways to apply the healing agent to concrete: direct application and encapsulation. The application of a healing agent in concrete by direct, incorporation of bacteria in light weight aggregates (LWA), and graphite Nano platelets (GNP) has been revealed in previous literature; it has been revealed that GNP is a good carrier compound for bacteria and has given better results in crack healing.

The direct approach was utilized to determine the optimal concentration of bacteria for strength purposes, and the optimum concentration was found to be 30x105cfu/ml. Another technique for improving the self-healing overall performance of concrete is to impregnate lightweight particles with bacteria solution and then encapsulate them in a polymer-based coating layer. The use of a microencapsulation technique including a healing agent for self-healing of materials is a self-healing strategy. The healing agent is released into the fracture faces by capillary migration as soon as the crack ruptures the implanted microcapsules. The healing agent now forms a bond with the imbedded catalyst, triggering polymerization and ensuring the closure of nearby fractures. An illustration of a burst microcapsule. Encapsulation-based self-healing has the potential to offer high-quality self-healing, with a broader range of crack widths that can be repaired and a faster response to matrix breaking. The hydro gel encapsulation technique was also employed, and the specimens with hydro gel encapsulated bacterial spores showed better self-healing efficacy in terms of both precipitation and fracture repair.

The direct application of Shewanella bacteria species into concrete was investigated, and the results revealed a 25% increase in cement mortar compressive strength after 28 days. According to the literature, the encapsulation technique demonstrated excellent self-healing effectiveness in terms of crack closure and calcium carbonate precipitation, which is related to the uniform distribution and protection of bacteria in an alkaline environment. The technique for healing, as well as the breadth and depth of the cracked, were all mended utilizing this approach. Depending

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

on the calcium source used, adding bacteria spore powder to concrete may either speed up or slow down the setting time. Calcium lactate, calcium nitrate, and calcium formate are used to provide nutrition to bacteria. Calcium lactate, calcium formate, and calcium nitrate may slow down the setting time of concrete, whereas calcium formate and calcium nitrate can speed it up.A biotechnological technique based on calcite precipitation has enhanced the structural concrete's strength. Because the cement mortar was porous, microbial cells received enough nutrition throughout the first curing phase.

However, these cells were adjusting to a new environment. Because of the high PH of cement, bacterial cells may develop slowly in the beginning and then adapt to high PH circumstances throughout the curing phase. Calcite precipitates on the cell surface and in the cement mortar matrix during cell development, which may be owing to the presence of different ions in the medium. As a consequence, the cement mortar has reduced porosity and permeability. If several of the holes in the matrix are blocked at the same time, the supply of nutrients and oxygen to the bacterial cells is halted. The cell either dies or transforms into endospores throughout time. As a result, the behavior of microbial cells with enhanced compressive strength may be described. When Bacillus megaterium bacteria at a concentration of 30 105 cfu/ml were added to concrete, the precipitation of calcite was greater in higher grade concrete than in lower grade concrete, indicating that higher grade concrete has more strength than lower grade concrete. The maximal strength development rate for the highest grade of 50 MPa concrete is as high as 24 percent. The cement was substituted with 10% fly ash, and 105 cells per milliliter of Sparciouspasteurii bacteria were added. The deposition of calcium carbonate on the cell surfaces of microorganisms resulted in a 20% increase in compressive strength of structural fly ash concrete.

Due to the precipitation of CaCO3, the compressive strength of bacteria added to silica fume concrete increased. The presence of calcium carbonate in the concrete was verified by microstructure investigation using XRD and SEM. Concrete containing Sparcinapasteurii and Bacillus subtilis bacteria had a 20 percent higher compressive strength than concrete without bacteria after 28 days of testing. When cement was substituted with various percentages of fly ash (10%, 20%, and 40%) in mortar, bacterial cells increased mortar compressive strength by 19%, 14%, and 10%, respectively, when compared to control specimens. GNP serves as an excellent carrier compound for bacteria, allowing for homogeneous dispersion and optimum crack healing effectiveness. Due to microbial precipitation of calcium carbonate, the compressive strength of concrete improved at all ages after the addition of Bacillus subtilis bacteria together with GNP. By adding the reactive spore powder in cement mortar, the 28-day compressive strength improved when compared to the control cement mortar.

CaCO3 deposited on cell surfaces and in the pores of the cement-sand matrix blocks the mortar pores. Permeability determines the penetration of aggressive chemicals that cause concrete to degrade under pressure gradients, and is therefore regarded as the most important characteristic in determining the durability of concrete. This is determined by the characteristics of the cementitious materials' pore network, which are measured by porosity, tortuosity, specific surface, size distribution, connectedness, and micro fractures. The water/cement (w/c) ratio, particle size distribution, the age of hardened cementitious materials, and the entrance of aggressive chemicals, among other things, influence these parameters. CaCO3 deposition in concrete decreased water absorption and permeability of concrete specimens. The addition of S. Pastteurii bacteria to fly ash concrete reduced the porosity and permeability of the concrete,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

according to studies. With a concentration of 105cells/ml bacteria in concrete, water absorption was decreased fourfold. Bacteria fill the pores of bacterial concrete with calcium carbonate precipitated by the bacteria. Due to microbial calcite deposition, cubes cast with Bacillus Megaterium and its nutrients absorbed more than three times less water than control specimens. Due to calcite precipitation, the inclusion of Bacillus Aerius bacteria produces a decrease in water absorption and porosity, increasing the durability of concrete buildings.

Due to holes filled with calcium carbonate, all control cement bag house filter dust concrete specimens show high to moderate permeability after 28 days, while AKKR5 bacterial (105 cells/ml) concrete specimens exhibit high to low permeability after 28 days. Microbial precipitation enhanced the quality of the recycled aggregate, which will decrease water absorption of the recycled aggregate. Corrosion of reinforcing steel caused by chloride intrusion is one of the most common environmental assaults that causes concrete buildings to deteriorate. The rate of chloride ion penetration into concrete is largely determined by the concrete's interior pore structure. Other variables that affect pore structure include mix design, curing conditions, degree of hydration, use of additional cementitious ingredients, and building methods. The quantity of electrical current that flows through a sample is monitored during the rapid chloride permeability test. A qualitative assessment of the concrete's permeability is based on the charge that flows through the sample. By incorporating bacteria into concrete, the resistance of the concrete against chloride penetration may be improved. When comparing bacteria-containing concrete to bacteria-free concrete, it was discovered that the average number of coulombs was 11.7 percent lower. Sparcious Pasteurii and Bacillus Subtilis were also shown to decrease concrete chloride penetration and enhance the mass reduction trend of sulfate-exposed concrete. Bacillus Aerius bacterial cells added to concrete may lower the overall charge transmitted through control and RHA specimens. At all curing ages, bacterial concrete indicates the minimal charge passed. At the ages of 7, 28, and 56 days, the charge transmitted in bacterial concrete specimens dropped by 55.8%, 49.9%, and 48.4%, respectively, as compared to normal concrete. Sparcious Pasteurii was added to 10 percent silica fume concrete with an optimal bacterial concentration (105 cells/ml) and exhibited excellent resistance to fast chloride penetration 380 coulombs.

The greatest decrease in chloride ions was found for all fly ash concretes with Sporoscarcina Pasteurii bacteria concentrations of 105 cells/ml; nevertheless, concrete with 30% fly ash concrete only resulted in 762 coulombs penetration, which is extremely low. The capacity of concrete to withstand chloride ion penetration determines the service life of concrete buildings exposed to deicing salts or marine conditions. A large-scale demonstration is needed before this idea can be commercialized. The issue of nutritional media optimization must also be addressed. Concrete's shrinkage, corrosion, and carbonation characteristics have yet to be thoroughly investigated. The real-time behavior of microbial self-healing concrete will be revealed by a comprehensive examination of the aforementioned characteristics. Although this concept has shown encouraging results in the lab, it has to be evaluated further in the field under non-ideal temperature ranges, high salt concentrations, and at later ages of concrete components. Only an in-depth understanding of the self-healing efficiency and its variability allows for precise service life estimate, and this is the key to spreading this idea among contractors and owners.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3. CONCLUSION

The purpose of this study is to learn more about the utilization of urease-producing bacterium isolates such Bacillus subtilis and Bacillus pasteuri in the healing of concrete fractures. The research looked at a variety of microorganisms that may be utilized to repair fractures. Bacteria has a beneficial impact on the compressive strength of Portland cement mortar cubes and concrete, according to this research. The use of bacteria has the benefit of reducing water penetration and chloride ion permeability. According to the findings of this research, utilizing "microbial concrete" as an alternative and high-quality concrete sealer that is cost-effective, environmentally friendly, and improves the longevity of construction materials is a good idea.

REFERENCES:

- **1.** E. Mostavi, S. Asadi, M. M. Hassan, and M. Alansari, "Evaluation of Self-Healing Mechanisms in Concrete with Double-Walled Sodium Silicate Microcapsules," J. Mater. Civ. Eng., 2015, doi: 10.1061/(asce)mt.1943-5533.0001314.
- **2.** W. Khaliq and M. B. Ehsan, "Crack healing in concrete using various bio influenced self-healing techniques," Constr. Build. Mater., 2016, doi: 10.1016/j.conbuildmat.2015.11.006.
- **3.** N. Chahal, R. Siddique, and A. Rajor, "Influence of bacteria on the compressive strength, water absorption and rapid chloride permeability of fly ash concrete," Constr. Build. Mater., 2012, doi: 10.1016/j.conbuildmat.2011.07.042.
- **4.** N. Chahal and R. Siddique, "Permeation properties of concrete made with fly ash and silica fume: Influence of ureolytic bacteria," Constr. Build. Mater., 2013, doi: 10.1016/j.conbuildmat.2013.08.023.
- **5.** N. Chahal, R. Siddique, and A. Rajor, "Influence of bacteria on the compressive strength, water absorption and rapid chloride permeability of concrete incorporating silica fume," Constr. Build. Mater., 2012, doi: 10.1016/j.conbuildmat.2012.07.029.
- **6.** S. R. White et al., "Autonomic healing of polymer composites," Nature. 2001, doi: 10.1038/35057232.
- 7. S. R. White et al., "Erratum: Autonomic healing of polymer composites (Nature (2001) 409 (794-797))," Nature. 2002, doi: 10.1038/415817a.
- **8.** H. Ullah, K. A. M. Azizli, Z. B. Man, M. B. Che Ismail, and M. I. Khan, "The potential of microencapsulated self-healing materials for microcracks recovery in self-healing composite systems: A review," Polymer Reviews. 2016, doi: 10.1080/15583724.2015.1107098.
- **9.** B. Blaiszik et al., "Self-Healing Polymers and Composites Second Sandia Fracture Challenge View project Shock Wave Energy Dissipation by Mechanochemically-active Materials View project Self-Healing Polymers and Composites," Annu. Rev. Mater. Res, 2010.
- **10.** S. R. White, M. M. Caruso, and J. S. Moore, "Autonomie healing of polymers," MRS Bull., 2008, doi: 10.1557/mrs2008.163.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW STUDY ON NOVEL & EMERGING PROXIMAL SOIL MOISTURE SENSORS

Vineet Kumar*

*Assistant Professor,
Department of Agricultural Sciences,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: vineet.agriculture@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02675.6

ABSTRACT

The measuring of soil moisture in agriculture is presently dominated by a few number of sensors, the usage of which is severely restricted by their small sample volume, high cost, requirement for tight soil—sensor contact, and lack of performance in salty, vertic and rocky soils. This study was conducted to investigate the variety of new and developing soil moisture sensors, and assess their potential application in agriculture. The study showed that advances to current methods over the past two decades are modest, and mainly confined to frequency domain reflectometry approaches. However, a wide range of new, novel and arising method of assessing soil moisture were identified including, actively heated fiber optics (AHFO), high capacity tensiometers, paired acoustic / radio / seismic transceiver approaches, thermo approaches, radio frequency identification (RFID), hydrogels and seismoelectric approaches. Excitement about this variety of possible new technologies is nevertheless tempered by the fact that many of these techniques are at initial phases of development, and that few of these methods have been properly tested in situ agricultural soils.

KEYWORDS: Capacitance, Moisture, Soil Moisture, Sensor, Soil Humidity.

1. INTRODUCTION

Knowledge of soil moisture is essential for supporting agricultural output, watershed hydrology, flood forecasting, landslide prediction and other ecosystem services. Globally, agriculture is the biggest water consumer accounting for about 70 percent of total water use. Global demand for decreasing water resources has prompted increased interest in the development of proximal soil moisture sensors for better control of irrigation and soil moisture in agriculture. Proximal soil sensors are described as being in touch with, or within proximity to the soil (<2 m). Proximal sensors are generally categorized as being I in-situ, stationary or point scale, including both intrusive or buried sensors, or (ii) noninvasive sensors which may function on or near the ground surface including being connected to a vehicle to produce 'maps' of soil moisture variations[1].

Soil moisture monitoring in agriculture is currently dominated by a small number of 'trusted' technologies namely, frequency domain reflectometry (FDR) or capacitance, gypsum block sensors, time domain reflectometry (TDR), and in some industries the neutron moisture meter (NMM) and amplitude domain reflectometry (ADR. Examination of the soil moisture sensor industry and 'Agri-Tech' boom shows that most of the allegedly 'new' soil moisture sensors that

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

have been commercially accessible in the past 5–10 years are based on pre-existing dielectric methods (mainly FDR) (mostly FDR). Techniques which have been truly improved in recent years include multi-depth down entire TDR, low cost TDR sensors, and pseudo TDR techniques (ADR etc.). (ADR etc.). Very few truly innovative techniques for monitoring soil moisture have been marketed or accepted for use in agriculture in the past 2 decades. Inadequate adoption of new methods seems to arise in part poor awareness by technologists of the potential that some of the emerging sensor technology offers for overcoming current limitations to the use of existing soil moisture sensors. Equally low uptake comes from the inadequate knowledge and comprehension of these new methods.

1.1.Advances in In Situ Invasive Matric Potential Sensors:

Matric potential sensors and tensiometers detect the soil matric potential or the amount of suction needed to extract water from the soil rather than soil moisture content. As such matric potential sensors are regarded a better indicator of plant moisture stress than soil moisture content. Matric potential is measured by either tensiometers, gypsum blocks or granular matrix (i.e., watermark) sensors. However, usage of tensiometers is severely limited by water cavitation at 80–100 kPa, their tiny felt area, requirement for hydraulic connection between the sensor and the soil, and problems rewetting after cavitation[2].

The usage of matric potential sensors like tensiometers, gypsum blocks and granular matrix sensors are restricted to non-vertic (non-swelling) soils since these sensors need hydraulic connection between the porous sensor and soil pores. In vertic soils, matric potential sensors frequently fail since drying causes the soil to lose hydraulic connection with the soil. Gypsum block and granular matrix sensors detect the matric potential of the porous material by resistance which is extremely sensitive to soil water salinity (i.e., conductivity) including fertilizer application.

1.2. Time Domain Reflectometry (TDR):

TDR sensors are regarded a highly dependable and precise technique for measuring soil moisture. However, their application in agriculture has been restricted owing to their high cost and requirement for sophisticated wave form analysis to determine soil moisture. In recent years, Acclima, Inc. (Meridian, ID, USA) have decreased the size and cost of TDR sensors via the use of cheaper mass-produced electronics incorporating cellular phone components, so that TDR sensors are now comparably priced with high-end FDR sensors. Campbell Scientific (Logan, UT, USA) have also attempted to reduce the cost of TDR sensors by utilizing transmission line oscillators to construct 'pseudo' TDR sensors in which the number of reflected voltage pulses are detected rather than performing complex waveform analysis of individual reflections[3]–[5].

1.3. Frequency Domain Reflectometry (FDR) and Capacitance:

The expensive expense of TDR sensors has led to the development of alternative lower cost, lower frequency 10–150 MHz, and frequency domain reflectometry (FDR) sensors that do not depend on complex waveform processing. FDR methods assess the soil moisture content indirectly by calculating the bulk dielectric constant from frequency changes of an electromagnetic pulse transmitted into the soil. Due to the lower working frequencies of FDR, the imaginary component of the dielectric constant may be significant, so that FDR sensors are more prone to error from soil texture, electrical conductivity, and temperature than TDR sensors.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.4.Radio Frequency Identification (RFID):

Ultra-high-frequency radio-frequency identification (UHF RFID) systems work across a broad range of frequencies from 120 kHz into the microwave bands up to 10 GHz to automatically identify and measure tagged objects. RFID offers a very low-cost potential for soil moisture monitoring since individual tags (sensors) cost < USD 1 to USD 50; they may be passive (nonpowered) and they can communicate across distances of several meters. Passive RFID tags operate by utilizing some of the energy produced by the reader to give a unique identifier, and an analogue voltage output that may be used to power external devices such as low-power microcontrollers or sensors[6]–[9].

1.5.Invasive Open Ended Antenna (Radar) Microwave:

Microwaves (300 MHz to 300 GHz) are excellent for distant and proximal sensing of soil moisture, since microwave radiation causes dipole molecules such as water to spin generating detectable changes in resulting electromagnetic waves. Microwave-based soil detectors have 3 obvious advantages compared to the existing intrusive sensors (TDR and FDR), such as they seem to include a larger quantification area (but not necessarily volume), they are not susceptible to error small- airgaps between the soil and the detector, and they have various methods of implementation including proximal invasive, proximal noninvasive and remote setups (aircraft and satellite platforms) (aircraft and satellite platforms).

1.6.In Situ Paired Transceiver Approaches:

Experiments employing radio, acoustic and seismic wave propagation through soil and rock have demonstrated that wave velocity and signal attenuation are affected by moisture content. Paired transceiver methods include utilizing the velocity or attenuation of either radio, acoustic or seismic waves transmitted between the paired subsurface transceivers to infer soil moisture content Paired transceiver methods offer a tempting possibility for the creation of soil moisture sensors which have potential to function across distances of many meters. Moreover, unlike with the NMM and cosmic ray approaches in which results usually consist of information from a variety of soil outlooks, paired transceiver approaches should in theory be allowed to navigate at discrete depths using the flight time (ToF) approach which consider the shortest path between transmitter nodes..

1.7. Seismoelectric Approaches:

Seismoelectric, electro kinetic or electro seismic methods are an emerging field of geophysics utilized for noninvasive subsurface research for pore fluids such as water, oil and gas. These methods include producing a seismic wave which results in the creation of an electromagnetic signal (electro kinetic phenomena) arising from pore water moving from compressed to dilated areas of the soil/rock. Because cations preferentially adhere to capillary walls, the resulting fluid flow separates the cations and anions thus producing an electric dipole causing development of a streaming current and electromagnetic co-seismic field which can be measured at the soil surface using an array of dipole antennas and geophones for measuring the mechanical response. Soil moisture influences both mechanical and electrical characteristics of soil/rock including seismic velocity, seismic attenuation, electrical conductivity and also the electro kinetic coupling. Consequently, both the coseismic field and interface response characteristics are affected by soil water content.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.8.Heat Pulse:

Heat pulse sensors detect either the thermal conductivity, volumetric heat capacity or the soil thermal diffusivity in reaction to application of heat, in which wet soils will heat up and disperse heat slower than dry soils. Heat pulse sensors are not influenced by salinity or soil temperature. Sensors typically take the shape of either a single probe comprising both the heating and sensing components, or dual (multi) probe setups consisting of a single heater needle surrounded by up to six thermostat needles. Despite their accuracy, heat pulse sensors have not been extensively used in agriculture owing to their sluggish reaction time, high power consumption, expense relative to FDR sensors and necessity for a complex controller to detect heat fluxes[10].

1.9. In Situ Fiber Optic Approaches:

Distributed temperature sensing (DTS) systems detect temperature over a fiber optic cable at the cm scale for lengths in the order of kilometers, with a high temporal frequency and excellent precision. Optic fiber-based soil moisture sensors work by sensing deformation of the optic fiber resulting from either hydration of a hydrophilic (Polyimide) coating on the exterior of the optic fiber, or temperature changes in the soil around the actively heated fiber optic (AHFO) (AHFO). The more typical AHFO method includes administration of an electrical current through the outer metal sheath of an optic fiber which causes the sheath and surrounding soil to heat up and bend the optic fiber.

1.10. Hydrogels:

A limited number of studies have attempted to utilize the swelling capacity of hydrogels to assess either soil moisture or matric potential. Hydrogels are extremely absorbent hydrophilic polymer chains which may absorb 10–1000 times of their initial weight or volume in water over a very short period of time. Hydrogel sensors consist of a chemically inert hydrogel polymer, a semiporous membrane/filter/porous plate that inhibits migration of the hydrogel into the soil, and a method (mechanical, optical, capacitance) of detecting gel expansion. Hydrogel sensors work in a similar way to tensiometers in which soil moisture migrates through the semi permeable/porous material causing the hydrogel to expand and contract in harmony with the soil matric potential.

1.11. Emerging Mobile and Noninvasive Soil Moisture Sensors:

Noninvasive soil moisture sensors may be used for both point source and for mobile 'mapping' of soil moisture. Mobile, noninvasive methods offer promise to address problems with the limited measured volume of invasive sensors, by being able to be moved and therefore measure greater regions within acceptable durations. Non-invasive sensors are also able to function in stony soils in which installation of invasive sensors is frequently not feasible, and they can operate in vertic soils in which invasive sensors often lose touch with the soil after drying. Difficulties with the use of noninvasive approaches often include issues with limited penetration depth (L band microwave), variable depth of penetration with moisture content (GPR, EMI, Cosmic Ray, L band microwave), difficulty separating response from different soil depths or layers (EMI, Cosmic Ray), the time and hassle involved with conducting surveys (EMI and GPR) and high level of skill required to operate devices and process large volumes of data (GPR).

ISSN: 2249-7137 Vol. 11. Issue 12. December 2021 SIIF 2021 = 7.492

A peer reviewed journal

1.12. Cosmic Ray Sensors:

Cosmic ray sensors are commercially available, non-invasive (typically) stationary sensors that detect naturally occurring neutrons that are created by cosmic rays traveling through the Earth's atmosphere. They consist of a passive neutron detector positioned a few meters above the ground which detects the release (evaporation) of fast neutrons into the air above the soil after neutron interaction with hydrogen atoms in the soil. As cosmic ray sensors are noninvasive, they may be suitable to rocky and vertic soils in which installation of other popular kinds of soil moisture sensors is problematic. Cosmic ray sensors have a relatively wide measuring footprint of approximately 260-600 m radius which maybe suitable to broadscale farming on uniform soils but are incompatible with the increasing trend toward precision agriculture and variable rate irrigation. Additional limitations with cosmic ray sensors include their high cost, very large and imprecise measured soil volume, long measurement durations which can be in excess of 4 h, variable depth of measurement which ranges from around 15 cm in wet soils, to approximately 70 cm in dry soils, and difficulty deriving precise calibrations.

1.13. Electromagnetic Induction (EMI):

Electromagnetic induction (EMI) surveys are regularly used in agriculture to map bulk soil variability or changes in soil type, but in recent years they have been progressively utilized to map variability in soil moisture. EMI surveys are generally fast to perform, are non-invasive, have excellent spatial resolution, and need less specialized expertise and knowledge to analyze and interpret data than other geophysical techniques such as GPR. Unlike dielectric or microwave-based based methods (TDR, FDR, GPR etc.) EMI sensors are not immediately sensitive to water content or hydrogen ion concentration. They react to the amount of ions (salt content) in the soil solution, in which increasing soil moisture content increases the abundance and mobility of ions and therefore raises the apparent electrical conductivity (ECa).

2. DISCUSSION

With the exception of the neutron probe and cosmic ray sensors, use of soil moisture sensors for informing on farm decisions such as when and how much to irrigate, is greatly limited by the relatively small measured soil volume of most commercially available sensors (FDR, capacitance, gypsum block and granular matrix) (FDR, capacitance, gypsum block and granular matrix). Consider a farmer choosing when and how much to water a 50-ha field based on the reading of a sensor which detects as little as 10 cm³ soil, a measured to managed ratio of 1:1010. Use of current soil moisture sensors needs a high degree of trust that the sensor is properly placed (i.e., no air gaps), that it is situated in a representative soil type, that soil types are more or less consistent across an entire block, center pivot circle or management unit. One way to solve the measuring scale problem, is to employ a large number of low-cost sensors. Use of soil moisture sensors in agriculture is presently dominated by three technologies FDR, TDR and granular matrix matric potential sensors. Over the past decade very few enhancements to existing methods or truly novel ways of monitoring soil moisture have been marketed.

3. CONCLUSIONS

Farmers have never had the technology that they wish to be utilizing for monitoring soil moisture. Instead they have taken use of the technology which has been made accessible to them, notably TDR, FDR and granular matrix sensors. Review of the literature shows a multitude of enhanced, innovative and new methods for monitoring soil moisture, in which agriculture is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

nearly always mentioned as a possible end user of the technology. However, few studies show awareness of how new sensor technology may overcome limitations associated with the use of current soil moisture sensors or recognize in what soil or agricultural systems emerging technology is suitable or restricted.

Continued direction of soil moisture detectors for use by farm owners in agricultural production would greatly benefit from greater cooperation between sensor engineers, soil scientist, and agriculturalists in order to develop, new, useful, usable soil moisture sensors that overcome the restrictions to the use of established soil moisture sensors. New sensor technologies need to pay greater attention to overcoming logistics related constraints imposed by agriculture including frequent tillage, operation in remote locations and restricted practical expertise of users, as well as the need to increase the capacity of sensed soil without losing specific depth information. In addition, new methods need to be developed for usage in stony, vertical and saline soils. This remains a significant problem, in which no one, fresh, innovative or developing technology is an obvious victor.

REFERENCES:

- **1.** A. Natividad, J. Timoneda, J. Batlle-Sales, V. Bordas, and A. Murgui, "New Method for MEaduring Dehydrogenase Activity in Soils," 1997.
- **2.** G. Janik, A. Walczak, and T. Reinhard, "Applicability of LP/ms Type Sensors for Determination of Moisture Dynamics of Injection-Irrigated Soil," 2018, doi: 10.1109/ISEMA.2018.8442325.
- **3.** V. Dobrincu, S. B. Balmus, G. N. Pascariu, and D. D. Sandu, "Characterization of dielectric mixtures by the time domain reflectometry (TDR)," 2006.
- **4.** P. Smith, C. Furse, and J. Gunther, "Analysis of spread spectrum time domain reflectometry for wire fault location," IEEE Sens. J., 2005, doi: 10.1109/JSEN.2005.858964.
- **5.** D. B. R. Rodrigues, H. E. M. Peres, and W. Becari, "Ethanol fuel analysis by time-domain reflectometry," 2013, doi: 10.1109/IMOC.2013.6646441.
- **6.** M. L. Vishwakarma and V. Parashar, "Libraries and Radio Frequency Identification (RFID): an overview," Asian J. Multidiscip. Stud., 2013.
- **7.** V. Rajaraman, "Radio frequency identification," Resonance, 2017, doi: 10.1007/s12045-017-0498-6.
- **8.** Y. Pan, Z. Y. Hou, J. Xiong, and K. H. Liu, "Research on the system of radio frequency identification and localization works in microwave," 2014, doi: 10.4028/www.scientific.net/AMM.441.993.
- **9.** R. Hornyak, M. Lewis, and B. Sankaranarayan, "Radio frequency identification-enabled capabilities in a healthcare context: An exploratory study," Health Informatics J., 2016, doi: 10.1177/1460458215572923.
- **10.** R. D. Rabbitt et al., "Heat pulse excitability of vestibular hair cells and afferent neurons," J. Neurophysiol., 2016, doi: 10.1152/jn.00110.2016.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE EFFECT OF PUBLIC KNOWLEDGE ON HIGHWAY PROCUREMENT AUCTION BIDDING

Mohit Rastogi*

*Assistant Professor,

Department of Marketing, Faculty of Commerce, Management & law, Teerthanker Mahaveer Institute of Management and Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: mohit.management@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02676.8

ABSTRACT

The revelation of information about the seller's value of an item may lead buyers to bid more aggressively, according to a number of studies in the theoretical auction literature. In the empirical literature, this widely recognized conclusion in auction theory is largely unproven. This impact may also be more apparent in auctions with more common cost uncertainty, according to recent theoretical work. The effect of an Oklahoma Department of Transportation policy change that resulted in the publication of the state's internal estimate of the costs to finish highway building projects is examined. We conduct a differences-in-differences analysis comparing bidding in Texas to bidding in Oklahoma, a state that had a consistent policy of disclosing the same information throughout the study period. Our findings indicate that following the change in engineers' cost estimate (ECE) regulation, the average bid in Oklahoma decreased in comparison to Texas auctions. This drop in bids was much more pronounced for projects with a higher level of cost uncertainty. Furthermore, following the change in ECE policy, the within-auction standard deviation of bids decreased, with the greatest decrease seen in projects with higher common cost uncertainty.

KEYWORDS: Auction Bidding, Equilibrium Bidding, Economic Policy, Highways Procurement, Transportation.

1. INTRODUCTION

The public publication of information about an object's value may lead to more aggressive bidding behavior, according to auction. The availability of information may increase competition among bidders in a competitive setting by making values more predictable. In auctions of items having a shared value uncertainty, this impact is particularly apparent[1]. The relative worth of a bidder's own private knowledge may likewise be reduced by public information, lowering his rentals. Although these forecasts are generally accepted, they have yet to be validated using field auction data. The empirical data on the effect of public knowledge distribution is mostly limited to laboratory studies. Using data from highway construction procurement auctions, this research investigates the impact of information release on bidding behavior[2]. Every state in the United States has transportation procurement auctions, with billions of dollars in building projects granted each year. The auctions are first-price sealed bid auctions conducted at regular intervals

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

throughout the year in each state. While most states use a similar auction structure, one element that differs is the information given to bidders about the state's internal estimate of a project's cost. Some states make this information public before bidding, whereas others don't.

Oklahoma's stance on this has recently altered. Prior to the policy change, state officials were prohibited from disclosing the state's cost estimate before bids were solicited[3]. The Oklahoma Legislature instituted a series of amendments to state legislation that reversed this policy over a six-month period starting at the end of 1999. Prior to submitting a proposal, bidders now have access to the state's cost estimate. This information policy change in Oklahoma is comparable in spirit to the information release described, and it is this information policy change that we use to test the hypothesis. As previously stated, the data on the impact of public information disclosure in auctions is sparse and mainly based on trials[4]. Simulations of a public information disclosure are the closest evidence in the empirical literature. To estimate the distribution of private values when the reserve prices are hidden in an open auction of flats in Sweden. They next model the impact of switching to an open reserve price method and find that if the reserve price was disclosed, the seller's income would increase by approximately 10%. The empirical studies of drainage auctions look at how bidders' bidding behavior is affected by inequalities in the accuracy of their knowledge. In asymmetric settings where one bidder may obtain better knowledge than others, the emphasis is usually on analyzing the size of information rents[5]. There is some evidence that royalty systems that offer revenue assurance boost bids in wildcat auctions when information is reasonably symmetric. Greater market volatility may lead to decreased demand, lower prices, and increased bid dispersion in Treasury bill auctions. Risk aversion has a role in this behavior. The impact of value dispersion and seller reputation on pricing in computer auctions on Ebay. She discovers that the seller's reputation adds credence to the information given by the auction site. However, none of these empirical studies directly tests concludes that providing public knowledge about an item's value influences bidding behavior[6]. The predictions of this theory have yet to be put to the test using a natural experiment and data from field auctions. To this aim, we use a differences-in-differences method to empirically evaluate the effect of public information release in Oklahoma auctions and compare changes in bidding behavior in Oklahoma and Texas auctions. Throughout the time, Texas had a consistent information release policy, and we used the Texas auctions as a control group.

Over 13,000 proposals were filed by construction companies in Oklahoma and Texas between 1998 and 2003, according to the statistics. Our empirical research backs up the hypothesis by showing that when more information is released, the average amount of bids drops. The lower average offers do not result in statistically significant lower winning bids, despite the competitive pressure generated by the information release[7]. According to the hypothesis, the impacts of information release should be more noticeable in auctions with more frequent cost uncertainty. We identify two kinds of projects from the collection of auctions utilized in this study that seem to vary substantially in the degree of common cost uncertainty associated with the particular construction jobs[8]. Asphalt paving projects and bridge construction/repair activities are the two project categories. We contend that in order to estimate the cost of asphalt projects, one must depend more on the particular firm's condition of equipment and internal efficiency, while in bridge construction projects, there is more uncertainty that is shared by all bidders. In line with the hypothesis, we discover that the impact of information release is greater for bridge construction projects. This is the first study that we are aware of that examines and analyzes the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

effect of a public information release in auctions with varying degrees of common cost uncertainty[9].

The rest of the paper is laid out as that releasing public information causes more competitive bidding and may result in greater revenues in first-price sealed bid auctions with linked values. "In a first-price auction, a policy of publicly disclosing the seller's knowledge cannot reduce and may increase the anticipated price. In such a situation, the auction winner is the one who has the most optimistic estimate in comparison to his rivals. The winner's curse is caused by a failure to anticipate this reality and account for it while developing bidding tactics. The publication of information in a competitive setting may have two impacts on bidding behavior. For starters, it may make values more predictable, reducing the winner's curse and promoting fiercer competition among all bidders. Second, it may minimize the effect of the bidder's own private knowledge on his valuation estimate, lowering his information rents. We propose a basic model of competitive bidding with additive and separable common and private cost components to formalize the importance of public knowledge in auctions[10].

2. DISCUSSION

This model, which offers helpful guidance for the empirical research that follows. When the amount of the common cost component compared to the private cost component varies, the framework provides a simple bidding function with the additional benefit of allowing us to evaluate the relative scale of the effect of an information release. We can also explain the observed difference in the effect of information disclosure on projects with mostly private expenses (such as asphalt) vs those with primarily common costs such as bridge repair. Finally, the approach can anticipate impacts on bid variance owing to its simplicity. In addition, the vendor may get an estimate of the average cost V. If he chooses to get that estimate and disclose it to the bidders, the value of n rises by one, and the weight given to any privately detected signal falls. As a consequence, private information rents are decreased, and bidders are more aggressive in their bidding. After the information is published, the greater the relative magnitude of the common cost component, the more aggressive bidding behavior is anticipated. If the seller's estimate was given greater weight than the other estimates, his choice to purchase and disclose it to bidders would further decrease the private information rents, resulting in lower average offers.

All bidders will discover the state's estimated value of the common cost as a result of the publication of that information. At every level of bid, the information rents are decreased, causing bids to grow increasingly concentrated. The analysis above assumes that the total number of bids is known. The qualitative impact of the policy change on the equilibrium bidding strategy will be the same in the model with an unknown number of bidders as in the model with a known number of bidders. On average, the revelation of information will lead to more aggressive bidding behavior. Overall, the theory predicts that the disclosure of knowledge will lead to competitive bidding. The lower the offers and the smaller the variation of bids once the information is disclosed, the greater the common value component of the cost. In a competitive setting, however, if the costs were entirely private, the revelation of information would have no impact on the offers. Our empirical investigation will put this hypothesis to three major tests. First, we'll calculate the total impact of the ECE policy change on bids and winning bids. Second, we'll calculate the impact of the ECE policy change on projects with varying amounts of common and private cost components.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

This research uses data from the Oklahoma Department of Transportation (ODOT) and the Texas Department of Transportation (TXDOT) on construction project auctions held between January 1998 and August 2003. 10 Auctions from throughout Oklahoma, as well as the North Texas and Panhandle construction districts in Texas, are included in the statistics. These Texas regions border Oklahoma, have comparable terrain and soil conditions, and utilize similar building materials as Oklahoma. We know the contractors that bought blueprints (plan holders), the bids made by each contractor if they bid, the winning bidder, and the winning bid for each project auctioned off. Any contractor interested in bidding on a project must first buy a plan from the state, and the list of plan holders outlines the possible competitors in an auction. Prior to the auction letting, all bidders have access to the plan holder list, which is public information. Furthermore, both states offer information on each project. The information includes the project's location, a comprehensive description of the duties, an anticipated completion time, and, most crucially, the ECE. We create a panel data set with this information, where each observation represents a plan stored and potentially a bid made by a company for a certain project. Bidders may make several individual bids in a month or choose not to bid at all in certain months, resulting in an imbalanced panel structure.

Two panels summarize the auction statistics for Texas and Oklahoma by the ECE policy information periods mentioned above January 1998 October 1999, November 1999 March 2000, and April 2000 August 2003. Statistics on the number of auctions, bidders, and bid prices are included in the table. Bid information is provided as a relative offer, which is calculated by dividing the bid by the engineering cost estimate. This enables direct comparison of bids for projects of various sizes. There are three things worth mentioning. First, the sample is fairly evenly split between Oklahoma and Texas, with somewhat fewer auctions in Texas in each of the three periods than in Oklahoma. Second, participation rates in Texas are typically greater than in Oklahoma, both in terms of plan holders and bids. The number of bids in Texas outnumbers those in Oklahoma by.5–1.0 bidders each auction on average. Third, it seems that bids and relative winning bids have decreased over time in both Oklahoma and Texas, with the drop being more pronounced in Oklahoma. There was no change in policy in Texas, with the ECE being accessible to bidders prior to the whole sample being bid on. As previously stated, there was a significant shift in policy in Oklahoma.

We'll use our auctions to represent this shift in knowledge by categorizing them into three time periods: pre-November 1999, November 1999—March 2000, and post-March 2000. Prior to the bid letting, the ECE for Oklahoma projects is unknown in the first phase. The second time interval is a transitional phase that includes the two legislative changes that happened in November 1999 and March 2000. The ECE is accessible to bidders in the final time period, and both legislative modifications have been implemented. In addition to firm-fixed effects, we incorporate two bidder characteristic variables that quantify bidder cost heterogeneity: the bidder's capacity utilization rate and the bidder's distance from a project. We anticipate bidders to submit higher bids when their capacity utilization grows or their distance from a project increases. Three variables are also created to assess competitor qualities. To begin, we use historical data on competitor plan holders' bidding performance to calculate the average winning percentage of all rival plan holders in an auction. This is a metric for how difficult a competitor is. We anticipate businesses to bid more aggressively when they confront a slew of strong competitors. Second, we take into account the competitors' minimal distance from the project and their minimum backlog.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The ECE information effect should be more apparent in auctions when the cost is unknown, according to the theoretical literature on auctions. We investigate at two particular project types, asphalt and bridge construction, where we believe the relative significance of the common value components differs and where we have a large number of projects, to evaluate the possible variations in the impact of ECE policy across projects. Based on talks with state highway and civil engineers, we think the independent private value framework best describes asphalt projects. Variances in submitted bids are mainly attributable to differences in private expenses, and the costs involved are less unclear. This is due to the fact that asphalt projects are usually simple, requiring a contractor to put down a particular thickness and kind of asphalt over a specific road surface. The quantity and kinds of material mentioned in the work items for these projects are typically carefully specified. Bridge building and maintenance expenses, on the other hand, are often more unpredictable. Each bridge is unique, therefore the intricacy of bridge building projects will vary.

Furthermore, bridge work may need demolition and excavation in order to properly comprehend the iob's expenses. Some costs connected with bridge work, such as demolition and pier building, were more unpredictable than the cost components usually seen in asphalt projects, according to the state construction engineers and civil engineers we talked with. The uncertainty may stem from problems evaluating soil conditions or determining the precise repairs that need to be made to an old bridge. They discover that bridge projects include both common and private cost components, while road-paving contracts have mostly private costs, using a model of associated values. We think that in this context, a cross-project comparison provides a more rigorous application of the differences-indifferences method. Policy assessment based on differences-indifferences implies that all other variables affecting bidding in Texas and Oklahoma in the preand post-ECE policy eras have been accounted for. It's conceivable that we haven't accounted for an omitted variable influencing bidding in Oklahoma or Texas, which may skew our findings. This option should be illuminated by the bridge-asphalt contrast. If our ECE policy variable is just picking up the impact of an omitted variable that resulted in somewhat more aggressive bidding in Oklahoma, it should not influence particular project types within states differently. The bridge-asphalt comparison effectively enables us to improve our test by using within-state variance in the data among project types.

3. CONCLUSION

The impact of information release on bidding behavior in procurement auctions is examined in this paper, which adds to the empirical literature on auctions. Using a natural experiment and field auction data, we offer the first empirical test of the hypothesis. Three major empirical results emerged from our examination of the bidding data. First, in contrast to Texas auctions, the average bid in Oklahoma has dropped after the ECE policy was changed. Second, bids for bridge work fall dramatically, but not for asphalt projects. Third, after the change in ECE policy, bid variation decreases, and the magnitude of this decline is greater for bridge projects than for asphalt projects. These three findings are consistent with the theory's expectations. When a seller's information is made public, it usually results in lower offers. These lower average bids in Oklahoma do not result in lower winning bids across all projects, and therefore do not result in reduced overall procurement costs. This increases the possibility that the information release is just impacting the top tier of bid distribution. The quantile regression findings, as well as the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

fundamental patterns observed, indicate that the impact of the ECE policy variable is rather consistent across quantiles.

Furthermore, we find a reduction in winning bids that is comparable in size to the fall in the average offer in bridge projects, where we anticipated to see a greater effect. The impact of the ECE policy change on relative bids remains substantial and statistically significant even when we account for implicit factors such as a possible change in the number of bidders submitting bids. Furthermore, in the two and a half years since the policy change, we have found no evidence that the change in information policy resulted in an increase in relative bids. This is a critical result to rule out since federal and state transportation authorities have expressed worries that publishing the ECE estimate before the bid letting process would reduce competitiveness. In terms of the state's ECE, the guidelines recommend that states do not make the information public until after the contract has been awarded. The reasoning behind this suggestion is that releasing the ECE may promote and enable bid manipulation. If an open information policy encouraged collusive conduct, the consequences described above would be mitigated. Alternatively, if the availability of information decreased the advantages of existing cartels exchanging information, the open information policy may lower the probability of cartelization and enhanced competition.

REFERENCES:

- **1.** R. Wang, "Common-value auctions with discrete private information," J. Econ. Theory, 1991, doi: 10.1016/0022-0531(91)90133-O.
- **2.** D. Quint, "Looking smart versus playing dumb in common-value auctions," Econ. Theory, 2010, doi: 10.1007/s00199-009-0491-8.
- **3.** D. Bergemann, B. A. Brooks, and S. Morris, "Optimal Auction Design in a Common Value Model," SSRN Electron. J., 2017, doi: 10.2139/ssrn.2886453.
- **4.** P.-L. Yin, "Information Dispersion and Auction Prices," SSRN Electron. J., 2011, doi: 10.2139/ssrn.690201.
- **5.** F. Branco, "Common value auctions with independent types," Rev. Econ. Des., 1996, doi: 10.1007/bf02499137.
- **6.** J. K. Goeree and T. Offerman, "Competitive bidding in auctions with private and common values," Econ. J., 2003, doi: 10.1111/1468-0297.t01-1-00142.
- **7.** J. Hörner and J. Jamison, "Private Information in Sequential Common-Value Auctions," Discuss. Pap., 2006.
- **8.** S. Athey and P. A. Haile, "Identification Of Standard Auction Models," SSRN Electron. J., 2005, doi: 10.2139/ssrn.238741.
- **9.** V. Hlasny, "Shill-bidding in private values auctions," J. Information, Commun. Ethics Soc., 2007, doi: 10.1108/14779960710846164.
- **10.** S. Athey and P. A. Haile, "Identification of standard auction models," Econometrica, 2002, doi: 10.1111/1468-0262.00371.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

INDEPENDENCE OF JUDICIARY IN INDIA

Vipin Jain*

*Professor,

Department of Finance & Marketing, Faculty of Commerce, Management & law, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: vipin555@rediffmail.com

DOI: 10.5958/2249-7137.2021.02677.X

ABSTRACT

Constitutionalism demands that the judiciary be independent. It is the litmus test for a functioning democracy, since it provides checks and balances on the executive's absolute power. Instances from the Supreme Court of India's illustrious history demonstrate the passion and bravery with which the judiciary defended and maintained democracy through difficult times. A quick examination of comparable circumstances in other democracies confirms the view that the judiciary's independence is essential, and its role in the preservation of democracy is enormous. In recent months, inaction on the part of the higher courts and executive meddling have been seen in India's socio-political landscape, leading one to question whether the judiciary is still independent after all. The effect of an independent judiciary on the preservation of independent rights is examined in this essay.

KEYWORDS: Constitution, Democracy, Independence, Judiciary, Supreme Court.

1. INTRODUCTION

Power separation between the three branches of government is essential for a healthy democracy. Montesquieu is credited with the idea of separation of powers between the legislative, the executive, and the judiciary. He was a French enlightenment political philosopher. He argued that the court must be totally independent of the "state's conflict of interests." It was then included into the constitutions of democratic countries.

The judiciary's independence is a precondition for a democratic republic to be free of all forms of external influence. The Supreme Court is the guardian of basic rights and the interpreter of the Constitution. Article 142 of the Indian constitution allows for any legislation enacted by lawmakers to be ruled invalid due to arbitrariness. The Supreme Court protects the people of India's freedom from unjust arbitrary laws by declaring them extra vires the constitution via judicial review under Article 323[1].

When the judiciary is free of executive and legislative influence, the Supreme Court's conclusive power to determine the fortuity of the challenged legislation may be successfully used. Article 50 of the Indian constitution mandates that the state take measures to separate the judiciary from the executive in the state's public services, guaranteeing the judiciary's independence. The constitutional protections seem to help the cause in theory, but reality differs. Constitutionalism demands that the judiciary be independent.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2. DISCUSSION

2.1 Judges' Appointments and Removal:

The President appoints Supreme Court judges in consultation with the Chief Justice of India and a collegium of other Supreme Court judges as deemed appropriate by the President. The government's judicial branch is involved in the appointment of judges but not in their removal. The President could only remove Supreme Court judges with the support of at least two-thirds of the members of the house present and voting on the grounds of proven misbehavior or incapacity. The President has limited choice after the resolution has been approved by both Houses. He issues the order for the judge's dismissal. The State's standard is that judges are appointed based on seniority. The administration has broken this rule when the most senior candidate seems to be a danger to its political philosophy. During the emergency years of 1977, the Indira Gandhi administration defied convention and appointed Justice M. H. Beg as Chief Justice of India instead of Justice Hans Raj Khanna. The administration at the time was unhappy with Justice Khanna's dissent, which upheld the basic right to life and liberty during an emergency, notwithstanding the government's submission[2].

The founding fathers attempted to divide the three branches of the government. The legislature's authority to select and remove Supreme Court and High Court judges undermines the judiciary's independence, which the constituent assembly sought. Justice K. M. Joseph, the former Chief Justice of the Uttarakhand High Court, was eventually promoted to the Supreme Court judgeship in 2018. The collegium supported his promotion, but the administration refused to accept it. This arises as a consequence of the government's unhappiness with Justice Joseph's decision to quash president's rule in Uttarakhand by the Uttarakhand High Court in 2016.

The judiciary's reliance on the executive obstructs the separation of powers. As a result, the judiciary's independence has deteriorated significantly in recent years. It has impacted the general populace. The Parliament has enacted a number of arbitrary legislation in recent years. The Supreme Court affirmed the constitutionality of the challenged legislation.

2.2 Article 370 Abrogation Is an Attack On Federalism:

The Indian government repealed Article 370 on August 6, 2019 via a Constitutional Order. The state of Jammu and Kashmir was granted special status under Article 370. On October 27, 1947, the princely state of Jammu and Kashmir was annexed to India's dominion. Nothing in the Instrument of Accession was intended to bind the state of Jammu and Kashmir to "adoption of any future constitution of India." The Indian constitution's Article 370 was written with the intention of preserving the state of Jammu and Kashmir's autonomy. "The President may, by public notification, declare that this article shall cease to be operative or shall be operative only with such exceptions and modifications and from such date as he may specify: Provided, however, that the recommendation of the State's Constituent Assembly referred to in clause (2) shall be required before the President issues such a notification," according to Article 370[3].

The Constitutional Order of 1954 was enacted to apply certain of the Indian constitution's provisions to the state of Jammu and Kashmir. The state's Constituent Assembly was likewise dissolved. As a result, the state of Jammu and Kashmir's unique status and Article 370 are now permanent. By modifying the terms of Article 367, it was feasible to repeal Article 370. Article 367 was amended by a constitutional directive dated August 5, 2019. It said that while

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

interpreting Article 370, the Governor of Jammu and Kashmir acting on the advice of his Council of Ministers is included in the administration of the state of Jammu and Kashmir.

The ruling further declared that the Legislative Assembly of the State, as defined in article 370 (2), is to be interpreted as the Constituent Assembly of the State. As a result, the state's governor was equated with the state's former constituent assembly. Article 370 was officially changed based on the recommendation of the stated Governor, who is basically a representative of the President. Later, a law was enacted that divided Jammu and Kashmir into union territories of Jammu and Kashmir and Ladakh.

The people of Jammu and Kashmir were enraged by such an assault on the state's autonomy, and they protested. The Supreme Court has received petitions questioning the constitutionality of the abrogation. The state of appealed for a delay of the restructuring process. The Supreme Court, on the other hand, dismissed it. The state was divided into two union areas after the reorganization.

Parliament ignored the wishes of the people of the state while undermining the state's autonomy. The federal government enforced a media blackout to silence critics of the abrogation. To preserve peace and order, the state's internet was turned down for 145 days. Prominent leaders like as Omar Abdullah and Mehbooba Mufti were arrested, as were other protesters. The absolute mayhem of the basic freedom to free expression and peaceful assembly indicates democracy's demise. The Supreme Court, as the guardian of basic rights, remained silent. Six months after the executive extremism, the Supreme Court issued an order requesting that the government reconsider the limitations[4].

However, the Supreme Court is currently debating the legality of the law. The judiciary's deteriorating morals are reflected in the lack of sensitivity and haste with which the Kashmir problem should have been addressed. The Supreme Court's silence and inaction in this matter is concerning. In the state, draconian measures were enacted that violated basic liberties and severely violated human rights. In response, the Supreme Court turned a deafening.

Abrogation seems to be intended towards undermining the country's federalism. Our state is a quasi-federal one, with a federal framework but a unitary mentality. According to the principles set forth in the landmark Keshavnanda Bharti case, federalism is a component of the fundamental framework. Striking at the federal structure with the use of amendments is contrary to the spirit of the Constitution. It's also a breach of the Accord's Instrument. The Supreme Court has a responsibility to the people of the United States to protect the Constitution.

2.3 The Mayhem and the Attack on Secularism Delhi is the capital of India:

The government enacted the notorious Citizenship Amendment Act, 2019 in response to the turmoil in Jammu and Kashmir. "Any person belonging to the Hindu, Sikh, Buddhist, Jain, Parsi, or Christian community from Afghanistan, Bangladesh, or Pakistan, who entered India on or before the 31st day of December, 2014 shall not be treated as an illegal migrant for the purposes of this Act," according to a proviso added by the 2019 amendment.

The amendment's vague and arbitrary character, which excludes other persecuted religious minority from other geographical neighbors from obtaining Indian citizenship and makes religion a criterion for citizenship acquisition, goes against the spirit of the constitution. It infringes on the right to equal treatment under the law, as provided by Article 14 of the constitution. It also goes against the constitution's secular framework. The Citizenship

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Amendment Bill of 2019 was approved by both chambers of Congress and signed by President Trump. The 2019 Citizenship Amendment Bill became an Act on December 12th[5].

In Assam, protests arose over the potentially dangerous consequences of the Citizenship Amendment Act (CAA) 2019 and the National Register of Citizens (NRC). The movement gathered traction, and demonstrations spread to New Delhi. Jamia Millia Islamia students protested against the discriminatory Act by exercising their basic right to peaceful protest under article 19(1)(b). To bring the demonstration to a close, police stormed the JMI campus. Both sides pelted each other with stones. Police fired pepper spray and tear gas on students, stormed the reading area, destroyed property, and arrested protestors. Everyone slammed the cops for terrorizing students who were peacefully demonstrating. Students demonstrated throughout the nation. Protesting students were assaulted at Aligarh Muslim University and Jawaharlal Nehru University in similar instances.

The Supreme Court, on the other hand, handled the matter with the same carelessness with which it handled the Jammu and Kashmir problem. The Supreme Court has been petitioned to take urgent action against the Delhi police's brutal abuse of authority. It was also requested that the discriminatory CAA be put on hold.

The Supreme Court declined to hear appeals against the police actions during the demonstrations at Jamia Millia Islamia and Aligarh Muslim University. Petitioners were directed to contact their respective High Courts to prove facts, according to the Supreme Courts. It made it illegal for High Courts to rule on the constitutionality of the CAA. It also turned down a request to establish a committee to investigate police violence. The Supreme Court ruled that appointing a single committee to investigate issues in various states may not be possible... If it is deemed suitable by the High Courts after hearing the parties, interference will be made by contemplating establishing relevant Committees[6]."

Protests were conducted all across the nation for three months, from December 2019 to February 2020. To quell anti-government protests and the executive's abuse of authority, the central government implemented a slew of limitations throughout the nation. Parts of Delhi, Assam, and Uttar Pradesh were cut off from the internet. In portions of Uttar Pradesh, Delhi, Mumbai, and Bengaluru, Section 144 was enforced. Ramchandra Guha, Tehseen Poonawalla, Umar Khalid, and Yogendra Yadav, among others, were arrested for nonviolent protesting. When the Supreme Court declined to hear a case against police violence, it sanctioned flagrant violations of basic and human rights.

High Courts, on the other hand, exhibited character and protected people' basic rights. The lower judiciary was able to maintain the constitution's democratic character and bring the nation out of the abyss of anarchy. The recovery of Rs. 2.22 lakhs from individuals accused of causing property damage during the CAA protest was declared illegal by the Allahabad High Court. The Uttar Pradesh government was ordered to remove hoardings of individuals accused of destroying state public property by the High Court, which termed it "undemocratic government agency operating." The act of identifying and shaming accused individuals is characterized by the High Court as "nothing but an unlawful intrusion into people's privacy," and therefore breaches Article 21 of the Constitution[7].

The basic right to peacefully assemble to protest was affirmed by the Bombay High Court. The Court said that such individuals cannot be labeled as traitors or anti-nationals just because they

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

reject a single legislation. It will be a protest against the government and solely for the purpose of the CAA.

The government has been ordered by the Guwahati High Court to restore internet services. After the situation was violent, the court supported the suspension of internet services, but the continuance of the restriction when the situation has calmed down and people are demonstrating peacefully was condemned. When the period of severe public emergency that required the suspension of mobile internet services has mostly passed, we would respond by noting that it is about time to issue an interim order restoring all Mobile Service Providers' mobile internet services[8].

A majority leader spoke out against the CAA protesters during a demonstration in February 2020. The next day, pro-CAA demonstrators disrupted a CAA rally. Protesters then fought with police officers. Violence occurred in North-East Delhi as the scuffle escalated into a communal uproar. People were murdered and property was damaged. The Delhi Police made no proactive efforts to de-escalate the situation and restore normality. The Delhi Police Department was severely chastised for their inaction.

Activists have petitioned the High Court to have the perpetrators of violence arrested. After hearing the pro-CAA leaders' hate statements inciting violence, the High Court panel of Justices S. Muralidhar and Talwant Singh heard the case and ordered Delhi police to register FIRs. "Why aren't you registering it for these speeches?" Justice Muralidhar questioned the cops. Do you refuse to recognize that a crime has occurred?" He went on to say that the time it takes to file a FIR is important. He was moved to the Punjab and Haryana High Court overnight after being censured by Justice S. Muralidhar. When the judiciary attempts to uphold the rule of law, the administration removes them and strips them of their authority, ensuring that conformists occupy the top posts in the judiciary.

In 2019, former Chief Justice of India Ranjan Gogoi issued significant decisions in favor of the government of India's political philosophy, including the Ayodhaya Ram Janm Bhoomi dispute and the Rafael trade controversy. He was nominated to the Rajya Sabha by the President four months after he retired. The judiciary's independence was questioned, and he was chastised for a quid pro quo deal with the administration. This confirms people' fears that the judiciary's independence is being eroded. He was also accused of sexual harassment by a Supreme Court female cleric. When he was in charge of the committee looking into the sexual harassment allegations against him, he disobeyed fundamental rules of natural justice.

Legislative changes alone will not guarantee a free judiciary. The importance of judicial activism and judges' integrity cannot be overstated. In the past, the Supreme Court of India was known for its judicial activism in upholding the spirit of the constitution envisioned by the founding assembly[9].

The supremacy of the constitution was maintained in the landmark case of Keshavnanda Bharti v. State of Kerela, which limited the parliament's unlimited authority to alter the constitution. A thirteen-judge constitutional panel led by Chief Justice Sikhri upheld the parliament's right to modify the constitution as long as it did not change the fundamental structure of the document.

The fundamental framework is built on the people's dignity and independence. It also limited parliament's ability to alter fundamental rights if doing so would jeopardize the constitution's core framework. The Constitution's supremacy, the Republican and Democratic forms of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

government, the Constitution's secular nature, the separation of powers between the legislature, the executive, and the judiciary, and the Constitution's federal character are all part of the basic framework.

Justice P. N. Bhagwati's judicial activism paved the way for the idea of Public Interest Litigation (PIL) to be introduced into the Indian legal system. It weakened the notion of locus standi in terms of injured persons' liberation. It gave NGOs and other activists the ability to file a lawsuit in front of the Supreme Court and the High Courts. The Supreme Court granted activist Kapila Hingorani's petition on behalf of Hussainara Khatoon, who has been imprisoned in Bihar without being brought before a magistrate. The case was accepted by Justice P. N. Bhagwati, who acknowledged the right of inmates to a quick trial[10].

3. CONCLUSION

Constitutionalism requires the judiciary to be independent in order for the rule of law to prevail in a democracy. The judiciary in India is entrusted with the enormous task of becoming the ultimate interpreter of the constitution. When significant efforts were made to silence the Indian court in the past, it sailed through. The judiciary has achieved significant progress via exceptional judicial activism and has frequently stood alone in protecting India's democracy. The Indian constitution was written with the lofty goal of ensuring that the executive's absolute power and arbitrariness would be maintained by the court. However, the higher judiciary's inability to deal with issues of national significance, as well as its inability to prevent assaults on the Constitution, has resulted in the execution of the judiciary.

REFERENCES

- **1.** A. ur Rehman, M. Ibrahim Associate Professor, and I. Abu Bakar Associate Professor, "The Concept of Independence of Judiciary in Islam," Int. J. Bus. Soc. Sci., 2013.
- **2.** P. Patnaik, "Independence of Judiciary in India," SSRN Electron. J., 2013, doi: 10.2139/ssrn.2250316.
- **3.** N. Vaidya and R. S. Raghuvanshi, "Independence of Judiciary An Indian Experience," SSRN Electron. J., 2012, doi: 10.2139/ssrn.1558979.
- **4.** M. Abed, "Independence of the Judiciary," SSRN Electron. J., 2018, doi: 10.2139/ssrn.2671996.
- **5.** P. Nanda, "Independence of Judiciary in India," SSRN Electron. J., 2013, doi: 10.2139/ssrn.2361312.
- **6.** P. Kumar and R. Bhatia, "Independence of Judiciary and the Appointment of Judges," Indian J. Public Adm., 1999, doi: 10.1177/0019556119990308.
- **7.** F. Kerche, "Independence, judiciary and public prosecutor's office," Cad. CRH, 2018, doi: 10.1590/s0103-49792018000300009.
- **8.** F. van Dijk and G. Vos, "A method for assessment of the independence and accountability of the judiciary," Int. J. Court Adm., 2018, doi: 10.18352/ijca.276.
- **9.** Y. P. R. Subbaiah, "Judicial Appointments and Some Disappointments: A Threat to Independence of Judiciary," SSRN Electron. J., 2014, doi: 10.2139/ssrn.2482917.
- **10.** M. Waseem, "Judging democracy in Pakistan: Conflict between the executive and judiciary," Contemp. South Asia, 2012, doi: 10.1080/09584935.2011.646077.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A REVIEW ON CYBERCRIMES AGAINST THE WOMEN

Pradeep Kashyap*

*Lecturer,

Department of Business Law, Faculty of Commerce, Management & law, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA Email id: pradipprgnul@gmail.com

DOI: 10.5958/2249-7137.2021.02678.1

ABSTRACT

Inventions have always been a component of society's evolution. The internet has been a benefit to society since its beginnings, but with the passage of time and continued usage, it has also resulted in some disadvantages. On the one hand, internet use has a beneficial effect, but it has also provided a route for serious cyber-crime in recent years. In this article, we will concentrate on cybercrimes affecting women across the world, such as stalking, unethical hacking, cyber bullying, and forced pornography viewing. Women's crime is one of the most common types of crime, and it is growing at an alarming pace across the world. Women's crime is on the rise, and this includes violence against women in the digital age. In an age of technology when young people are more exposed to it, crime rates in the virtual world are rising at a similar pace. People in India are mostly unaware about cybercrime. Cybercrime may take various forms. In this article, we primarily focus on cybercrime in India. Women in India have always been looked down upon, and there have never been any laws in place to protect them. We have examined and offered potential recommendations in this article as to what should be depended on and what adjustments should be done in the legal system to effectively control the growing spirit of cyber criminals.

KEYWORDS: Cyber Stalking, Cybercriminals, Defamatory, Scandal, VAWG Strategies, Unethical Hacking.

1. INTRODUCTION

The cyber world, which we call the virtual world because it is an extension of the actual world, has crimes that include the use of technology, and such crimes are referred to as cybercrimes because they involve the use of technology, particularly computers and the internet. Individuals, businesses, and even the government are all targets of cybercrime. Such crimes are not committed by a physical entity; rather, they are assaults on information accessible on the internet, i.e. on a person's or company's virtual body[1].

Cybercrime is on the rise, as internet access has been made accessible to even children who have no understanding of the benefits and drawbacks of using the internet. Even children are now exposed to the usage of the internet, as a result of the current pandemic scenario, education has been fully digitalized, and such exposures are proving to be detrimental, as pupils at a young age are exposed to platforms other than instructional software. As a consequence, there will be taps, as well as more sextortion and cyberbullying[2].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The easy accessibility of the internet, the rapid spread of mobile information, and the widespread use of social media, combined with the current situation of violence against women, has resulted in the emergence of a cyber Violence Against Women and Girls (VAWG) strategy as a growing global problem with potentially significant economic and societal implications. The VAWG approach is a funded program that assists victims, tries to prevent others from becoming victims, and seeks to bring justice to the victims. Despite the relatively new and increasing phenomena of global connection, every other woman will suffer some kind of violence in her lifetime. At the age of 15, one out of every 10 women has already suffered some kind of online abuse. Internet access is becoming a requirement for economic well-being and aids in the country's economic growth[3].

It is critical to ensure that this digital public space is secure and that everyone, especially women and girls, has access to it. Cyber stalking, non-consensual pornography (or revenge porn), gender-based insults and harassment, unsolicited pornography, extortion rape and murder threats, and electronically facilitated trafficking are all examples of cyber VAWG. The possibility of cyber-violence manifesting psychically should likewise not be overlooked. To further understand the effect of cyber VAWG, more study into victims' experiences is required.

2. DISCUSSION

2.1 Stalking on the Internet:

Cyber stalking is the practice of using the internet to contact or track the activities of strangers through email, text, or online communications, or via social media. Internet stalking entails a series of events that may or may not be benign in and of itself, but when taken together, threaten the victim's feeling of safety and create anxiety, worry, or panic. Cyber stalking is a criminal offense since it causes harassment, defamation, slander, and intimidation of the victim.

The Indian Penal Code, Indian Penal Code (Amendment) Act, 2013, and the Information Technology Act, 2000 make cyber stalking illegal and punishable. According to Section 354D of the Indian Penal Code (Amendment) Act, 2013, cyber stalking is defined as "following or attempting to contact a person repeatedly, despite the other person's disinterest," and "trying to harass the person by using the internet and various other online resources or platforms and causing disturbance to the victim's mental health."

Sections 499, 354A, 354C, 503, 509 of the Indian Penal Code, 1860, deal with defamation, punishment for sexual harassment, punishment for capturing images of women engaged in private activities without their consent, punishment for criminal intimidation, i.e. threatening to cause injury to a person's reputation, and punishment for outraging the modesty of a woman.

The Information Technology Act of 2000, Sections 66E, 67, 67A, and 67B, emphasize problems and legislative measures relating to cyber stalking and other cyber offenses. Cyberstalking is addressed under Section 72 of the Information Technology Act of 2008[4].

The Ritu Kohli Instance was India's first recorded case of cyber stalking, in which Mrs. Ritu Kohli complained to authorities in Delhi about a person who was using her identity to communicate over the Internet for a continuous period of four days. Mrs. Kohli went on to say that the individual was speaking with her, using her name and address, and using filthy language. The same individual also gave her contact information through chat, resulting in her receiving calls at strange hours. She got almost 40 phone calls before filing another complaint, which

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

resulted in the IP address being tracked and the perpetrator being apprehended. Following that, a case was filed against him under section 509 of the Indian Penal Code, 1860, and he was freed on bail.

2.2 Acts may include the following:

Sending abusive or threatening emails, text messages (SMS), or instant communications: Videotaping someone without their permission and then posting or utilizing such recordings to blackmail them. Hacking of social media accounts, as well as tampering with photos and personal information[5].

Making derogatory remarks about the victim on the internet, cyber-assault, and threats of rape on social media are all examples of cyber-assault. A cybercrime was reported in Sweden, where the raped victim was broadcast online using the 'Facebook live' function8. Sharing the victim's private pictures or videos on the internet or through mobile phone.

2.3 Harassment on the Internet:

Cyber harassment, also known as cyber-bullying, is an unethical act of intruding into an individual's personal space via online tools, such as accessing someone's e-mail ID without their consent, unethical hacking, posting defamatory statements or sharing obscene images on social media accounts, threatening someone via threat messages sent over the internet, and so on[6].

Cyber harassment may take many different forms, however for the purposes of this article, it can involve the following:

- Unwanted sexually explicit emails, SMS messages (or online)
- Hate speech, which is defined as language that denigrates, degrades, threatens, or attacks a
 person based on her identity (gender and other characteristics);
 Offensive or improper
 approaches on social networking websites or online chat rooms; (such as sexual orientation
 or disability)
- Hacking into someone's internet accounts and distributing obscene pictures with the intent to exploit them are examples of cyber-harassment.
- Sextortion, in which women are enticed to deposit money into cyber criminals' accounts through phishing e-mails, or they are warned that their pictures would be stolen from social media accounts and edited into filthy images. This method is used to blackmail women in order to get money from them.

In 2004, a DPS (Delhi Public School) student used his mobile phone to record a sexually explicit video clip of a classmate in a compromising situation and sent it to his pals through MMS. The video was subsequently uploaded on Bazee.com and extensively shared. Tamil Nadu is a state in India. V. Suhas Katti is noteworthy for obtaining a successful conviction in a very short period of time, just 7 months after the FIR was filed[7]. A case involving the publication of an obscene, defamatory, and irritating comment in a Yahoo chat group concerning a divorcee lady. On November 5, 2004, the Additional Chief Metropolitan Magistrate issued the following judgment: The defendant has been found guilty.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

2.4 Pornography that is not consented to:

Non-consensual pornography, often known as cyber exploitation or "revenge porn," is the online sharing of sexually explicit pictures or video without the permission of the person shown. In most cases, the offender is an ex-partner who gets images or videos from a previous relationship in order to publicly humiliate and disgrace the victim in retribution for terminating the relationship. However, offenders aren't usually partners or ex-lovers, and vengeance isn't always the motivation. Images may also be acquired via breaking into a victim's computer, social media accounts, or phone, and can be used to cause real-world harm to the target (such as getting them fired from their job)[1].

2.5 MMS Scandal in Noida:

In February 2009, an MBA student in Noida used his girlfriend's e-mail address to send a video clip of his 23-year-old girlfriend stripping for him to his classmates.

When the girl declined to marry him, the boy with access to the girl's email id shared the MMS footage with his classmates[8].

Following a complaint from the girl's family, police opened a criminal intimidation investigation in order to protect women both online and offline.

- 1. Police reactions should recognize that cyber VAWG is a kind of VAWG. STRATEGIES for combating cyber VAWG must also incorporate the voices of women who have been victims of the phenomena.
- 2. The definition of cybercrime on the migration and affairs website should be amended as soon as possible to include a form of cyber VAWG, or at the very least, misogyny in the third party of its description.
- 3. The general people should be better knowledgeable about cyber legislation.
- 4. There should be more appropriate legislative provisions in place to keep track of internet use. Convicting cybercriminals is essential for effective legal enforcement of cyber laws because they can jeopardize a user's reputation, finances, physical integrity, data, and privacy, as well as because cybercrime has economic consequences and indirectly promotes traditional violent crimes, terrorism, and money laundering schemes. Spreading awareness of good internet practices such as installing antivirus, firewalls, practicing safe shopping and clicking, avoiding the disclosure of sensitive information, system updating, and using strong passwords can help to reduce the number of cybercrimes and even add evidence to help convict cybercriminals[2].

People must also be informed of the law enforcement procedures and infrastructure in place in their nations in order to report cybercrime and prosecute instances successfully. Few people in India are aware of the Adjudication Authority, which is authorized under the IT Act of 2000 to hear instances of cyber-violations and issue decisions imposing penalties in the form of damages and compensation. Better awareness may be disseminated through offering specialized licensed courses, hosting seminars and workshops, using print and electronic media, mass campaigns, and enlisting the help of industry experts, cyber attorneys, and forensic organizations, among other methods. International Organizations should participate in seminars and workshops led by members of the judiciary, police and legal experts, and industry associations, so that cyber laws

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

can be discussed from a global perspective and policymakers can learn about new technical, policy, and legal measures (substantive and procedural) being implemented in other jurisdictions to harmonize cyber laws and their enforcement[9].

2.6 Cyber Crime During Covid-19:

As we all know, is a pandemic that has had an effect all over the world and has impacted everyone's daily lives. During the pandemic, we encountered many difficulties in our daily lives; similarly, mafias in the cyber realm took advantage of this moment to create evil out of good.

This epidemic has provided chances for incarcerated criminals to target a certain segment of society (mostly women) and harass them online.

The National Commission for Women (NCW) in Delhi has submitted a report to a daily newspaper stating that the number of instances of cyber-crimes against women has risen dramatically since the countrywide lockdown was imposed. Women have been targeted by the imprisoned cyber criminals, who have been sending them constant threat e-mails with threats of sextortion using altered pictures to collect money from them. Phishing e-mails and increasing dependence on information accessible on the social networking site were also used to target women[10].

3. CONCLUSION

With the rise of Covid-19 in the recent times, and even before these cyber-crimes against women had been a worldwide issue and a major area of concern. Going with the recent statistics, the crimes in the cyber space has drastically increased by 86%17. Cybercrimes have become an increasing threat to the individuals, especially women, as they are treated vulnerably in India. In the technologically advanced time, our personal data stored in the software or otherwise are at high risk. Taking into account the above-mentioned scenario, we, in this paper propose few possible suggestions which might help in reducing the number of victims who are victimized by cyber criminals. The following are the proposed ways which can be taken into consideration:

With changing time technology is updating, therefore to keep our data safe and secure we need to keep our data protected by using password as well as other protection such as fingerprint recognition, eye retina scanner etc. Proper awareness programs must be organized to make people aware of how to identify that a particular material over internet is actually a cause of threat and react accordingly. Proper e-mail security solutions and phishing stimulation must be implemented. Changing of passwords at a regular interval is necessary to avoid hacking.

Various form of cyber-crimes are experienced by Indian women who use the internet in the contemporary context. Neither the IPC provision nor the provision of the IT Act fully reflects the ground realities that women experiences. In many situations, such as morphing E-mail, spoofing and trolling, IPC provision is applied by extrapolation and interpretation for the want of more specific provision of law. Although the IT act contains a chapter on offence, including computer-related offence, the provisions deal mainly with economic and financial issues: there is no specific provision on cyber-crimes against women even though they are rampant and are widely reported. The leading step toward providing lawful remedies for women is to ensure that the online experience of harassment/threat/intimidation/violence caused to women is accurately translated into the written law through amendments to the two major statutes. Lastly developing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

confidence building mechanisms with victims and potential victims is crucial, in order to encourage crime reporting.

REFERENCES

- **1.** P. E. Ephraim, "African youths and the dangers of social networking: A culture-centered approach to using social media," Ethics Inf. Technol., 2013, doi: 10.1007/s10676-013-9333-2.
- **2.** R. Misra, "Cyber Crime Against Women," SSRN Electron. J., 2014, doi: 10.2139/ssrn.2486125.
- **3.** "The criminology of cyber stalking: investigating the crime, offenders and victims of cyber stalking," Int. J. Criminol. Sociol. Theory, 2014.
- **4.** N. Seam, "Cyber crime against Women," IMS Manthan (The J. Innov., 2015, doi: 10.18701/imsmanthan.v8i2.5130.
- **5.** J. Lewis, "Cyber terror: Missing in action," in Technology and Terrorism, 2017.
- 6. M. I. Lone, "CYBERCRIME IN INDIA: A STUDY, 2007 TO 2011," Inf. Stud., 2013.
- 7. M. D. Cavelty Dr., "Cyber-terror-looming threat or Phantom menace? The framing of the US cyber-threat debate," J. Inf. Technol. Polit., 2008, doi: 10.1300/J516v04n01_03.
- **8.** M. Levi, "Assessing the trends, scale and nature of economic cybercrimes: overview and Issues: In Cybercrimes, Cybercriminals and Their Policing, in Crime, Law and Social Change," Crime, Law Soc. Chang., 2017, doi: 10.1007/s10611-016-9645-3.
- 9. MarketLine, "United Arab Emirates: In-depth PESTLE insights.," MarketLine, no. October, pp. 1–84, 2018, [Online]. Available: http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=133355425&%0Alan g=es&site=ehost-live.
- **10.** M. M. Billah, "Sufficiency of Omani Laws to Suppress Cybercrimes in Light of the un Comprehensive Study on Cybercrimes," Arab Law Q., 2018, doi: 10.1163/15730255-12321010.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

THE BRIEF REVIEW ON THE SINGLE CLUTCH PLATE

Mahir Hussain*

*Assistant Professor,
Department of Mechanical Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: mahir.engineering@tmu.ac.in

DOI: 10.5958/2249-7137.2021.02673.2

ABSTRACT

The engine transmits the dynamism needed for vehicle motion to the wheels through the flywheel, clutch system, and driveline. The clutch is responsible for drawing and transmitting energy from the flywheel. The object of this paper is to study the concept and evaluate the single plate clutch this is done by using the CATIA V5 modelling programme that is commercially available. In order to satisfy the input parameters, a programme is coded in the C language and the resulting clutch specification is obtained accordingly. Here, as a case study, one of the issues that are frequently posed when constructing clutches was discussed, and those criteria were taken into consideration during the software feedback. The input data is also used to design the single plate clutch of the necessary material on CATIA-V5, and the required research has been done.

KEYWORDS: Analysis language, CATIA V5, Software, Single Plate Clutch.

1. INTRODUCTION

Via the flywheel, the clutch arrangement and the driveline, the dynamism required for the motion of a vehicle is conveyed by the engine to the wheels. The clutch draws and transmits energy from the flywheel. Towards the driveline. The friction torque works on the tension surfaces of the clutch as an engaging force for the driveline during the engagement process. By working the clutch pedal, drawing the clutch into the handle in the case of a bike, or pressing it down to the floor of a bike, it is disengaged[1].

The most widely used clutch is developed and modelled using CATIA V5 modelling software in this analysis paper of a single plate clutch, and a programme has been written on C that accepts values of power, speed, coefficient of friction to name a few, and provides an output for the necessary parameters[2]. The CATIA V5 model presented an accurate design of what the clutch plate would look like and what load it would handle, depending on the material selected. C Program except that a programme was written with the necessary formulas for one unique problem, it was meant to work much like any calculator[3]. This software would then include responses to diameters, axial force, transmitted torque, and torque[4].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

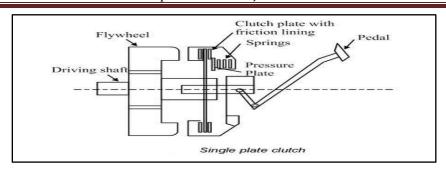


Figure 1: Single plate clutch

There is one clutch plate in a single clutch. This embrace is based on the tension principle. In automobiles, it is the most common type of embrace (Figure 1). The clutch consists mostly of two members one installed on the driving shaft and another in the driven shaft, two shafts parallel and concentrated; one shaft is mounted on its casing, while the second shaft is divided so that it can travel axially[5].

1.1 Components of Clutch Plate

- 1.1.1 Flywheel: The flywheel, an embrace board, pressure plate and clutch cover, release button, primary shaft and clutch shaft form one plate clutch module[6]. The flywheel is part of the engine and often used as part of the embroidery. It is a driving member which combines with the clutch shaft pressure plate and houses with flywheel roller covers. As the engine crankshaft spins, the flywheel rotates.
- 1.1.2 Pilot Bearing: The pilot bearing or coil press the end of the crankshaft to support the end of the input shaft for transmission. The pilot coating avoids a wobbling up and down of the transfer shaft and the clutch disc as the embrace is released. The disc center on the flywheel also serves the input shaft[7].
- 1.1.3. Platform for clutch or disc: It is the driven component of the single-plate clutch and is frozen on both surfaces. It has an internal hub to restrict the axial journey on the splintered gearbox driving shaft. This tends to dampen torsional friction or the pushing torque between engine and transmission.
- 1.1.4 Pressure plate: The plate is made of special iron cast. That is the largest portion of the clutch. The key duty of the pressurization plate is to uniformly touch the driven platform face, where the pressure springs have the power to distribute the engine's entire torque. From its machined surface, the friction plate presses the clutch plate to the tread wheel. Pressure springs are fitted between the pressurized plate and the clutch cover. When release levers are depressed by the toggle or release levers are rotated accordingly, the weight is released from the flywheel.
- 1.1.5 Clutch plate: The plate is made of special iron cast. That is the largest portion of the clutch. The key duty of the pressurization plate is to uniformly touch the driven platform face, where the pressure springs have the power to distribute the engine's entire torque[8]. From its machined surface, the friction plate presses the clutch plate to the tread wheel. Pressure springs are fitted between the pressurized plate and the clutch cover. When release levers are depressed by the toggle or release levers are rotated accordingly, the weight is released from the flywheel[9].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

1.2 Benefits:

- 1. Clutch Single Plate is not pricey.
- 2. It is maintenance-efficient.
- 3. Compared to cone clutch, gear shifting is simpler, because it's less movement.
- 4. Single Plate Clutch is more effective because of the inconvenience of cone attachment.

1.3 Disadvantages:

1. Greater force is necessary to decommission since the springs would be harder[10].

1.4 Applications

- 1. In trucks, buses, and vehicles, etc., single plate clutches are used.
- 2. Used individual platform clutches with wide radial space.
- 3. Since adequate surface area is available in single plate clutches for heat dissipation, no cooling oil is required. Single platform clutches are also sterile.

The plate is made of special iron cast. That is the largest portion of the clutch. The key duty of the pressurization plate is to uniformly touch the driven platform face, where the pressure springs have the power to distribute the engine's entire torque. From its machined surface, the friction plate presses the clutch plate to the tread wheel. Pressure springs are fitted between the pressurized plate and the clutch cover. The C-based software complies with the formula used to theoretically evaluate different parameters. It was observed that the value of the evolved force was higher than that of uniform wear theory under the Uniform Pressure Theory, which used the latter for the configuration of the clutch platform[11].

2. DISCUSSION

The engine transmits the dynamism necessary for vehicle motion to the wheels through the flywheel, clutch system, and driveline. The clutch is responsible for drawing and transmitting energy from the flywheel. In the direction of the driveline. During the engagement phase, the friction torque acts as an engaging force for the driveline on the clutch's tension surfaces. It is released by manipulating the clutch pedal, dragging the clutch into the handle of a bike, or pushing it down to the floor of a bike. In this analysis paper of a single plate clutch, the most widely used clutch is developed and modelled using CATIA V5 modeling software, and a program has been written in C that accepts values of power, speed, and coefficient of friction, to name a few, and provides an output for the necessary parameters. Depending on the material used, the CATIA V5 model provided a realistic representation of what the clutch plate would look like and what load it could carry. Except for the fact that a program was developed with the essential formulae for a single problem, it was designed to function similarly like a calculator. The responses to diameters, axial force, transmitted torque, and torque would all be included in this program. The plate is crafted from a unique iron alloy. The majority of the clutch is made up of this. The pressurization plate's primary function is to contact the driving platform face equally, allowing the pressure springs to evenly transmit the engine's torque. The friction plate forces the clutch plate to the tread wheel from its machined surface. Between the pressured plate and the clutch cover are pressure springs. The weight is removed from the flywheel when release levers are depressed by the toggle or release levers are turned suitably.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

3. CONCLUSION

This project tells us how numerous materials on CATIA V5 can be studied to see their deformations and stresses. The C-based software complies with the formula used to theoretically evaluate different parameters. It was observed that the value of the evolved force was higher than that of uniform wear theory under the Uniform Pressure Theory, which used the latter for the configuration of the clutch platform. The findings were very satisfactory, which was expected. The strain as well as the deformation plots clear the idea of which parameter the friction clutch of the single plate should have been taken into account. Bronze is chosen to build the single according to the results obtained.

REFERENCES

- **1.** P. Psyllaki, G. Pantazopoulos, and P. Karaiskos, "Failure mechanisms of an automobile clutch assembly cast iron pressure plate," Journal of Failure Analysis and Prevention. 2012, doi: 10.1007/s11668-011-9523-3.
- 2. R. Mäki, "Wet clutch tribology: friction characteristics in limited slip differentials," Dr. thesis / Luleå Univ. Technol. 1 jan 1997 → ... NV 200528, 2005.
- **3.** J. Hu, Z. Peng, and C. Wei, "Experimental research on drag torque for single-plate wet clutch," J. Tribol., 2012, doi: 10.1115/1.4005528.
- **4.** R. Mäki, B. Ganemi, E. Höglund, and R. Olsson, "Wet clutch transmission fluid for AWD differentials: Influence of lubricant additives on friction characteristics," Lubr. Sci., 2007, doi: 10.1002/ls.33.
- **5.** J. C. Wheals et al., "Design and simulation of a torque vectoringTM rear axle," 2006, doi: 10.4271/2006-01-0818.
- **6.** W. Schreiber, F. Rudolph, and V. Becker, "The new dual clutch gearbox from Volkswagen," ATZ Worldw., 2003, doi: 10.1007/bf03225188.
- 7. S. Narayan, I. Grujić, N. Stojanović, K. Muhammad Usman, A. Shitu, and F. Mahroogi, "DESIGN AND ANALYSIS OF AN AUTOMOTIVE SINGLE PLATE CLUTCH," Mobil. Veh. Mech., 2018, doi: 10.24874/mvm.2018.44.01.02.
- **8.** M. De Melo Júnior, L. K. Miyashita, N. J. Silva, S. A. Gaeta, and R. M. Lopes, "Reproductive traits of Euterpina acutifrons in a coastal area of Southeastern Brazil," Mar. Ecol., 2013, doi: 10.1111/maec.12041.
- **9.** D. R. Andersson et al., "Smart access to small lot manufacturing for systems integration," 2018, doi: 10.23919/PanPacific.2018.8319009.
- **10.** W. Krenkel, "Carbon Fibre Reinforced Silicon Carbide Composites (C/SiC, C/C-SiC)," in Handbook of Ceramic Composites, 2006.
- **11.** Shiv Pratap Singh Yadav, Sandeep G M, Aditya Kedilaya, Arjun B Curam, C V Srihari Raghavan, and Kalyan Chilakamarri, "A Review on Single Plate Clutch," Int. J. Eng. Res., 2017, doi: 10.17577/ijertv6is040587.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ROSEHIP PHYTONEMATODES (ROSA CANINA L.) IN THE NORTHERN REGIONS OF THE SURKHANDARYA REGION OF UZBEKISTAN

Soatov Sardor Akvarovich*; Bekmurodov Abdujabbor Sattorovich**

*Master's Student, Termez Staty University, Termez, UZBEKISTAN

**Associate Professor,
Doctor of Philosophy in biology (PhD),
Department of Zoology, TermezStaty University, Termez, UZBEKISTAN
Email id: babdujabbor@mail.ru

DOI: 10.5958/2249-7137.2021.02745.2

ABSTRACT

The article provides data on the fauna and distribution of phytonematodes in the root soil and root system of wild rose plants in the northern regions of the Surkhandarya region of Uzbekistan. As a result of the research, 29 species of phytonematodes were identified, belonging to 18 genera, 12 families, 5 orders and 2 subclasses. Among the phytonematode fauna of rosehip plants. numerous species were Cephalobuspersegnis, Chiloplacussclerovaginatus, Panagrolaimusrigidus, Aphelenchoidesparietinus, *Ch.quintastriatus*, Aphelenchusavenae, A.composticola. A.limberi, A.blasthophthorus, Helicotylenchuserythrinae, A.graminis, Pratylenchuspratensisand Ditylenchusdipsaci.

KEYWORDS: Rosehip, Phytonematodes, Fauna, Root Soil, Root System.

INTRODUCTION

Rosehips are deciduous shrubs and shrubs, sometimes evergreen, with erect, climbing or creeping stems of varying heights or lengths, from 15-25 cm to 8-10 m. The height of the same species can sometimes vary depending on growing conditions.

Usually rose hips are multi-stem shrubs up to 2-3 m tall and live up to 30-50 years. But some specimens of these species, reaching an age of several hundred years, grow into whole trees. The oldest rose (dog rose) grows in Germany on the territory of Hildesheim Cathedral. Its age, according to various estimates, is from 400 to 1000 years. It reaches 13 m in height, and the girth of its trunk at the base reaches 50 cm.

Many types of rose hips contain high amounts of vitamin C, which makes them valuable for medicine and a healthy diet.

In rose hips, ascorbic acid is about 10 times more than in black currant berries, and 50 times more than in lemon, 60-70 times more than in the needles of pine, spruce, fir or juniper. The most valuable in this respect are white-flowered and red-flowered species. The hypanthium of pink-flowered species of vitamin C contains much less, and in the hypanthium of yellow-flowered species it is very small, but there are a lot of tannins and tannins. Depending on the place of growth, the chemical composition of the fruits of different species of rose hips changes. The flesh of the wild rose hips, which is of industrial importance, contains about 1% (by wet

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

weight) of vitamin C. Fresh rose hips in the European part of Russia contain 1.5% of vitamin C, and in the Irtysh basin in Kazakhstan - 4.5%. The highest content of vitamin C among the species growing on the territory of the former USSR is in the Begger's rose hips - from 7 to 20%.

Material and research methods

The material for this work was the samples of rosehip plants and its root soil collected during 2020-2021. in the territories of the northern districts of the Surkhandarya region. The studies were carried out by the generally accepted route method [2]. To study the nematodological complex of rosehip plants, 250 plant and 250 soil samples were collected and analyzed. Of these, 932 individuals of phytonematodes were extracted by various methods.

Phytonematodes were removed by the Berman funnel method and fixed with 4% formalin solution. Enlightenment of nematodes was carried out in a mixture of glycerol with alcohol (1: 3), and permanent preparations on glycerol were prepared for in-office processing of the material according to the Seinhorst method [6]. Soil samples for the presence of cyst nematodes were usually analyzed according to the standard Decker method [1].

The species composition of nematodes was studied under an MBR-3 microscope. To determine the species, we used morphometric indicators obtained according to the generally accepted De Man formula [3] in its modification according to Micoletzky [5]. The degree of dominance of phytonematodes in plant and soil samples was determined from the percentage state of individuals of certain species to the number of all those found by Witkowsky [4].

RESULTS AND DISCUSSION

During the period of phytohelminthological studies (in the root soil and root system of rosehip plants) in the northern regions of the Surkhandarya region, we identified 29 species of phytonematodes belonging to 18 genera, 12 families, 5 orders and 2 subclasses.

652 individuals (69.9% of the total number of detected phytonematodes) were registered in the root soil of the dog rose, belonging to 29 species.

In the root soil of plants from 5 orders of the nematode class, the most diverse are orders Tylenchida-9 species, Rhabditida-8, Dorylaimida-5, Aphelenchida-4.

The main faunal complex of phytonematodes in the basal soil of rose hips is composed of the species *Cephalobuspersegnis*, *Eucephalobusoxyuroides*, *Acrobeloidesbuetschlii*, *Chiloplacussclerovaginatus*, *Panagrolaimus*, *Rhabditisbrevispina*, *Aphelenchusavenastae*, *A. capitatus*, *Helicotylenchuserythrinae*, *Pratylenchuspratensis*, *Ditylenchusdipsaci*, and some relatively few species.

In the rosehip root system, 280 individuals (30.1% of the total number of detected phytonematodes) were found, belonging to 15 species. Among the pararisobionts, only *D.communis* is found in the root system. *C. persegnis, E. oxyuroides, A. buetschlii, Ch.quintastriatus, Ch.sclerovaginatus,* and *P.rigidus* prevailed from the group of devisaprobes. Among the eusaprobionts, *Rh.brevispina* was common. Among the representatives of phytohelminths of nonspecific pathogenic effect, *A. avenae, A. parietinus, A. blasthophthorus, A.composticola, A. graminis* and *A. limberi* dominate. From the group of phytohelminths with a specific pathogenic effect, *Q. capitatus, H. erythrinae, P. pratensis* and *D.dipsaci* prevailed.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The main phytonematode community of the rosehip root system consists of the species *C. persegnis, Ch. sclerovaginatus, P. rigidus, Rh. brevispina, A. avenae, A. parietinus, A. composticola, A. graminis, A. limberi, Q. capitatus, H. erythrinae, P. pratensis and D. dipsaci.*

In the root system of rose hips, of the 4 orders of the nematode class, the most diverse are orders Tylenchida - 6 species, Rhabditida-5 and Aphelenchida - 4 species. Among the above orders, in terms of species composition, representatives of the order Tylenchida dominate, containing 33.4% of all detected species in the root system of plants. In terms of the number of individuals, representatives of the order Aphelenchida prevail, which is 42.6% of all registered individuals in the roots of rose hips.

The following species dominate in the root soil and root system of rosehip plants: *D.communis*, *C. persegnis*, *E. oxyuroides*, *A. buetschlii*, *Ch.quintastriatus*, *Ch.sclerovaginatus*, *P.rigidus*, *Rh.brevispina*, *A.avenae*, *A. parietinus*, *A.blasthophthorus*, *A.clarolineatus*, *A.composticola*, *A.graminis*, *A.limberi*, *A.macronucleatus*, *B.dubius*, *Q.capitatus*, *H..dihystera*, *H.erythrinae*, *P.pratensis*, *P.hamatus* and *D.dipsaci*.

All detected nematodes (in the root soil and in the root system of wild rose plants) are distributed by orders as follows: Order Tylenchida is represented by 10 species, Rhabditida-7, Dorylaimida-6, Aphelenchida-5 and order Enoplida - 1. In terms of the number of individuals among the orders, the first place The Aphelenchida detachment occupies 44.1% of the total number of detected nematodes.

In the conducted phytohelminthological studies of the rosehip plantation in the northern regions of the Surkhandarya region, numerous species of rosehip plant phytonematodes included C.persegnis, Ch.sclerovaginatus, Ch.quintastriatus, P.rigidus, A.buetschlii, E. oxyuroides, D.communis, Rh.brevispina, A.avenae, A.parietinus, A.composticola, A.limberi, A.blasthophthorus, A.graminis, A.dactylocercus, A.macronucleatus, H.erythrinae, P.pratensis, Q.capitatus, D. dipsaciand D. myceliophagus.

REFERENCES

- 1. Dekker H. Plant nematodes and their control. M. Kolos, 1972. 445 p.
- **2.** Paramonov A. A. On some fundamental issues of phytohelminthology // In the book: Sat. works. of young phytohelminthologists. M.: 1958. S.3-11.
- **3.** De Man J.G. The native nematodes living freely in the pure earth and in the fresh water. Tijdschr // Nedrl. Dierk. Vereen, 1880. V.5. 104 p.
- **4.** Witkowski T. Structure of nematode groups in agricultural soil // Stud. Soc. Sci. Torum. 1966. T.8. No. 3. 53 p.
- **5.** Micoletzky G. The free-living terrestrial nematodes, with special consideration of Styria and Bukovina, at the same time with a revision of all non-marine, free-living nematodes in Farm von esenus-descriptions and identification keysh // Arch. Naturgesch. -1922. Ant. A. Vol. 87. 650 p.
- **6.** Seinhorst J.W. A rapid method for the transfer of nematodes from fixative to anhydrous glycerin // Nematologica. 1959. V. 4, № 1. P. 67-69.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

COMPARATIVE ANALYSIS OF THE RELIGIOUS MOVEMENTS MENTIONED IN MOTURIDI'S WORKS "TA'WILAT AHL AS-SUNNAH" AND "KITAB AT-TAWHID"

Sodikov Jurabek Sobirboyevich*

*Doctoral Student, International islamic Academy of Uzbekistan, Tashkent, Uzbekistan Email id: jurabeksodiq@gmail.com

DOI: 10.5958/2249-7137.2021.02755.5

ABSTRACT

It is known that Abu Masur Moturidi was a great mutakallim, that is, a scholar of theology, as well as a prominent figure in the science of tafsir. The article comparatively studies the different religions and doctrines mentioned in the books "Kitab at-Tawhid" and "Tawilat ahli-s-sunna" related to the science of kalam that has come down to us. The similarities and differences in the information on this topic in them are presented on the basis of evidence.

KEYWORDS: Moturidi, ahl as-sunnah, "Ta'wilat ahl as-sunnah", "Kitab at-tawhid", doctrine, sect, faith.

INTRODUCTON

In both of Moturidi's surviving works, there are many debates about different faiths. Therefore, a comparative study of the information about the different religions and beliefs mentioned in them serves to fully cover the subject of research. This comparative analysis may also shed light on a number of puzzling issues related to these works, in particular, the degree of coherence of the information presented in them and the question of which work was previously written. This is because the "Kitab at-tawhid", like the "Ta'wilat ahl as-sunnah", was compiled into a book by Moturidi's disciples [1, p. 144-145]. This, no doubt, raises the question of the extent to which they belong to Moturidi. There is also no convincing evidence in the research as to which of these works was previously written.

MATERIAL AND METHODS

The comparative classification of the faiths of the "Ta'wilat ahl as-sunnah" and "Kitab at-tawhid" has been studied by dividing them into two groups: non-islamic religions and sects that deviate from traditional islamic principles.

In the "Ta'wilat ahl as-sunnah" referred to the following religions and beliefs other than islam:

1) ashabat-tabai', 2) ahl al-tanasux, 3) brahmanism, 4) dahriya (materialism),5) zanadiqa, 6) shamanism (ashab al-kuhana), 7) majusiya (zoroastrianism), 8)mulhida (atheism),9) munajjima, 10)arab polytheists,11) rahbaniya,12) christianity, 13) sanaviya(dualism), 14) sabi'iya, 15) hanifism, 16) judaism.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The tafsir also contains information from various sects and creeds in islam:

1) ashab al-hadith, 2) batiniya, 3) jahmiya, 4) zahiriya, 5) imamiya, 6) karramiya, 7) qadariya, 8) qarmatiya, 9)mu'attila, 10) murjiiya, 11) mutaqashshifa, 12) mushabbiha,13) mu'tazila, 14) rofiziya, 15) islamic philosophers, 16) xarijiya, 17) hashawiya, 18) shiism [2, p. 231-241].

This means that the "Ta'wilat ahl as-sunnah" contains information on a total of 34, including 16 religions andfaiths, as well as 18 islamicsects.

The non-islamic religions and faiths mentioned in the "Kitab at-tawhid" are as follows:

1)ashab at-tabai', 2)ashab al-huyula, 3)daysaniya, 4)dahriya (materialism), 5)zanadiqa, 6)majusiya (zoroastrianism), 7)marqiyuniya, 8)moneteism, 9)mulhida (atheism), 10)munajjima, 11)christianity, 12)samniya, 13)sanaviya (dualism), 14)sabi'iya, 15)sufistaiya, 16)judaism.

The play also mentions the following islamic sects and creeds:

1)bargusia,2)batiniya, 3)jabariya, 4) jahmiya, 5)karramiya, 6)qadariya, 7)qarmatiya, 8)murjiiya, 9)mushabbiha, 10)mu'tazila, 11)islamic philosophers, 12)xarijiya, 13)hashawiya, 14)husayniya [3, p. 524-525].

Thus, the "Kitab at-tawhid" contains information about a total of 16 non-islamic religions and faiths, as well as 14 islamic sects. They make up a total of 30.

Results

It can be seen from the above classification that, in general, the number and names of the different faiths and islamic sects mentioned in these two works are close to each other. In particular, both plays contain information about 16 religions and beliefs other than islam. 10 of them are beliefs of the same name:

1)ashab at-tabai', 2)dahriya (materialism), 3)zanadiqa, 4)majusiya, 5)mulhida (atheism), 6)мипаjjima, 7)christianity, 8)sanaviya (dualism), 9)sabi'iya, 10)judaism.

The differences in this regard are as follows:

Six of the beliefs named in the "Ta'wilat ahl as-sunnah" are not mentioned in the "Kitab attawhid": ahl al-tanosux, brahmanism, shamanism(ashab al-kuhana),arab polytheists,rahbaniya,hanifism.

In turn, there is no information in the "Ta'wilat ahl as-sunnah" about the beliefs of the ashab al-huyula, daysaniya, marqiyuniya, moneteism, samniya, sufistaiya.

Nevertheless, the beliefs that are the main focus in both plays are the same. In particular, with the exception of the arab polytheists, all of the six beliefs that are not found in the "Kitab at-tawhid" in the "Ta'wilat ahl as-sunnah" are mentioned in one or two places.

The similarities and differences between the islamic sects mentioned in the works are as follows:

This means that there are 18 islamic sects in the "Ta'wilat ahl as-sunnah" and 14 in the "Kitab attawhid". 11 of them are the same:

1)batiniya, 2)jahmiya, 3)karramiya, 4)qadariya, 5)qarmatiya, 6)murjiiya, 7)mushabbiha, 8)mu'tazila, 9)islamic philosophers, 10)xarijiya, 11)hashawiya.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Seven of the sects mentioned in the "Ta'wilat ahl as-sunnah" are not mentioned in the "Kitab at-tawhid":

1)ashab al-hadith, 2)zahiriya, 3)imamiya, 4)mu'attila, 5)mutaqashshifa, 6)rofiziya, 7)shiism.

There is no information in the "Ta'wilat ahl as-sunnah" about the bargusiya, jabariya and husayniya sects mentioned in the "Kitab at-tawhid".

The comparative classification of sects in islam shows that the main focus sects in both works are almost the same. In particular, in both plays, the debates with the mu'tazilites occupy a special place.

DISCUSSION

This means that Imam Moturidi's works mention a total of 22 religions and beliefs other than Islam. Turkish scholar Rajab Onal Moturidi discusses 10 beliefs in his works in his study of non-Islamic religions. It is clear from this that he ignored 12 beliefs [4, p. 55-394].

The above shows that Moturidi's two works refer to a total of 21 Islamic sects. In his research, Kiyasiddin Koçoğlu gives information about 14 of the Islamic sects mentioned in these works, but does not say anything about the sects of bargusiya, zahiriya, imamiya, mu'attila, mutaqashshifa, islamic philosophers and hashawiyah [5, p. 32-75].

Differences in the scientific field of work can be seen in the following:

While "Kitab at-tawhid" contains more information about non-islamic religions and faiths, "Ta'wilat ahl as-sunnah" contains more information about different sects and creeds in islam. This can be explained by the fact that the "Kitab at-tawhid" is devoted to the science of aqeedah, and the "Ta'wilat ahl as-sunnah" to the science of tafsir.

"Kitab at-tawhid" focuses on one religion or sect in one place. In the "Ta'wilat ahl as-sunnah", usuallythe views of one faith are mentioned in many places in the work. For example, dahriya (materialism) and related topics are mentioned 12 times in the "Kitab at-tawhid" [3, p. 180-243], while in the "Ta'wilat ahl as-sunnah" this number is 17 [2, p. 237]. Also, in "Kitab at-tawhid" batiniya is mentioned in only one place [3, p. 161], while in "Ta'wilat ahl as-sunnah", information about this sect is given in about 28 places [2, p. 237].

In his tafsir, Moturidi cites information about various beliefs in relation to the verses and compares them with islamic teachings, more precisely with the teachings of the sunnis. Because the work is devoted to the interpretation of the Qur'an, of course, the author was required not to deviate from the subject of the verse being interpreted.

It should also be noted that the repetition of the same verses in the Qur'an has also led to the mention of a single religion or sect in several places in the "Ta'wilat ahl as-sunnah".

In "Kitab at-tawhid", beliefs are usually discussed in the context of various doctrinal topics. For example, in the chapter "Theological issues" (مسائل الإلهيات) of the "Kitab at-tawhid", the author discusses in detail the main issues on this subject, and then enters into a discussion with the representatives of different faiths who disagree with Muslims on the subject of theology. Among them are the sanaviya (dualism), ashab at-tabai', dahriya (materialism), samniya, sufistaiya, moneteism, marqiyuniya, majusiya (zoroastrianism) [3, p. 523].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

At this point, if the information about the sabi'iyain the two plays is compared, the differences between them become clear:

The sabi'iyais mentioned in only one place in the "Kitab at-tawhid":

"The belief of the sabi'iyais similar to those of the moneteism, and Ibn Shabib says that there is very little difference between them. According to moneteism, light meets darkness as it moves from North to South. Darkness, on the other hand, collides with light as it marches from South to North. When they meet, the darkness is absorbed by the light on the one hand, while on the other, they both continue in their own direction. Ibn Shabib also gives information about their beliefs similar to the teachings of the sanaviya.

They also believe that the universe is governed by a mixture of light and darkness. If there is control, the belief in interference (light and darkness) will be void. What can be the connection between light and darkness. Darkness is actually low, and light is high, and there is a barrier between them. That's what brings them together and mixes them up. If the root cause of all evil was their interference, one of the two (of light or darkness) would find a way to be completely superior to the other. Otherwise, there is only one force (Allah) that controls good and evil..." [3, p. 241].

In this way, Imam Moturidi first gives a brief account of the beliefs of the sabi'iya, and then gives his views on the subject and his arguments against them. This debate takes on a deep philosophical-logical perspective.

Representatives of this faith are mentioned in two places in the the "Ta'wilat ahl as-sunnah". One of them gives a brief account of the sabi'iya, while the other mentions them simply as a category that belongs to hell. The commentary on verse 62 of surat "al-Baqara", as mentioned, contains a brief account of the sabi'iya:

"There is disagreement about the sabi'iya. Some: They said they worshiped angels and recited psalms. Others called them worshipers of heavenly bodies. There are also those who say, "The people between the pagans and the Christians, or the people between the Jews and the pagans, or who follow the sect of the Zindiqs and know God as two". No books have come from the sabi'iya and we do not know enough about them" [6, p. 147].

CONCLUSION

It can be seen from this that Moturidi in his commentary makes various assumptions about the beliefs of the sabi'iya. Hence, he interpreted this verse before he had the information given in the "Kitab at-tawhid". This indicates that the "Ta'wilat ahl as-sunnah" was written before the "Kitab at-tawhid".

In general, the information presented in the two works of the scientist is not contradictory. On the contrary, the "Kitab at-tawhid" clarifies the information given in the "Ta' wilat ahl as-sunnah".

From the above, it can be seen that the texts and comments about different faiths in these two works of the scholar do not completely repeat each other, but do not contradict each other. They'll complement each other with new information. Their methods of argument and rebuttal are also compatible.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES:

- **1.** Rudolf U. Al-Moturidi and Samarkand Sunni theology. Tashkent: Imam al-Bukhari International Foundation, 2001. 203 p.
- **2.** Moturidi. Ta'wilat ahl as-sunnah. Edited byBakr Topal oglu. Istanbul: Dor al-miyzon, 2007. V. XVIII. 362 p.
- **3.** Moturidi. Kitab at-tawhid. Edited by Bakr Topal and Muhammad Aruchi. Bayrut: Dor as-sadr, Istanbul: Irshod, 2011. 538 p.
- **4.** Önal R. According to Mâturîdî, non-Islamic religions. Doctoral thesis. Ocak: Sakarya University, Institute of Social Sciences, 2013. 441 p.
- **5.** Koçoğlu K. Mâturîdî's view on mutazila. Doctoral thesis. Ankara: Ankara University Institute of Social Sciences, 2005. 173 p.
- **6.** Moturidi. Ta'wilat ahl as-sunnah. Edited byBakr Topal oglu. Istanbul: Dor al-miyzon, Vol. 1, 2005. 586 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

COMMENTS ON FAKHRUL ISLAM AL-PAZDAVI'S "USUL"

Gaybullaev Saidahmadkhan Samatkhonovich*

*Doctoral Student, International Islamic Academy of Uzbekistan, Tashkent, Uzbekistan Email id: gaybullayev1989@mail.ru

DOI: 10.5958/2249-7137.2021.02756.7

ABSTRACT

The source Fakhrul Islam Pazdavi-s "Usul" was the famous method in the science of al-fiqh in the given article and about the full information is given on the basis of written works. The influence of these works on the literature of the later period in the field is described. As well as manuscripts and printed copies hav been mentioned.

KEYWORDS: Pazdawi, Text, Fikh (Islamic Law), Hadith, Maturidi, Hanafi, Qadi (Judge), Owners-Taxrij, Comment.

INTRODUCTON

Today, as in all areas of science, there is a need for extensive research on the Usul al-fiqh. In order to better understand the essence of the holy religion of Islam and to understand the great work done by our scholars in the past, it is important to study the science of fiqh (Islamic jurisprudence) and its branch studying its laws, evidences the Usul al-fiqh (basics of fiqh) where it requires knowledge and perseverance. [1]

According to sources, "Fakhrul Islam" - Ali ibn Muhammad Abul Hasan Pazdavi (1009-1089), a scholar who left an indelible mark on Islamic jurisprudence with his authoritative works, was a teacher of Movarounnahr scholars and a long-time judge of the country. The work of the *faqih* (Islamic jurist) "Kanzul vusul ila ma'rifati-l-usul", known as "Usul al-Bazdavi", has a special significance as one of the main sources in the field of usul al-fiqh. Kotib Chalabi (d. 1068/1658) says in his famous Kashf uz-zunun: Usul al-Bazdavi is an important source of valuable information, and the faqihs seem to have competed in writing commentaries on it. The historian Qazi Ibn Khaldun (1332-1406) also wrote in his famous Muqaddima that there were many works of Usul al-fiqh in the Hanafi direction, the book of Abu Zayd Dabbusi is the most useful and comprehensive of the first works, and the work of Sayful Islam Pazdavi is in such status of the next books." [2]

Main part:

Fahrul-Islam Pazdavi's work was well received by Hanafi scholars because it introduced the Hanafi method into the system of al-fiqh and was more concise than al-Usul by his contemporary colleague Sarakhsi (1009-1090). Dr. Said Bekdosh, who made the modern edition of Usul al-Bazdavi in 2016, says that Shamsul-aimma Sarakhsi used the style of Pazdavi's book al-Usul and made extensive use of his data in writing al-Usul, and tried to give a few examples to prove his point. In fact, Usul al-Bazdavi has been widely used in works on the theory of Muslim law.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

This is due to the fact that the book was used to write works in the style of commentary, hoshia, takhrij and summary, or quoting from its data. [3,4]

As mentioned by Kotib Chalabi, famous commentaries on Usul al-Bazdavi have been written by major Hanafi jurists. Including:

- Commentary by Hamiduddin Ali ibn Muhammad Romishi Bukhari (d. 667/1268) entitled "Fawaidu Bazdavi". This work is important as the first commentary written in Usul al-Bazdavi. The manuscript copy of the work copied by the calligrapher Muhammad ibn Abu Nuaym in 693/1294 is the closest to the author's time. It is kept in the Dor al-Kutub library in Cairo under the number №179. The modern, critical text of the work, prepared by Dr. Omir Ahmad Nadavi on the basis of existing manuscripts, was published in 2010 by the Lebanese printing house Dorul Kutub Ilmiyya. [7]
- Commentary on al-Kafi by Husamiddin Husayn ibn Ali ibn Hajjaj Signaqi (d. 714/1314). The author states at the end of the work that he completed it in 704/1304. Al-Kafi was published by Dr. Muhammad Sayyid Muhammadqanit in 2001 at Maktaba ar-Rushd Publishing House in Riyadh. At the beginning of this edition there are many manuscripts of the work available in the world book funds and a lot of important information about the scientific activity of the author Husomiddin Signoki. [8]
- The commentary of Abdulaziz ibn Ahmad ibn Muhammad Alouddin Bukhari (d. 730/1330) entitled "Kashfu-l-asror an Usuli Fakhri-l-Islam Bazdavi" is the main and most famous commentary of "Usul al-Bazdavi". That is why the work is popular among scientists, there are still several editions. The first edition was printed in 1307/1889 at the Sahafiyya Osmaniyya printing house in Istanbul, and later in 1974 by Abdullah Mahmud Muhammad in Beirut at the Doru-l-Kutub Ilmiyya printing house. [9]
- Commentary by Akmaluddin Muhammad ibn Muhammad Babarti Misri (d. 786/1398) entitled "At-Taqrir li usuli Bazdavi". Although the work has not been published so far, it has been the subject to a number of research. At Umm al-Qura University in Mecca, about a dozen studies have been conducted on al-Taqrir li Usul Bazdavi. They also provide detailed information about the manuscripts of the work kept in world funds. [11]
- The commentary of Jalaliddin ibn Shamsuddin Khorezmi Karloni (d. 740/1340) entitled "al-Shafi" is also noteworthy. The reason is that Jalaliddin Karloni was a student of other commentators, Abdulaziz Bukhari and Husamiddin Sighnaqi, and made extensive use of their commentaries in writing al-Shafi. Although this work has not been published yet, it was studied at the level of a doctoral dissertation by Abdulmajid Hassan Saig at Riyadh Islamic University.
- The commentary of Amir Kotib Umar Itqani Atrozi (685 / 1286-751 / 1351) entitled "al-Shamil" is another commentary written in Usul al-Bazdavi. Ash-Shamil (comprehensive) is a large-scale work worthy of its name. The manuscript copy itself consists of eleven volumes. It has not yet been published, but much of the work has been researched and published in book form at Riyadh Muhammad ibn Saud University.
- The commentary of Qivamiddin Muhammad Koki Misri (d. 749/1349) entitled Bunyanul Vusul has not been published so far. Three of his manuscripts are kept in Cairo's Dar al-Kutub Misriya library with material numbers № 2025, 2030, 1780. It should be noted that the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

scholar Qivomiddin Koki taught students from "Usul al-Bazdavi" in the Mordin community and wrote this work, summarizing the comments and details he gave during the lesson. The scholar also served as a Mufti in Cairo.

- The commentary of Abul Baqa Muhammad ibn Ahmad ibn Ziya Makki (d. 854/1450) is still used in manuscript form.
- The manuscript of the commentary of Wajihuddin Umar ibn Abdulmuhsin Arzanjani (lived around 871/1467) entitled Sharhu Usul al-Bazdavi consists of two volumes and has not yet been published.
- It is noteworthy that the commentary of Sheikh Abul Makarim Ahmad ibn Hasan Jarbardi Shafi'i (d. 746/1346) entitled "Sharhu Usul al-Bazdavi" was written by a representative of another madhab. Jorbardi was a famous jurist of the Shafi'i madhab and was the chairman of the scholars of Tabriz in his time.

There are also some incomplete commentaries of the source. Including:

- The commentary of Alouddin Ali ibn Muhammad Hiravi Musannafik (d. 775/1376) entitled "al-Tahrir" is one of those incomplete commentaries. The scholar was famous with the title "Musannafik" in the fiqh of Hanafi madhab and he was born in Herat and died in 1376, Qustantinia (modern Istanbul).
- As his master commentator Akmaliddin Bobarti, Shamsiddin Muhammad ibn Hamza Fanori Rumi (751/1352-834/1431) began writing a commentary on "Usul al-Bazdavi" at the end of his life, but unfortunately, he was not able to complete his work since he got blind.
- The commentary of Mulla Hisrav Muhammad ibn Faromuz Hanafi (d. 885/1479) was not finished, as well. However, there is a complete work of this author with the name "Mirqotul vusul fi ilmil usul". The scholar passed away in 1479, Qustantinia (modern Istanbul).
- Mahmud ibn Muhammad Junfuri Foruqi Hindi (d. 1062/1652) also wrote a commentary to the work. But the author was not able to finish his work.
- The commentaries mentioned above are of great importance in studying "Usul al-Bazdavi". Because of Pazdavi's high level of savvy, the meaning can be understood only after interpreting some of the phrases in the work. These comments are also of particular importance in the field as a source basis. In addition, while reviewing the manuscripts of Usul al-Bazdavi, some unfamiliar comments and commentaries were encountered around the text. By studying them independently, one can find new interpretations of the work that are still unknown to us.

Mukhtasar (short) works written as an abbreviated form of Usul al-Bazdavi:

– A short risolah by Husamuddin Muhammad ibn Muhammad ibn 'Umar Ahsikati (d. 644/1246) entitled al-Muntahab al-Husami. In the work, the information in Usul al-Bazdavi is given in a short and concise form. Husamuddin Akhsikati's al-Muntahab is also a very authoritative source, with many commentaries. The manuscript of the work, which is kept in the library of the Malik Saud University in Riyadh under the number №3797, dates back to the 13th century and is the closest to the author's time. In the end title of it, it is said that the copy was completed on the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

10th of the month of Rabi'ul Awwal, 690/1291. The work has been published several times and it consists of 74 pages.

– A short risolah by Abul Barakat Abdullah ibn Ahmad ibn Nasafi (d. 710/1310) entitled Manor al-Anwar. Abul Barakat Nasafi summarized the information in Usul al-Bazdavi and compiled it into a risolah entitled Manorul-anwar. It has about fifty commentaries because it is short and meaningful. 3 manuscripts of the work are kept in the manuscript fund of the Institute of Oriental Studies of the Academy of Sciences of the Republic of Uzbekistan. Of these, the one with the inventory number 245243/1 was copied in 762/1361 and has a volume of 25 pages. This risolah has been published several times so far.

Abulfido Zaynuddin Qasim ibn Qutlubuga's (d. 1474) work, Takhrij ahadisi Usul al-Bazdavi, is dedicated to the interpretation of the hadiths and narrations in Usul al-Bazdavi. It contains the hadiths from Usul al-Bazdavi, the narrations of the Companions and the Tabi'een, and the reports of the imams of the madhabs. The full text of these narrations, their places and sources mentioned in the works on hadith science are given. The lithograph of "Takhrij", along with Usul al-Bazdavi, was first published in Pakistan in 1909. Later, in 1995, it was studied by Dr. Muhammad Hussain Taji as part of his doctoral dissertation and a modern edition was made at the Sheikh Zayed Center for Islamic Studies in Karachi, Pakistan. [5]

RESULTS AND DISCUSSIONS:

As a result of the article, the following can be shown. The works based on Usul al-Bazdavi are not limited to the abovementioned ones. It should be noted that the activities on the reproduction of manuscripts of the work, the creation of new works on its basis has continued at all times, and its prestige and influence in the field of science is great. [6]

Until now, the work has been a program guide to the science of "Usul al-fiqh". It is taught as a textbook on this subject in educational institutions. In particular, the famous historian Abdulaziz Bukhari (d. 730/1330) said that he read the entire Usul al-Bazdavi in the presence of his teacher Fakhruddin Muhammad Moymargi (d. 751/1351) while studying at the Madrasatul Abbasiyya in Sarakhs. [10]

CONCLUSION:

In short, the book "Usul al-Bazdavi", which deals with the basic principles of jurisprudence, from Islamic law to the principles of morality, and the sources based on it, were created in the territory of Movarounnahr, and it certainly is appropriate for our people's worldview and way of life. By studying them on the basis of modern requirements, we have the opportunity to fill certain gaps in our social life and solve problems in a positive way. Also, the rich scientific heritage of our scholars, such as Pazdavi, Abdulaziz Bukhari, Romish Bukhari, Akhsikati, is poorly studied, and one of the urgent tasks facing scientists is to present them to the public in a dignified manner.

REFERENCES:

- 1. Sam'ani A. al-Ansob. Cairo: Maktabatu Ibn Taymiya, Vol. 2. 1980. p.54.
- **2.** Khalifa H. Kashfuz zunun an asamil kutub val funun. Bayrut. Dor kutub al-ilmiya, Vol. 1. 1992. p.54.
- 3. Khaldun I. al-Muqaddima. Cairo: Maktabatu Ibn Taymiya, 1980. p. 428.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Pazdavi FI. Usul al-Bazdavi. Dr. Said Bekdosh edition. Madina: Dorus siroj, 2016. p. 21.
- **5.** M. Sharhu Jomiu-s-sagir research, from the chapter on zakat to the chapter of hajj: master's dissertation. -Mecca: Ummul Quro University, 2010. p. 106.
- **6.** Romishiy H. Favoidu-l-Bazdavi. Dr. Omir Ahmad Nadavi edition . Lebanon: Doru-l-kutub ilmiyya, Vol. 1, 2010. p. 8.
- **7.** Signokiy H. Al-Kafi Sharhu-l-Bazdavi. Fakhruddin Muhammadsayyid Muhammadqanit edition. ar-Riyadh. Maktaba Rushd, 2001. p. 2545.
- 8. Bukhari A. Kashful asror. Bayrut. Dor kutub al-ilmiyya, Vol. 1, 1997. p. 19.
- **9.** Halaf ibn Muhammad al-Muhammad. Tahqiqi Taqrir li Usul Bazdavi. Mecca, "Ummul Quro" University, 1997. p. 42.
- **10.** Maqsudov D. The role of Abul Barakot Nasafi in the science of tafsir: Autoabstract of the dissertation of the Candidate of historical sciences. Edition: TIU, 2008. p. 18.
- **11.** Toji MH. Scientific heritage of Ibn Qutlubugo and "Takhrij ahadisi Usul Bazdavi" research, PhD diss. Karachi: Shayhk Zaid Center for Islamic studies, 2004. p. 115.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

THE METHODS OF HARVESTING AND STORAGE OF MELONS PRODUCTS

Mirzayeva Mutabar Azamovna*; Abdukarimova Dinara Nuritdinovna**

*Associate Professor,

Candidate of Agricultural Sciences,

Department Technology of Storage and Primary Processing of Agricultural Products, Fergana Polytechnic Institute, Fergana, UZBEKISTAN

Email id: m.mirzaeva@ferpi.uz

**Assistant,

Department Technology of Storage and Primary Processing of Agricultural Products, Fergana Polytechnic Institute, Fergana, UZBEKISTAN Email id: d.abdukarimova@ferpi.uz

DOI: 10.5958/2249-7137.2021.02754.3

ABSTRACT

The article describes the methods of harvesting and storage of ripe melons by varieties. The good preservation of melons depends on the chemical composition of the flesh and other factors. Fruit flesh is high in pectin, and if the flesh is dense, such fruits can be stored for a long time.

KEYWORDS: Melon Crops, Main Varieties, Soil Climatic Conditions, Biological Properties, Storage Methods, Humidity, Ripening Time, Vitamins, Storage.

INTRODUCTION

The maturity of melons, watermelons and melons in Uzbekistan, depending on their varieties, lasts from mid-July to autumn until the first frost. Ordinary watermelons and melons ripen in September and October. So they can be stored for a long time [1,2,3]. A high level is required to determine the ripeness of melons. It is especially difficult to choose a ripe watermelon. When the watermelon ripens in the pan, the fruit band and the curl near the fruit dry out, the surface of the fruit shines. When the fruit is tapped with a finger, it suffocates, and when it is crushed between the palms, the flesh of the fruit is squeezed and squeaks. However, these symptoms are not limited to the ripening of the fruit, but in other cases, the above symptoms are repeated [4,5,6,7]. For example, a curly plant that is close to the fruit on the stalk may dry out under unfavourable conditions for growth. The thick-skinned, unripe autumn watermelon is also suitable for finger-clicking. Squeezing the watermelon between the palms reduces its ability to be stored in the winter [8,9,10].

MATERIALS AND METHODS

Fruits of winter melons, watermelons and melons are harvested and stored during the period of technical ripeness, ie during the period when they are available for consumption, and melons and watermelons are harvested and stored during the period of biological ripening.

On the surface of ripe melons are smooth and intermittent lines and spots of different order and type, which are clearly distinguished from the colour of the skin. In some varieties, the surface of the fruit is covered with a fine dark grey mesh. When the melons are ripe, they smell fragrant.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

When ripe melons and flesh are ripe, the fruit bands separate from the fruit on their own or break very easily [11, 12, 13]. The ripening of melons varies depending on the variety. For example, large fruit melons (C. maxima) ripen when ripe, while hard-skinned melons (C. repo) ripen brownish-yellow. And when the fruits of the Muscat melon (C. moshata) ripen, the fruit peel softens a little.

Depending on the purpose of cultivation, melons are harvested at different rates of ripening. For example, if a melon is planted to be transported over long distances, the fruit will be cut off 10-15 days before it is fully ripe. When planted locally for consumption, the fruits are cut off when fully ripe [14,15].

The fruits of winter melons, watermelons and melons are harvested during the period of technical ripeness, ie during the period when they are available for consumption, and the fruits of melons and watermelons are harvested during the period of biological ripening [16,17].

Melons are harvested several times (4-6 times) as the fruits ripen. As the days get colder, the fruits are all harvested at once. Timely harvesting of the first ripe fruits allows the remaining fruits of the plant to ripen faster, which slightly increases the yield.

In irrigated lands, melons, watermelons and melons are watered for the last time 10-15 days before harvest. This makes the fruit sweeter and better stored in the winter, reducing waste when transporting long distances [18,19,20].

Special conditions are required to transport the fruits of harvested melons to short and long distances. Early maturing and short-lived varieties are shipped for short distances. Varieties sent over long distances should have good storage properties and be resistant to mechanical shocks.

Experiments have shown that melons that are sent over long distances should be cut with a piece of fruit if possible. Cut fruits are left in the field for 2-4 days to dry out in bulk and then transported. This prevents the fruit from cracking. Ripe fruits are not sent long distances. In order to send melons over long distances, they must be cut before they are fully ripe, as melons have the ability to ripen even after they have been cut.

When the fruit is transported over long distances, it cracks under the influence of mechanical impulses (during loading and unloading), and the volume is slightly reduced. To prevent this, melons should be shipped in containers. The temperature between the fruits in the container should be 6-10 degrees. According to the results, watermelon varieties Hayit Kara, Kozivoy 30, Melitopolskiy 122, Bokovskiy 22, Astrakhan, and Central Asian melons Umirboki, Karapochok, Beshek, Koybosh, Argani and Qalaysan have long distances. was found to be fit to go [11-17].

Good preservation of melons depends on the chemical composition of the flesh and other factors. Fruit floods are plenty of pectins, and the flesh is stored long for a long time.

Watermelon fruits are 3-5 months, melon fruits 5-6 months and the fruits of melon fruits are not broken up to a year. Since early ripening varieties do not have long-term storage properties, medium and late-ripening varieties are selected for storage. Melons are long-lasting fruits that do not spoil the taste. During storage, biochemical changes take place in the fruit, which improves the taste of the fruit, especially in the melon, increases the sugar content and softens the flesh.

Long-term storage of melons in special vegetable warehouses, covered rooms of various structures (basement, attic, special rooms) is called long-term storage. In such places, fruits are

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

stored in three to four-story seats, where the fruits are straw or sawn, sand or straw. The seats are 40-50 cm apart and 1 m high. The fruit is placed in rows on such benches.

Before the storage of fruits, the warehouses are sprayed with sulfur at the rate of 100 g per 1 m2 of land, in addition, the ceiling and walls of the warehouse, the top and bottom of the benches are disinfected with a 40% solution of formalin. In this case, stored fruits do not get sick. The fruits in the warehouses are inspected twice a month during storage, the spoiled fruits are removed, and the rest are dumped on the spot.

In the warehouses, air temperature should be 1-3 degrees, relative humidity is 80-85%. From ancient times the best way to store melons was to hang them separately. Currently, this method is used only on private farms. Large quantities of melons should be stored in thick-walled, windbreaks, where the temperature should be 10-15 degrees in autumn and 4-7 degrees in winter. In recent years, special refrigerated rooms are being built for winter storage of melons. The melons are placed in the net bags or lazards. The temperature is 0-2 degrees, while air humidity is 80-85%, melons are well preserved in such places. If the above is not available for messels or warehouses, melons should be stored in special trenches. The width of such trends are dumped from 6 to 40 meters long, where the width is accumulated on the slope, humid low collection. Depth should be 1-1.5 m. Melons are placed in 7-8 rows in ditches, covered with 10-20 cm of soil, and then covered with plant debris. Pipes will be installed for ventilation.

RESULTS AND DISCUSSION

In melons, melons have a very long shelf life. Melons can be stored everywhere: in warehouses, sheds, basements and attics.

Containers and crates are used to store large quantities of melons. Depending on the height of the warehouse, they are stacked in several rows. The convenience of storage in such containers is that they allow the use of mechanization, various lifting carts and cranes for stacking and unloading products inside the warehouse. Storage in pods - this method, depending on the structure of the warehouse, 2-3 rows of melons are collected on them.

Melon, well preserved. If the melon is stored for a short time, it is harvested in 4-5 rows and 2-3 rows in the long term. Melons should be kept under control during storage and should be removed immediately if they show signs of nausea. Alternative storage conditions for melons are 6-10 °C and relative humidity is 73-75%. It was found that in order for melon storage to be effective, it is necessary to try to keep the temperature as low as possible, close the warehouse on rainy and humid days and try not to raise the temperature below 3 and above 12 °C.

REFERENCES

- 1. Resolution of the President of the Republic of Uzbekistan No. PP-2603 "On additional measures to stimulate the export of fruits, vegetables, grapes and melons." Tashkent. 2016. September 19th.
- **2.** To the President of the Republic of Uzbekistan "On additional measures to support local exporters of fruits and vegetables, grapes, melons, legumes, as well as dried vegetables and fruits." Resolution No. 3377. Tashkent, November 6, 2017.
- 3. Balashev NN, Zeman GO. Vegetable growing. Tashkent, Teacher. 1977.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **4.** Zuev VI, Umarov AA, Kodirkhzhaev O. Intensive technology of cultivation of ovoshegourds and potatoes. Tashkent. 1987.
- **5.** Mirzaev, MA. (2020). Methods for drying grapes. Universum: Engineering Sciences, 2020;74(5):1-23.
- **6.** Mirzaeva MA, Rakhmonalieva NN, Kholmatov SNU. (2021). Learning how to store seeds. Universum: Engineering Sciences, 2021;87(6):50-52.
- 7. MamatozhievShI, Mirzaeva MA, Shokirova GN. (2021). Influence of pre-sowing tillage technology on soil moisture content. Universum: Engineering Sciences, 2021;87(6):6-49.
- **8.** Mirzaeva, MA. Akramov ShShU. Biology of sugar beet varieties, pests, diseases and ways to deal with them. Universum: engineering sciences, 2020;80(11).
- 9. Mirzaeva MA. Study of grape seed oil. Fat and oil industry, 2007;(1):28-27.
- **10.** Mirzaeva M, Abdurakhmonov SZ, Ehrgasheva N. Biology of beetroot sorts, pests and diseases and methods of treatment. Актуальная наука, 2019;(4);36-38.
- **11.** Abdukarimova DN, Negmatova KS, Eminov ShO. Study of the physicochemical and technological properties of Na-carboxymethylcellulose and composite powdered gossypol resin from their concentration. Universum: Engineering Sciences, 2020;74(5):4-58.
- **12.** Eminov ShO, Abdukarimova DN. Study of the influence of the electrophysical nature and the concentration of fillers on the process of electrization of composite polymer coatings when interacting with raw cotton. Universum: engineering sciences, 2020;75(6).
- **13.** Namazov ShS, Tashpulatov ShSh, Ortykova SS, Eminov ShO. Chemical activation of the mineralized mass with ammonium nitrate and zinc nitrate. Universum: Engineering Sciences, 2021;87(6):62-64.
- **14.** Namazov ShS, Tashpulatov ShSh, Ortykova SS, Eminov ShOSimple ammoniated superphosphate obtained from the mineralized mass of Kyzylkum phosphorites. Universum: Engineering Sciences, 2021;87(6):9-61.
- **15.** Abdukarimova DN, Negmatova KS, Eminov ShO. (2021). Study of physical and chemical properties of fillers for the production of composite chemicals. Universum: Engineering Sciences, 2021;(6):6-10.
- **16.** Eminov ShO, Negmatov SS, Gulyamov GG, Abed NS. Investigation of the process of electrification of the fibrous mass during frictional interaction with composite polymer coatings. Universum: engineering sciences, 2020;80(11).
- **17.** Eminov ShO, Negmatov SS, Abed NS, Gulyamov G, Saidova DSh. Antielectrostatic-heat-conducting structural polymeric materials in mechanical engineering. Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan, 2019. p.59.
- **18.** Abed NS, Negmatov SS, Gulyamov G, Negmatova KS, Yuldashev NKh, Tukhtasheva MN, et al. Experimental study of the effect of fibrous fillers on the properties of polyolefins. Plastics, 2020;(7-8):12-15.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **19.** Mirzayeva M, Akramov S, Abdukarimova D. Biology Of Sugar Beet, As Well As The Scientific Basis For The Cultivation Of Ecologically Pure Products. The American Journal of Agriculture and Biomedical Engineering, 2020;2(11):7-10.
- **20.** Abdukarimova DN, Mirzaeva MA. Study of the Structure, Compositions and Physico-Chemical Properties of Ingredients for the Development of Composite Chemical Preparations. Central Asian Journal Of Theoretical & Applied Sciences, 2021;2(12):323-328.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

HISTORICAL FUNDAMENTALS OF THE ESTABLISHMENT AND DEVELOPMENT OF ARTILLERY INTELLIGENCE

Makhsudov Odiljon Arifjanovich*; Khamdamov Alisher Samijonovich**

*Senior Teacher,
Department of Military art,
Academy of the Armed Forces of the Republic Of Uzbekistan,
Tashkent, UZBEKISTAN

**Senior Lecturer in the Artillery department, Chirchik High Tank Command Engineering School, Tashkent, UZBEKISTAN Email id: alisher_milliy@mail.ru

DOI: 10.5958/2249-7137.2021.02746.4

ABSTRACT

Tasks such as locating artillery casualties, determining character, and correcting firing are one of the main tasks of artillery intelligence. This article describes in detail the emergence and development of artillery intelligence as a type of intelligence, and provides clear facts on the timing of the emergence of artillery intelligence types.

KEYWORDS: Artillery Intelligence, Sound Intelligence, Optical Intelligence, Radar Intelligence, Observation Point, Closed Fire Position.

INTRODUCTION

History has shown that victory in battles was dominated by the enemy's composition, position, weapons, combat ideology, as well as those who knew the area well enough. Intelligence plays an important role in achieving the above information.

Even in the state administration of our ancestor Sahibkiran Amir Temur, the sultan of the seven climates, intelligence played an important role. Makes decisions and acts on the basis of intelligence in diplomatic relations, military campaigns and domestic and foreign policy of the state [1].

We can see that the Chinese general Sun Tzu's treatise on martial arts is based on the doctrine of "Complete knowledge is a sure victory, complete ignorance is instability, victory or defeat, ignorance is a definite defeat." [1].

Damage to the enemy in battles is carried out on the basis of information determined by intelligence forces and means. Experience of wars, hostilities and military conflicts has shown that a large part of the volume of casualties falls on artillery. Tasks such as locating artillery casualties, determining their character, and correcting artillery fire are one of the main tasks of artillery intelligence.

Artillery intelligence is an integral part of tactical intelligence. Its emergence is directly related to the ability of artillery weapons to perform firing tasks from a closed firing position. [2].

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It is no exaggeration to say that the Civil War of 1861-1865 in the United States was a real test of modern artillery weapons of that time. [3]. The images of the warriors burning on the battlefield, torn to pieces, and dying in horrible guises testified to the decisive role of artillery in the battle. (Figure 1).

Many of these losses were also observed in the personnel of the artillery batteries, as the artillery batteries of the northerners and southerners would often have to conduct a "battery duel." [4].

In those days, the only way to eliminate such losses was to select the firing positions of the batteries in places sheltered from enemy batteries. Therefore, a new term "closed firing position" has emerged. According to other sources, the Russo-Japanese War of 1904-1905 showed that the lifespan of artillery batteries in open firing positions was short, and that they



Figure 1. Consequences of the use of artillery weapons

would not be able to open fire on the enemy. In this battle, Russian artillerymen were the first to offer to open fire from a closed firing position, as a result of which the firing positions were sheltered from enemy ground surveillance vehicles [5].

Now there is the problem of determining the target from a closed firing position, directing the firing at the target, that is, conducting artillery reconnaissance. Research has been conducted in the artillery units of the armies of different countries to find solutions to such problems. As a result, for the first time in military history, Teddeus Lau raised the balloon to a height of 91 m (300 ft) to monitor the movements of enemy troops and its positions on the battlefield and then tied it (Figure 2) and recalls the process: I saw a horrible situation - the cannons were lying on the ground in a state of disrepair and heavy casualties, the cannons of the cannons were torn to

pieces, the shells exploded with boxes, the horses were crushed and wounded, the artillerymen crawled around with pistols in their hands to rescue the wounded for which they shot the horses that were lying on the ground."

As a result of the intrusion of notched artillery into the armament of the troops, they were able to fire long distances. As a result, artillery weapons were located 2-3 km inland from the front edge, and for the first time, artillery fire control was carried out from observation points.

In 1865, Major General V.L. Chebyshev, a Russian artillery officer, began teaching artillery officers the rules of firing from a closed firing position for the first



Figure 2. Observation balloon

time. The content of the Russian general's exercises included information on the location of artillery firing positions and observation posts, observation of the battlefield, identification of targets and devices for firing at them, targeting artillery cannons and cannons.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Capt. A. Degtyarev, a Russian artillery officer who was directly involved in the Russo-Japanese War of 1904-1905, analyzes the results of a brief but devastating war and records his experiences of using artillery in this battle.

Both sides have had great success in this battle, but a more carefully thought-out tactic will yield even more surprising results in future battles, he says in his book. In particular:

- 1. First firing is a big step to success, especially if the firing is done from a closed firing position.
- 2. If the enemy has located the battery, there is a great risk that there will be a lot of losses in the personal composition of the battery.
- 3. The enemy will stop firing if a clear fire is fired at the enemy's location.

It is not difficult to analyze whether the data cited by the author basically meant artillery intelligence. He said that in order to open fire first, it was necessary to determine its location before the enemy, otherwise the artillery intelligence would cause great losses if it was not carefully organized or the forces and means were not allocated. In order to fire accurately at the enemy, the coordinates of its location must be determined with high accuracy, of course, this task also applies directly to artillery intelligence. During the wars, as a result of the improvement of artillery weapons from year to year, the need for artillery intelligence to find the target, determine its character, serve artillery fire, in short, increased, resulting in artillery intelligence and gradually developed.

Initially, artillery reconnaissance was organized by ground and air surveillance. Later artillery sound intelligence appeared.

Regarding the artillery's defense operations at night, Degtyarev wrote: "Artillery cooperation is an important factor in night defense. The judicious use of artillery will not only be effective in terms of moral influence, but will also result in serious damage to the enemy. In doing so, it is important to monitor the enemy and correct the firing [6]. The best way is to bring the observer to the advanced line and connect it to the battery via a telephone connection. To achieve the accuracy of artillery fire, it is advisable to determine the distance and azimuths to the firing points during daylight hours.

Proper installation of the cannon, height and horizontal angle in the direction of the gun guarantees the safety of our troops [6]."

During World War I, battlefield conditions required him to create appropriate tactics. When light and small-caliber cannons did not yield the expected results in inflicting casualties on enemy fortifications, heavy and large-caliber artillery and cannons improved. As a result, the means of displaying the target have also developed.

In the early days of the war, there were two main methods of locating enemy artillery positions.

The first is through "sound" and the second through "flashing". The first method involves the use of special microphones to detect the sound waves (generation) that occur as a result of long-range artillery fire. To do this, they placed several microphones at different points and measured the intervals at which sound reached each microphone. After analyzing the data obtained, they determined where the sound came from and plotted the point where the sound came from on the work map.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The emergence and historical development of sound intelligence dates back to the years following the Russo-Japanese War. In 1909, Lieutenant Nikolai Benau of the Preobrazhensky Regiment of the Russian Army proposed a method of determining the positions of enemy batteries by firing [5]. The emergence of sound intelligence in field artillery led to the N.A. Benaou's proposal was the foundation. In the armies of other states, voice intelligence emerged a few years later. For example, it was created in the German and French armies in 1915, in the British army in 1916, and in the American army in 1917.

Hardware testing began in the 1910s (Figure 3) and was characterized by its simplicity, ease of learning, and wide range of capabilities for use in castle battles.

In early 1914, the invention was considered ineffective, but with the onset of the war, the inventor was able to go to the battlefield and use the equipment in a real combat situation. In battle, the inventor was able to detect the enemy's unsuspecting battery for the first time. Based on the information obtained, when the area where the firing took place was captured, the location was actually determined by the firing position of the enemy artillery battery and the pits formed by the explosion of the shells. During the war, voice

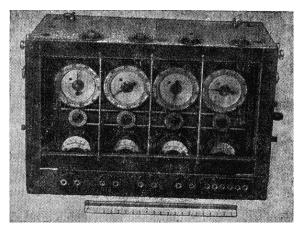


Figure 3. N.A. Benau system registration tool

intelligence proved itself to be an effective tool several times. Nothing could stop the tool from working, not even night, fog and low elevation.

Over the years, sound intelligence has improved as a result of the attention paid to it. In 1921, the Moscow Artillery Sound Detachment was formed, which became the first sound reconnaissance unit of the working peasant Red Army.

In 1933, teachers of the Artillery Academy Aporin, Talanov, Brovarik, Pozoev and others developed the first manual "Sound Intelligence in Artillery." In 1938, a new manual, The Voice Intelligence Service, was developed and widely used during World War II. One of the most important data is that during the war years, 70% of the enemy's reconnaissance and detected artillery batteries accounted for sound intelligence [5].

The method of detecting flashes formed the basis of optical intelligence. Flash detection was used until the end of World War II: several observers measured the azimuth of the flash point and then determined the flash point. Based on the data obtained, artillery batteries fired at the target.

Intelligent reconnaissance of the enemy using optical instruments from observation points is called optical intelligence. It is based on seeing the signs directly. It is the oldest of all types of artillery intelligence [4].

Initially, artillery officers visually observed the explosion of the shells, then using various optical instruments.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

From 1918, when the Red Army was formed of permanent units and divisions, the organizational formation of optical intelligence began. At that time, each artillery battery had eight observers, the artillery division had six observers, and the artillery division had up to twelve observers. The field maneuver "Maneuvering War" charged the artillery intelligence with the following tasks: to identify the enemy in a timely manner, first of all to monitor artillery batteries; to determine the enemy's observation points; look for and study the targets that the artillery needs to destroy or suppress [1, 4].

Despite the fact that in the battle with the Finns in 1939-1940, the enemy carefully masked all the elements of the combat order, optical intelligence forces and means identified a large number of long-term defensive structures of the enemy.

The combat readiness of the optical intelligence units and the actual testing of the optical intelligence equipment took place during World War II.

In most operations, there are 100-130 observation points per 1 km of front in the area of breaking through the enemy's defenses. In all types of combat, regardless of the time of day, all artillery commanders conducted reconnaissance by surveillance. In the dynamics of the war, commanders began to use mobile observation posts, resulting in the notion of temporary observation posts. This was a novelty in the organization of optical intelligence [1,4].

Temporary observation points were used when it was not possible to observe the enemy from the main observation points.

During the Second World War, optical intelligence not only identified enemy fortifications and firing points on the defensive front, but all optical intelligence accounted for 25% of the total number of enemy artillery batteries detected by force and means. [1].

The advantage of optical intelligence is that it has the disadvantages of speeding up the deployment of observation points, as well as the simplicity and ease of use of surveillance tools. When conducting reconnaissance on the depth of the battlefield, the nature of the place and the level of visibility have an impact.

Optical reconnaissance, battlefield surveillance and target reconnaissance are carried out using optical and optical-electronic devices.

As a result of the development of optical intelligence, binoculars, periscope artillery compasses, artillery periscope, stereoscopic rangefinders and intelligence theodolites were created, and as optical-electronic devices, infrared binoculars, night vision devices and intelligence theodolites were created.

Based on the study, analysis and generalization of the historical basis of the emergence of artillery intelligence, the following can be **concluded**:

- 1. Improvements in artillery weapons and attempts to reduce casualties have led to the emergence of the notion of a closed firing position, which has led to the emergence of artillery intelligence.
- 2. During the wars, types of artillery intelligence (optical intelligence, air intelligence, sound intelligence and radar intelligence) emerged.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- 3. Artillery intelligence was formed as a type of army, and artillery intelligence units were formed in the state of artillery brigades, regiments and divisions, and guidelines regulating their activities were developed.
- 4. A new type of intelligence for artillery intelligence units was invented and improved.
- 5. The experience of the use of artillery in modern military conflicts shows the need for a new approach to the conduct of artillery intelligence and increasing the intelligence capabilities of units.

REFERENCES

- 1. Содиков X. Security service in the reign of Amir Temur. Т.: Sharq., 2018. 423 р.
- **2.** Gordo, YuA, Khorenkov AV. Artillery reconnaissance. M .: military publishing., 1971. 2016 p.
- **3.** Matveevsky M. Rocket troops and artillery. Army collection. 2017;(4):21-31.
- **4.** Ivanov VA. Device and operation of artillery weapons of the Russian Army: Textbook. Publishing houses of TSTU. 2005. 260 p.
- **5.** Haruk AI. Artillery of the Wehrmacht. M.: Eksmo, 2010, 352 p.
- 6. Shirokorad AB. Artillery in the Great Patriotic War. M.: AST: AST Moscow, 2010. 637 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

POETRY OF IKRAM OTAMUROD PATRIOTIC LINES IN THE POEMS OF THE POET

Norboyeva Zarina*; Shohida Karomova**

*The student of the Faculty of Philology, Karshi State University, UZBEKISTAN Email id: norboevazarina789@umail.uz

**Supervisor: Docent, Karshi State University, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02747.6

ABSTRACT

In this article modern Uzbek poetry and the role and significance of IkromOtamurod's work in it. The peculiarities of the poet's lyrics, innovations in his style, and mastery of the image are analyzed. One of the great contributors to such good deeds is IkromOtamurod, a great poet of modern Uzbek poetry. The poet has a deep place in the hearts of his followers with his philosophical and vital poetry. The peculiarity of the poet's poems is that they are far from informing, from conveying any information, from teaching the reader. It's just a matter of pouring in as much as you can.

KEYWORDS: Art, Image, Poetic Language, Poetic Style, Creative Philosophy, Idea, Emotion, Freedom of Feeling, Metaphor, Nature Lyric.

INTRODUCTION

Poetry and Poet, Homeland and Patriotism, Influence and Impressionability. These concepts form a field of creativity in literature collectively. Creativity is something like a stream that waters hearts which are parched during the years and Creativity is something like an impulse which refreshes our thinking. Let it be said that it is a miracle that plunges our world into a sea of wonder. The creator is an eye that can detect hidden beauties that we cannot comprehend, and a mirror that can show it in creation. Looking around, goodness also comes in many forms. In other words, a good work is a gift to the reader. [1] One of the great contributors to such good deeds is Ikrom Otamurod, a great poet of modern Uzbek poetry. The poet has a deep place in the hearts of his followers with his philosophical and vital poetry. By the grace of God, he is meticulous in words, cheerful in poetry, and humble in nature like Uzbeks. Reading his work requires a great deal of preparation from a reader. The reason is that his feelings for poetry evoke the feelings of the reader. The reader who reads Ikram Otamurod firstly witnesses that the poet's quiet lines cause a great deal of controversy. Because he writes with the heart, writes from the heart, and writes everything which is in his heart. And that doesn't allow any of us to be distracted. Whether it is about patriotism, or human and human values, or love, or the voice of the artist's personality, or his passionate voice, it resonates in our hearts. [2]

IkromOtamurod is a creative, courageous poet who truly loves his homeland. He is a true devotee who welcomes his homeland without any shouts, without any noise.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

It's a force to be reckoned with.

The Holy Land.

A place where the wall is rebuilt from suffering,

Four wooden roofs covered with roofing felt.

I miss the tired side in my heart

The horse-distance where the paths turn

Departure and return guests are silent,

Running on the roads is a lifeline.

At a time when life in the great city is in full swing, and the four sides are in full swing, it is a feeling of a true patriotic soul to strive for a poor threshold restored from the ground. It is a real courage to declare for years that you have been weary of your heart. It may seem like an exaggeration, but it's true. The peculiarity of the poet's poems is that they are far from informing, from conveying any information, from teaching the reader. It's just a matter of pouring in as much as you can. Of course, this does not mean that the poet's poetry has no educational value, no creative ideas. Because his poetry and the influence and education in it move to the heart of the reader. Any call, any guidance is a very strange concept. That's the beauty of it.

Instead of high-sounding declarations, solemn shouts, a single word, a single sentence, the vibration of the heart, which is affected by it, resonates in our fingers, in our eyes. Ona Vatan. My hometown. The love, generosity, and generosity of this land are divinely sealed in our hearts. Because the one who loves the Motherland and makes it beloved is the Truth. May the true love that God has given be eternal. The most subtle feelings like this are further refined in Ikram Otamurod's poetry.

When a lone tree is broken without flour

A strange cry makes you tremble.

In a proud city, in a cyborg city

I miss the humble village.

Kasbi district of Kashkadaryaregion is a generous land that gave several great people to the Uzbek people. The land is a beautiful place, like Sultan Mirhaydar, an eternal abode for the saints whom Allah loves. It is gratifying that the humble villages full of kindness and love, the dusty streets where the elderly grew up, caused the love of the poet Ikrom Otamurod. How rushing to the borders of the profession, dear to life, how warm is the love that blows from afar.

You have a lot of professional skills although

When you lie down to sleep, you tremble.

Death is a broken window in my heart,

Death broke my heart.

The soil of the profession is unseen

What great people lie, dear values.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

I put my head on your chest and in my arms

The number of graves is growing.

No matter how poor we live, no matter how ordinary our days are, let's go for a few hours, for a few days in a strange place, in the words of the poet, in the "cyborg cities", and soon our beloved village. It Creativity is something like sacred land, salty with tears from the eyes of our father, who was overjoyed to see our first step, and a sacred ground in the air, where the laughter of our parents, happy with our future endeavors, resounded. The reason why each of us is born and raised in a city or a village is so sacred because our mothers are waiting for us there with longing, love and tears. That is why the name of the Motherland strikes us repeatedly under our left chest. As long as there is life, love for the Motherland will continue. The mother will live as long as she is patriotic. As long as there is a poet, love for the country can be sung at its peak.

A reflection of life and imagination

Ikram Otamurod's poems are also worthy of their humility and sincerity. His poems depict life in a special way. Sometimes the heartbeat of longing, sometimes the beauty of the soul excited by love, is skillfully portrayed, and sometimes the people around them and their attitudes, world events and issues of reality are beautifully portrayed in a way that no one else can. [2]

Get acquainted with the slave of interest,

I rushed to save him.

And all the worries on your shoulders

Didn't he look after you when he was done?

The above sentences wisely describe the events around us without exaggerating. The inequality of the five hands reflects the attitude of the heart, which is tormented by the diversity of different people, to the events of life. Well-known artist UtkirHoshimov's "Inscriptions in the Notebook Frame" contains the following sentences: "The truth is so sweet that you want to taste it. It is so bitter that it burns your tongue." Truly, life is beautiful with its sweet and bitter truths. This fact does not exclude IkromOtamurod's work. The creator wants freedom. How do you say? Freedom of feeling. Sincerity, full of self-interest, drinking water from the fountain of imagination and dreams, wants a life full of. As stated in one of the poet's poems:

Come on, forget it all,

Think about it and find the answer

That's it. Feel happy

Leave your heart free.

Distribute the fog that covers the brain,

Speak with desire, passion, confidence.

Putting worries aside for a while

Sit close to you for a while.

The poet does not use poetry to give up or promote indifference. Maybe he wants to be thankful for everything, not to beat himself up for whatever reason, to leave his heart free. After all, it

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

seems that everyone has a measured life, and their destiny is over. The poet just wants to be different, close to himself.

One of the poet's books contains a poem written after a meeting at an orphanage. His influence, embedded between sentences, oh, fig, longing is written with real skill. In the poem, the poet becomes a child, writing about the feelings of those children. This gives the poem imagery, vitality and sociality.

You can't find him, sorry, baby,

The streets he walks are unfamiliar to you.

You search,

You, in broad daylight,

Nights accompanies his intention.

Satrnaliaswallowedhim,

Your innocent voice holds him.

The curse of an innocent child,

Baby, after all, is a loyal friend of Allah!

This poem is read from beginning to end with a heart full of pain, sometimes with kindness, sometimes with anger. Annoyance in contemplation creates fatigue in the soul. It is as if reflecting such bitter lessons of life in poetry encourages humanity to refrain from sin and to save the whole society from being orphaned.

Ikram Otamurod's beautiful verses, which are written in the imagination and love of nature, are also unique. They have silence, they have innocence:

If you lean, you can lift weights,

Movable joys in your heart.

The poor liver that people hurt

Trees of hope.

The metaphoric problems in IkromOtamurod's work and its development

The beauty of fiction, the power of literature, is so vast that it is impossible to fully comprehend it. Because literature is a set of rules that we have to memorize. Literature is reborn in every mind, in every heart. Poets and writers use certain analogies and comparisons to reveal the nature of the work, the extraordinary changes in the character's psyche, the uniqueness of the images, and the essence of the details. Such elements ensure the readability and artistic appeal of the work. The most common type of description of similarities between people and things, situations and events is metaphor. The literary term is a Greek word meaning "to move". A metaphorical expression of a word or phrase based on similarity or analogy. Metaphor is an artistic tool widely used in literature. The most beautiful examples of this can be found in the works of Navoi, Atoi, Muqimi and other classical poets. In modern Uzbek literature, metaphor has become an integral part of art, especially lyric poetry. In Ikram Otamurod's poems, the metaphor has developed its own gradual maturity.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Memories-broken body,

Memories are an irreversible dream.

My spirit - a room with cracked windows.

Kindness- an amulet woven by my grandparents,

The result is the rosary of the ancestors.

My heart-the rocky harbor of dreams.

The truth is that the world is a mess

A powerful pillar with a false rib.

Piety- a field with cuttud roots

Faith swallows salt and spits salt.

Time-a box with a trace of soul.

Death-A window shattered in my heart

Your proud collar is torn,

A note with sand in your eyes.

Explaining the above metaphors requires a great deal of artistic will. Because a poet who can create an unimaginable image is one who marvels at the breadth of his thinking. Any comment, any description is burning between the sentences. In addition to the creation of beautiful examples of metaphor in the works of Ikram Otamurod, this artistic image has acquired a unique gradual perfection. Now the creator has created a series of metaphors that will amaze the reader, in the face of which one can feel a bit of thought, a bit of excitement. This is a unique achievement of modern Uzbek literature, of the time and at the same time of our spiritual property.

A game of chance.

Listening to your words,

Scratch your stomach.

A tree is a soul made of endurance.

Nightmare, betrayal,

The devil sleeps on his shoulder.

Other locationless address,

I turn my head to every street.

And others-ownerless jacket,

I put it on the head of the encounter.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

REFERENCES:

- 1. Boboyev T. Fundamentals of Literary Criticism. Tashkent. "Uzbekistan". 2002
- **2.** Otamurod I. A place on the map. Tashkent. "Sharq" Publishing and Printing Joint-Stock Company. 2011

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

SOCIAL FACTORS OF LIFESTYLE FORMATION

Boymurodov Zoxid Shokirovich*

*Teacher,
Department of Fundamentals of Spirituality,
Karshi State University National Idea,
Karshi, UZBEKISTAN
Email id: shokirovich@umail.uz

DOI: 10.5958/2249-7137.2021.02748.8

ABSTRACT

The article examines the peculiarities of a person's lifestyle, factors influencing the process of its formation. According to the author, by the end of the last century - the beginning of the new century, the number of social factors that can radically change a person's lifestyle increased. Socio-economic, political and legal, spiritual and ideological processes and trends occurring in modern society lead to the transformation of a person's lifestyle.

KEYWORDS: Lifestyle, Lifestyle Features, Factors Influence, Degradation, Deformation, Standard Of Living.

INTRODUCTION AND SIGNIFICANCE

At the end of the last century, at the beginning of the new century, the number of social factors that can radically change the way of life has increased. Socio-economic, political-legal, spiritual-ideological processes and trends in human society are leading to the transformation of the nature of human life. In this regard, there is a need to thoroughly study the problems of human life from a scientific point of view, to state the positive and negative changes in it.

One of the most important issues is the formation of a lifestyle and the identification of factors influencing it, the scientific study of its characteristics and the changes that occur.

METHODS AND LEVEL OF LEARNING

Systematic, historical, as well as sociological, comparative and empirical methods of analysis were used in the study of this scientific topic. The concept of lifestyle, its characteristics, factors influencing lifestyle and its impact on human and social life are studied.

RESULTS OF THE RESEARCH

Today, there are different approaches in science to the study, analysis, and identification of basic criteria for lifestyle, and it is a social category. These approaches include philosophical, sociological, socio-economic, socio-group, and others. Or there may be mixed approaches that justify these approaches in the most effective way. The concept of lifestyle has been a common subject in the social sciences and humanities because the main determinant of lifestyle is the person himself. It's just that all disciplines have different approaches and conclusions based on their research object. The multifaceted nature of the problem of lifestyle has led to an interdisciplinary approach to its scientific study. From antiquity (Aristotle, Democritus, Pythagoras, Socrates, Plato, etc.) and in the context of social and historical development, he put

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

forward ideas related to lifestyle. Aristotle regarded man as a conscious being as the creator of the world, and his goal was to attain perfection. He believes that all the moral qualities in a person are not innate, but changeable. That is, it shows the importance of lifestyle in the formation of a person. "A spiritually mature person is one who adheres to the unity of mind and virtue" [1].

Lifestyle is a concept that represents the daily life, history and future of an individual, social group, people, nation, people, and is formed in the process of historical development and covers all aspects of human behavior and activities. In this sense, the individual and society reflect the worldview and value system. For example, in times when the religious worldview was predominant in the life of the society, religious concepts and norms prevailed in the minds of the people. Religion has played a major role in the development and transformation of human relationships. Rituals and traditions, religious customs, and rituals have had a profound effect on the origins of the holidays, some of which have become an integral part of the way of life over time. "In Zoroastrianism, in Ahuramazda, goodness is a symbol of goodness, justice, mercy, and truthfulness. After all, his enemy is the epitome of all corruption and evil. In Zoroastrianism, material phenomena and spiritual factors in the world are associated with good or evil. In other words, the imagery, myths, legends, philosophical insights, and moral norms associated with this religion are intertwined with the material and spiritual way of life of our distant ancestors" [2].

Lifestyle is a concept that represents the daily life, history and future of an individual, social group, people, nation, people, and is formed in the process of historical development and covers all aspects of human behavior and activities. In this sense, the individual and society reflect the worldview and value system. For example, in times when the religious worldview was predominant in the life of the society, religious concepts and norms prevailed in the minds of the people. Religion has played a major role in the development and transformation of human relationships. Rituals and traditions, religious customs, and rituals have had a profound effect on the origins of the holidays, some of which have become an integral part of the way of life over time. "In Zoroastrianism, in Ahuramazda, goodness is a symbol of goodness, justice, mercy, and truthfulness. After all, his enemy is the epitome of all corruption and evil. In Zoroastrianism, material phenomena and spiritual factors in the world are associated with good or evil. In other words, the imagery, myths, legends, philosophical insights, and moral norms associated with this religion are intertwined with the material and spiritual way of life of our distant ancestors" [2].

The most important social aspect of lifestyle is how the social work of the members of the society, relationships, family, activity in daily life, physical and spiritual potential of people are reflected in the natural and social environment.

It also plays an important role in educating members of society, especially young people, to adhere to the ideas of national patriotism, humanity, as well as national and universal values through the formation of a healthy lifestyle in the family. A healthy family lifestyle also plays a role in raising the culture of our young people today, which has a long history. With this in mind, our government is focusing on creating adequate conditions for the formation and improvement of a healthy lifestyle in families. Because people's lives reflect the economic, political, social, spiritual and cultural aspects of the development of society, and this determines a healthy family environment.

Lifestyle changes also affect living standards. "Lifestyle is much broader than the so-called economic category of living standards" [3]. Traditions based on a clear historical development

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

process are repeated over time. They, in turn, create the behaviors, habits, and lifestyles that are needed. The nature, content, and manifestations of lifestyle are often shaped by people's lives, work, health, and even behavior. Human society is very complex, colorful and full of contradictions. It is home to billions of people, thousands of people who speak thousands of languages. Some of them have reached the highest peaks of modern development. Some live in extreme poverty and do not have access to education, medicine, the arts, science, and culture. Accordingly, the peoples of the world do not have the same way of life and standard of living, and one does not duplicate the other. You can see the similarities, the differences, the differences. The lifestyles and cultures of the peoples of Central Asia are close and sometimes identical. While common space, language, and religion are historically interrelated, natural climates also have an impact on lifestyle. For example, there are many differences between mountain peoples and desert peoples, from the ethnography of the nomadic peoples to their way of life. These differences are due to the above factors and their effects. There are also many differences in social psychology.

Today, technics and technology have become an integral part of our lives. It is impossible to stay away from the development of science and technology, technical achievements are being used effectively in all areas of industrial production, from everyday life. The education system is also faced with the problem of training personnel who can benefit from the achievements of science and technology. This is one of the primary and basic students of modern development. However, there are questions about what national identity, education and upbringing should be, what morals should be, and what are the reasons for the proliferation of alien elements in our lives. This is a serious and controversial issue. Of course, the enormous potential of science and technology cannot be denied, which makes it easier for us. It is important to remember that a normal society cannot be created by itself. This is an urgent issue that requires serious reforms and a combination of education and upbringing. In particular, the changes in the spiritual image of young people, the processes of moral degradation and deformation clearly show the subtleties of the issue. At the same time, there is a completely different category of young people around the world. It's not that it's good or bad, it's just that it's special.

The issue of youth is one of the main trends of today. Modern development has led to changes in the lifestyles of young people, which have a contradictory impact on their worldview and education. As a result, young people are changing their goals and aspirations for the future. When you look at the changes in the behavior of some young people, you can see that they are developing some aspects of apathy. These include a lack of concern for one's own future, a general indifference to what is happening in society, and a general lack of involvement. There are many cases of fear of difficulties and failure to take responsibility. A responsible person is not afraid to take on responsibilities, overcomes difficulties and problems. He strives to perform his duties honestly and conscientiously. Feels responsible and accountable. Defending the homeland is not only a duty but also a responsibility. Or being a parent is a huge responsibility. The formation of a free individual, the building of a free society does not happen by itself. Many factors influence this, including socio-political, ideological, economic and educational processes. There is no freedom without responsibility. "In modern society, the life experiences of young people have changed dramatically. Such changes also affect relationships with family and friends, education, and lifestyle".

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Socio-economic and political changes in society in the early XX-XXI centuries have led to systemic changes in all spheres of social life, including lifestyle, and highlighted the problem of healthy lifestyles of the population, especially youth. Lifestyle is a qualitative characteristic of certain types of human life, formed under the influence of material and spiritual life of society, an indicator of the level of their socialization.

Lifestyle is inextricably linked with the spiritual world of people. Existing social, political, and economic conditions and factors also have a significant impact on people's lifestyles. In everyday life, their moral and aesthetic views, behavior, attitudes, perceptions of life are absorbed into their inner world, beliefs and become a way of life, a way of thinking. National values are based on traditions, customs, holidays and celebrations. Uzbek national values are based on humanitarian ideas. Throughout the long history of Uzbek relations, mutual cooperation and empathy, loyalty and mutual respect, mutual trust and good neighborliness, childhood and respect for parents, kindness and loyalty in everyday life. is respected in all respects. National values are a great indicator of the contribution of humanity, human qualities, attributes and qualities to the treasury of national and cultural heritage, created by everyone belonging to that nation.

Indeed, today only a truly enlightened person can realize human dignity, national values, in a word, identity, live in a free and free society, to take a worthy place in the human community of our independent state. Therefore, in the process of education, it is important to form the individual in all respects, to realize his abilities and to equip him with the knowledge, skills and abilities necessary for social life. "Young and talented people are needed to develop scientific and innovative activities in our country. With this in mind, we rely on your rich knowledge and experience".

The years of independence have paved the way for the development of science and education. New state standards for education have been developed. New textbooks and curricula have been created. They include the study of the cultural and scientific heritage of the Uzbek people, the history of statehood, nature, the works and lives of great figures and scholars, writers and artists, as well as world science and culture. As a result, there is an opportunity to fully combine nationalism and humanity in the education system, in the development of our spirituality in general. As a result, a new system of educational institutions has been formed, and criteria have been created to define their main goals and objectives. The main purpose of the reforms in education is to bring up a spiritually mature person with intellectual potential. Today, modern educational institutions are required not only to thoroughly teach the sciences, but also to cultivate a highly spiritual person, to create a healthy spiritual environment that ensures spiritual maturity. Educational institutions have a direct impact on the development of society from one qualitative stage to another, and at the same time determine its level.

National values, of course, are directly related to the development or crisis of a nation. In other words, national values are related to the nation's past and present. Therefore, national values develop with the development of the nation, are devalued by the crisis. That is why a nation must create its own values, polish their new facets and aspects, and improve them in the process of development. Unfortunately, looking at national values as a sign of antiquity, expelling them from our lives, some of them have been completely forgotten. It is not a rigid concept that one value is replaced by another. But the values formed in connection with the nation, with its direct mentality formed by its historical way of life, cannot be completely abandoned.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Lifestyle characteristics are shaped and changed by the habitats and conditions of their peoples. The Uzbek people pay special attention to such moral qualities as humility, respect for elders, diligence, tolerance and honesty. Such qualities of the Uzbek people are reflected in national customs and traditions, daily life and interethnic relations. The importance of rituals, traditions and customs based on moral values in the life of our people is incomparable. The Uzbek people have always lived as a community and adhered to the tradition of neighborhood and neighborhood.

Each period aims to bring up a person who is relevant to his time, and thus defines the model of social development. This is one of the main reasons for the formation of a free and independent person from the first days of independence. Achieving these goals will require a multifaceted effort. As long as the criteria and norms of lifestyle are not fully met in the life of man and society, one-sided situations arise.

CONCLUSION

It is difficult to make changes in society and improve people's living standards without solving lifestyle problems. The study should focus on the impact of modern development on lifestyles and their consequences, and the development of mechanisms to minimize its impact.

Achieving the noble goals of the people of Uzbekistan, the future of our country, its well-being and prosperity, its place in the world community in the XXI century, all this depends on the education and upbringing of the new generation. Speaking about the education system, the President said that unprecedented attention is being paid to the radical reform of the national education system on the basis of the idea that "the new Uzbekistan will start from the threshold of school." - A lot of work is being done to develop science, culture and art, literature, sports, increase the effectiveness of spiritual and educational work, the realization of talents and abilities of young people, especially our girls" [3].

Reform in society does not happen by itself. This requires a lot of complex work. This process cannot be done without lifestyle changes. This is because positive changes in lifestyle shape people's sense of belonging, defining practical tasks such as a deeper understanding of goals and objectives and aspirations for the future.

REFERENCES

- 1. Uard A, Krossli N. Yoshlar va ijimoiy oʻzgarishlar. New York, 2007. p.13
- 2. Encyclopedic Dictionary of Philosophy. National Encyclopedia of Uzbekistan. 2010 262 p.
- **3.** Nurmatova M. Shaxs kamoloyida axloqiy va estetik qadriyatlar uygʻunligi. T.:"Universitet" 2009l. p.49.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

GENESIS AND EVOLUTION OF THE CITY OF BUKHARA

Ruziev Khoshim Ruzievich*; Khaitov Sunnatjon Istamovich**; Togboev Khushnud Iskandarovich***

*Associate Professor,
Candidate of Technical Sciences, Department of Architecture,
Bukhara Institute of Engineering and Technology (BIET),
Tashkent, UZBEKISTAN
Email id: ruziev k@list.ru

**Master's Degree Student, Bukhara Institute of Engineering and Technology (BIET), Bukhara, UZBEKISTAN

***Master's Degree Student, Bukhara Institute of Engineering and Technology (BIET), Bukhara, UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02750.6

ABSTRACT

The article presents the results of theoretical research - evolutionary development, preservation, reconstruction and modernization of historical cities of the world to determine the genetic basis of cities, restoration of medieval territories, harmonization of historical and modern buildings.

KEYWORDS: Genesis, Evolution, Madrasah, Reconstruction, Modernization, Caravanserai, Urban Planning, Landscaping.

INTRODUCTION

Today, in the reconstruction and modernization of the cities of the world, it is extremely important to preserve the structure of historical sites and the effective use of architectural monuments and artistic value.

Scientific research on the emergence, evolutionary development, conservation, reconstruction and modernization of historical cities of the world is implemented to determine the genetic basis of cities, restore medieval territories, harmonize historical and modern buildings, protect monuments, create tourist routes, engineering networks, improve road infrastructure, and so on. [1]

Such studies include the sustainability of ancient cities, the formation and development of the first cities, new scientific approaches to the history of urban planning, clarification of the planning structure of cities and their influence on the development of modern urban culture, increasing the tourist potential of cities, historical territories, the effective use of architectural monuments remains one of the most relevant tasks.

The cities were entered through gates. For example, in the XI-XII centuries, as most of the cities of Bukhara expanded territorially, it had 11 entrance gates.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The first political and cultural renaissance in Central Asia in the 9th-10th centuries was achieved by the city of Bukhara. In general, one of the characteristic features of the cities of this period is the presence of dense buildings within the boundaries of four private or radial plans of cities. [2]

In the first half of the 16th century, prolonged wars for power and political depression in Movarounnahr had a great impact on the country's economy. Only in the second half of the 16th century independent states - the Bukhara and Khiva khanates - were formed and began to be restored in Movarounnahr. [3]

Under the khanate, cities developed and mosques, madrasahs, khanakas, baths, caravanserais, hospitals and other buildings were built.In 1557-1598, Abdullakhan II strengthened the Sheibanid dynasty's reign in Bukhara.Thus, Bukhara experienced a rise after the Samanids (IXX centuries) and Karakhanids (X-XI centuries).In the urban planning of this period, the ideas of complexity came to the fore.

From the end of the 16th century until the first half of the 19th century, there was a city wall about 10 km from Bukhara, built of raw brick and cotton. The gates were made of burnt bricks.

As part of the project to restore some sections of the medieval defensive wall of Bukhara and the old gates of the city, Sheikh Jalal, Samarkand, Khazrati Imam and Namozgokh gates were restored, the rest are being restored at current time. [4]

Many cities of the country have a long history. Many of these cities are still alive and new modern buildings are being built. This process has become more widespread, especially in the years of independence. There are ancient buildings and structures of various historical and artistic value in such areas as well. In modern conditions, some of them will be preserved, and those that are of no value will be demolished and replaced with new buildings. In the process of changing the architectural appearance of historical places, there is a need to renew historical streets and squares. Because they do not meet the parameters of modern requirements.

In the form of reconstructed territories, the originality of the development of the historical centers of cities should be preserved. When reconstructing the historical center of the city, it is advisable to consider, first of all, industrial premises as the main building being reconstructed. Then it will be possible to expand the construction of recreation and transport areas in historical areas instead of industrial facilities. This will certainly improve the ecological environment of this region and expand opportunities for tourism. [5]

Decree of the Cabinet of Ministers of the Republic of Uzbekistan dated October 4, 2019 No. 846 "On approval of the National Register of Immovable Property of Material Cultural Heritage"stated that the Bukhara region was included in the national list of 829 objects of material cultural heritage with 287 archeological monuments, 31 madrasahs, 105 mosques, 14 mausoleums, 133 architectural ensembles (with a composition), 15 caravanserais, 4 tims and mountains, 18 sights, 122 old houses, 83 monument of architecture, 17 monuments.

The city of Bukhara is rich in many historical and architectural monuments. There are 292 cultural heritage sites in the city, of which 70 are national and 222 are local cultural heritage. 118 historical monuments of the city are included in the UNESCO World Heritage List of the United Nations Educational, Scientific and Cultural Organization and are under state protection.

The Bukhara region was formed on January 15, 1938. Population is considered to be 1939.6 thousand people (as of October 1, 2020).68% of the population lives in rural areas and 32% in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

A peer reviewed journal

cities. The area is 39.4 thousand km2. Moreover, the region is divided into 11 districts. The center of the region is the city of Bukhara. [6]

The population of Bukhara city is 280,187 (as of 2020). The population density is 7184.28 people/km2. By 2025, its number is expected to reach 310,000. The land area of the city will be increased one and a half times, that is, up to 10,216 hectares.

Reconstruction and improvement of the historical territories of the city should be addressed as a systemic task, including:development of long-termplans for historical cities for the effective and systematic implementation of architectural and construction projects, identification, evaluation and determination of ways for the effective use of cultural heritage sites, the use of traditional methods and forms in the placement of modern objects in historical territories. [7]

Based on the study, scientific analysis and generalization of foreign experience in this area, to highlight the history and prospects for the use of architecture in the architecture of Bukhara, it became necessary to develop an architectural style that is associated with the desire of people to live in harmony with nature. [8]

Practice shows that the reconstruction of the architectural and artistic environment of the city center should be carried out comprehensively. In this case, the center should be considered as a historical heritage, and it is desirable to preserve it as much as possible. One of the main tasks in reconstruction projects is to take into account the engineering sphere. In modern reconstruction, it is important to preserve the architectural heritage and take care of its protected areas. In connection with the dense development of urban centers, the main attention should be paid to solving the problem of their ecological state.

CONCLUSIONS

- 1. The structure of the cities of the Timurid period was determined by defensive walls, gates, squares, complexes, quarters, streets, neighborhoods, houses, administrative and residential buildings, irrigation systems, parks and streets. According to the structural arrangement of the city, it consisted of 3 parts: arches, fortresses and rabad.
- 2. Today, we face great challenges to preserve and restore the environment of historic cities.Registan, located in Bukhara between the Ark and Bolokhovuz, is currently not marked in the architectural and urban plan.Reconstruction of the squares of the Registan of historical cities, to one degree or another, is one of the topical issues.

SOURCES AND REFERENCES

- 1. Shishkin VA. Architectural monuments of Bukhara. Tashkent, 1936. P.61, 75.
- **2.** Rempel LI. Far and near. Bukhara records Pages of life, everyday life, construction, crafts and art of Old Bukhara. T.: Ed. Lit. and Arts, 1981. 304 p.
- 3. Lavrov VA. Urban planning culture of Central Asia. M., 1950.
- **4.** Akhmedov MK. Ensemble building: traditions and continuity. Architecture of Uzbekistan (Almanac) Toshkent.: "Gafur Gulom". 1985.
- **5.** Sukhareva OA. Bukhara of the late XIX early XX centuries. Science Publishing House (Late feudal city and its population) The main edition of oriental literature. Moscow 1966.
- **6.** Maslov NV. Urban planning ecology. Higher school. 2003

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **7.** Nielsen VA. At the origins of modern urban planning in Uzbekistan in the 19th and early 20th centuries. Tashkent, 1988.
- **8.** Rimsha AN. Urban planning in a hot climate. Textbook for high schools. Moscow: Stroyizdat, 1979. 312 p.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CHALLENGES OF LINGUO-PRAGMATIC ASPECT OF GENDER DISCOURSE IN LITERARY TEXT

Raximova Gulchexra Obidjonovna*

*English Teacher, Uzbekistan State World Languages University, Tashkent city, UZBEKISTAN Email id: flyresearch5501@list.ru

DOI: 10.5958/2249-7137.2021.02751.8

ABSTRACT

This article is based on basic issues and peculiarities of linguo-pragmatic aspect of discourse related to gender in the fiction. Female fiction discourse includes peculiar specificity of outlook and gender in linguistic features, presenting female linguistic personality. The main directions to expose the linguistic awareness of the female linguistic personality in the literary text in terms of cognitive linguistics are given in the article. One of the ways to show the cognitive level of female linguistic personality in the literary text is considered in the concept "man", containing the object, image, bearing, notional and valuation, estimative constituents. The results of the article can be utilized to create gender tendencies in modern society and they can supply the material to predict treatment, approach, attitude, manner, status and behavior of women. The analysis of female literature, conducted in this investigation, is used against the sociological research of gender and orientations on family, love, marriage in the women society.

KEYWORDS: Awareness, A Gender, A Female Discourse, Linguistic Aspects, A Concept "Man", Behavior, Reproductive Behavior, Stereotype.

I. INTRODUCTION

The main wave of interest to philosophical analysis of language and text problems contained gender investigations, a young discipline, rather popular in Western and American, but still inhancing momentum in Russian humanitaristics (Avery & Liss, 1996 [2]). Under the last one, a specific sphere, studying the problem of language and gender interrelationship of linguistics, was made, it is being improved in close relation with feminist criticism of language. In 1980, the notion of text becomes "one of the conceptual ideas of the feminist criticism of language even for those authors, for which the subject of language or literature does not represent the essential subject of investigation". Female literature shows a complex cultural phenomenon, combining the woman-author and the woman-reader, and representing the particular feature of female linguistic worldview. "Female" literary text recreates a specific cast of the epoch, represents a mode of personality of the new epoch, born in keeping with gender canons and daily stereotypes. In female prose, we see the expression of origin of stereotypes in sexual, marriage and reproductive behavior of woman. Thus, we observe the reflection of stable matrimonial stereotypes of society in female prose: 1) Only official marriage; 2) Impermissibility of divorce; 3) Impermissibility of infidelity (divorce and infidelity were considered as sins); 4) Obligatory

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

marriage (early and total marriage, the share of final celibacy is nearly 5 %); 5) Widowhood is the visitation; 6) The desirability for remarriage (but not the third-fourth). [3]

Earlier, the woman, being the treasurer of purity of generation and family, had the strictly regulated sexual behavior. In this connection, the sexual female behavior was characterized by the following allowable features:

- 1) Moral-religious sexuality;
- 2) Veneration of chastity, moderateness, blush and virginity;
- 3) Condemnation of unproductive sexual relationship.

Reproductive female behavior was respected in all layers of society. However, on the one hand, children present the undeniable value of family and society (what was conditioned by the economic reasons), button the other hand, children demanded basic expenditures especially in the prime of life. Alongside with that, regulation of birth rate and interruption of pregnancy were prohibited. There are interelation points between the processes of female emancipation and development processes of the phenomenon of female prose. Women-writers open a new woman's world in their works, as viewed by women, and suggest the society not only new themes, but also new behavior samples, assert women's rights for independent choice, individual fate. A phenomenon of female emancipation resulted in the change of stereotypes of female behaviorin the society; it was also reflected in the female prose. Thus, modern female matrimonial behavior admits the following: 1) Civil marriage (and other forms of marriage: guest marriage, marriage of convenience, hetaerism, fictitious, temporary, virtual marriage etc.); 2) Admissibility of divorce; 3) Admissibility of infidelity and free relations; 4) Admissibility of celibacy and orientation at the career; 5) Sympathetic relation to widowhood.

The struggle of new and old stereotypes resulted in escalation of the main female theme expectation of prince. According to the famous writer V. Tokareva, the main theme of the woman's creative work is the grief for theideal. "A man in his creative work is oriented at the God. The woman is oriented at the man. However, the objectof love does not relate to the ideal. Then, the woman suffers and writes about it. The main theme of woman's creative work is the grief for the ideal". Thus, when studying gender methodology of the text analysis, it shall be noted, that it was the first, where thethemes of gender and language interconnection began to be problematized, as well as the specificity of man and woman communication, discourse, woman's authorship and writing at philosophical level. At that, this methodology focused attention on exposure and elimination of various orientations of patriarchal culture: male (writing, language, discourse, text) is a standard, female is a deviation; male is positive, female is negative; man dominates in language, woman is hidden. At that, the alternative orientations were suggested: speaking (discourse, writing) on behalf of the woman both in the dialogue and in the culture; reconsideration of history in her female version (her-story); rearrangement of axiological accents, removal of "negative image", when evaluating the female text; the formation of specifically female view, special way for female reading and writing, the creation of female text, free from male domination. Undoubtedly, human consciousness has a great role in development and support of gender system. As a rule, modeling of gender identity begins in childhood, where the whole "traditional culture of childhood acts as a guidance mechanism of one or another form of social identity", and "the feminist movement has already effected a lot on text representations of women, men, boys and girls". Later, the individual gender consciousness is being constructed

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

by means of distribution and support of social and cultural stereotypes, standards and regulations; if people break them, they are punished by the society(for instance, the labels "a virago" or "a man, who behaves like a woman" are experienced by people rather painfully, and they can cause not only stresses, but different types of mental disorders). [6]

II. MATERIALS AND METHODS

The literary texts of women prose writers of the modern literature of the XX-XXI centuries showed and described the empiric material, as well as theoretic data, accumulated in different spheres of modern linguistics:in text linguistics, linguo-poetics, cognitive linguistics, stylistics, literary text. The basic works of V.Tokareva, L. Ulitskaya, O. Robsky, M. Krasheninnikova, N. Sukhanova, L. Petrushevskaya were analyzed, which brightlypresents modern women social and linguistic consciousness. From the works of V. Tokareva, we took the following: "Instead of me" (1995), "The Conservation Law" (2007), "As soon as the Mist has fallen..." (2007), "Horses with Wings" (2004), "To Say or not to Say" (1991), "Do not Create" (2011), "Anton, Put on the Shoes" (2001), "The Greek was Riding" (2007), "Apologize. They will not Shoot" (2007), "One Block of Hope" (2011), "A Long Day" (2000), "Zigzag" (2008), "The Dog was Walking along the Piano" (1995). The creative work of Ludmila Ulitskaya is presented by such works, as "The Queen of Spades" (2001), "Medea and her Children" (2012), "Zu-urich" (2005), "The Women of Russian Villages" (2008).

In her novel "Medea and her Children", L. Ulitskaya illustrates the new female formation of myths. We can see family behavior of single woman inside huge generation, her motivation for celibacy, her attitude towards children and the attitude of surrounding people (relatives or unfamiliar) towards the main character Medea Mendes. Depicting the family interrelations, starting from the 10th century and finishing with 1995, L. Ulitskayademonstrates the evolution of woman's behavior in love and marriage. We see those metamorphoses, happening withthe lead character, were inevitable. The author postulates, that the family is the essential value. Special interpretation of family problematics, presented by L. Ulitskaya, conditioned high concentration of dialogues, where the interpersonal and intergenerational relations are revealed, as well as the monologues, reflecting the characters 'inner world. Besides, the novel author principally draws attention to the fact, that at the pleasure of Fate, numerous relatives of Medea turned out to be scattered all over the world (Georgia, Israel, Lithuania, Siberia, Italy, Central Asia, Haiti, the USA), that is why "the other", "foreign" traits penetrate into the life itself and into the characters of relatives (other national influences, other traditions, customs etc.), but the family, married origin overrules: they all tend to bring their children to Crimea, to the motherland of their ancestors. Here L.Ulitskaya shows, how the "modeling of linguistic personality takes place in conditions of globalization and migration". The author utilizes the dualism of female and male in the story "Zu-urich". Themain male part in this piece is the role of foreign prince, some hero-saver, which is connected with theimplementation of secrete female dream, with the illusion of wonderful transformation of "the last" into "thefirst". Matrimonial ambitions of the lead character are underlined by the sphere of material-physical andeveryday existence of the leading character Lidiya or Lidka the Goose. At the same time, the male world is mainly perceived in fairytale-mythological plane. The breakthrough from the vicious circle of the monotonous everyday life of Lidka the Goose the foreign marriage of the heroine becomes possible thanks to the unexpected-fairytale appearance of the man-hero in the everyday life. It is important to say, that the author managed to notice the main traits of matrimonial behavior of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

contemporary Russian women, able to marry any foreigner, even if he is a migrant worker. The investigator of glamorous life O. Robskyis presented by her novel "CASUAL/The Everyday" (2005). This ironical story-telling differs from the female narration of other writers by the importance of narration, presentation and the heroes themselves. L. Petrushevskaya in her pieces "The Possibility of Mennipean. Three Voyages" (2000), "Where I was" (2002) is aligned with T. E. A. Gofman, whose worlds of reality and irreality were interpenetrated in such a way, that the readers were frequently enmeshed in his worlds.

Methodological novelty of the text analysis has become the fact, that, firstly, the sphere of investigation was expanded (the possibilities to study female texts, female writing and authorship appeared), and secondly, absolutely new methods and ways of investigation appeared (including the phenomena of female reading, the specificity of female perception). The development process of gender methodology of text analysis was closely related with the same processes in modern philosophical movements. On the one hand, feminist critics used structural and postmodern results in their methodology, on the other hand, the representatives of post structural and postmodern philosophy (Derrida, Kristeva, Lakan and others) were in many ways based on the concepts of feminism and gender investigations. For instance, J. Derrida, denying the old text approach: "to use them "inorder to get profit", appealed for working with texts under the dialogue principle, the search for something, thatwas not articulated in the text; he admitted "the existence of the variety of cultural interpretations" (Derrida, 2012 [8]). Female literature unites the literary texts, created by women mainly for women. At that, it is necessary to note, that "the author's and reader-investigator's gender, in other words, gender system of the society influences much on creation and interpretation of literary pieces".

Gender relations express a vital aspect of social organization. They basically present its system characteristics and formation of relations between speakers. The major theoretical-methodological provisions of the gender notion are based on four interrelated components: they are the cultural symbols; normative statements, specifying the directions for possible interpretations of these symbols, being expressed in religious, scientific, law and political doctrines; social institutes and organizations; self-identification of the personality (Bianchi, 2008 [4]). Gender relations are fixed in language as culturally specified stereotypes, imprinting on behavior, containing speech one, personality and linguistic socialization (Cameron, 2007, 2012 [5,6]).

In the course of investigation, the methods, traditional for gender studies, were used Amethod of linguistic observation and description of certain linguistic facts, in order to get the concluding information, accomplished by ways of interpretational methodology, partial usage of the component and contextual analysis. The methods of linguistic pragmatics, involving the analysis of speech modality; rhetorical analysis, presupposing the revelation of the rhetorical devices and speech figurativeness, most typical of the female discourse. [10]

III. RESULTS

In spite of the fact, that the modern woman in the studied texts is showed as self-sufficient, individual personality, she is in constant need to feel herself weak, to be beloved, what is related only with the man, what is predetermined by nature. A concept "MAN" in the discourse of modern female text is depersonalized by various devices, included to its basic part: man, husband, boyfriend, friend. The means of objectivities of the nearest periphery of this notion are the following synonyms: the husband, the partner, the stronger sex, the host, the man etc.; the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

words with the same root: male, masculine. For example: "He was young aged eighteen, not more, and tall, one hundred and ninety centimeters, not less. And each millimeter was well thought out by nature. Obviously, the nature executed the strict natural selection for more than one hundred years, prior to create such individual." (Tokareva. The Conservation Law). The far periphery includes the following linguistic modes of text associates: unscrupulous lover, champion ofegoism, the object of great love, a prize in life, the builder of the best life, a luxurious animal, a fragile genius, atransit lover, guest actor etc. For instance: 1) "Finally, the door opened and a real man came in, the builder of the best life" (Tokareva. As soon as the Mist has fallen...); 2) "She had a rarely successful love, for the sake ofwhich she left her first indistinct husband, and she suffered from the object of her great love, gave birth to Grishka from him and was running to her scrupulous lover for the thirteenth year, had rare meetings and postponed over the years the moment of real, not one-sided acquaintance of son with the secret father" (Ulitskaya. The Queen of Spades).

The main markers, describing the man image, are the lexemes, presenting the appearance and character of the man, as viewed by women (personage and author). To represent the man image, the women-authors use the whole spectrum of figurative-vivid means of the language. The description of appearance is implemented in the following lexical units: "patterned man", beautiful, mysterious, disappointed as Lermontov,a beautiful beast, well-knit, beautiful, with muscles, as the Bronze Horseman, ungainly, a handsome, young man, elegant. Let us consider the examples:1) "When he moved from place to place, it came to mind, that this man is a beautiful beast" (V. Tokareva. Horses with Wings); 2) "He was so beautiful, with muscles, as the Bronze Horseman. It was so pleasant to fall asleep and to wake up under his hard, as slab, hand" (Tokareva. To Say or not to Say).

A combination beautiful beast conveys the male beauty in women's presentation: beautiful, strong, subtle. A man with muscles presents the protection and support for a woman. The following sample exposes the woman's feature to create the man's ideal (seemed to be), where the traits of the favorite hero are combined: "Inaccessibility makes not only woman, but also man beautiful. Trofimov seemed to be beautiful, enigmatic, disappointed, as Lermontov" (Tokareva. Do not create). A combination of external beauty and confidence in aman attracts almost all women, even if the man lacks inner brightness, for instance: "Properly, there was no anychoice, and he was very attractive, well-knit and free in behavior. Although he lacked inner brightness, which was so valuable for Nika, but, frankly speaking, neither calling signals came from him" (Ulitskaya. Medea and her Children). When describing the appearance, the developing function of ontological utterances is implemented. Separate traits, details are presented as if in close-up view, the narration becomes personally-colored. For instance: "The mouth, well-shaped by the chin, was the determining part of his face. As well as the smile, well grounded by his essence. The smile up to the end. The teeth were clean, pure-blooded, wolfish. A good smile. It was unclear with the eyes. Under the glasses. Lena could not catch their expression. Any continuous arrhythmia. The eyes of the crazy person. The good post of the neck.

The usage of diminutives in female literary discourse illustrates the woman's relation towards man and implement to the speech the additional emotional-expressive shades of caress, sympathy, disregard, irony etc. For instance: "He turned out to be not so young, although rather apple-cheeked, a little overweight, he was forty-eight at that times! However, the face was very

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

smooth, absolutely without wrinkles, the tan was even. Only the top of the head was bald" (Ulitskaya. Zuurich).

The appearance, character, the sphere of heroes' activity is repeatedly represented by means of collection, creating the impact of bright expression. "He was thirty-seven, divorced, beautiful, no bad habits, which would catch the eyes: non-user, not the freak, the homosexual or the pedophile; presented the flowers; was not the impotent; asked about the mother's health..." (Robsky. CASUAL, The Everyday).

The man's character is described by means of the lexemes, revealing the main traits of the man's inner world, as viewed by the woman: the champion of egoism, positive man, scrupulous and independent, sly, witty, childish relaxedness, smart, reliable, tenderness towards children and independence, inaccessible. Let us present the peculiarities of the man's inner world, as expressed by the women-authors: "He left Lesha with the mixed feeling. This man attracted her with his dream, tenderness to children and independence". (Krasheninnikova.).

The man's character is introduced in the discourse of female prose as complex, combining the opposites (talented, ungifted, egoism, creative individuality), for instance: 1) "His character, as per the dialectics law, combined the opposites: he loved his wife and other beautiful women, he was talented in communication with people and ungifted, when alone with himself, i.e. in his creative work" (Tokareva. The Conservation Law); 2) "You give nothing. You are the champion of egoism and here is your creative individuality. You prefer to live in comfort.

- —What do you mean to live in comfort?
- —Comfortable job: both occupied and free. Comfortable son: he is both exists and not. Comfortable woman: youcan come and leave..." (Tokareva. The Greek was Riding).

In the discourse of modern female prose, the gender role of the man is revealed by means of lexical units, which reflect the number of samples of social behavior or the standards of behavior of the man in the current social position in the texts of modern women-writers: a man-husband, a man-lover, a man-child: 1) "You even do not understand, how we loved each other. Loved being sober and drunk. Especially drunk. He was a great lover" (Ulitskaya. The Women of Russian Villages); 2) "The wife impeded everywhere; she treated the husband as a schoolboy, who does not learn lessons" (Petrushevskaya. A Possibility of Mennipean. Three Voyages).

Lexical-grammatical group "Gender role" involves the lexemes, revealing the man's essence: a wedded husband, the stronger sex, a real man, a builder of the best life, a great lover, the protector, the individual, a master of life, a small child, a son, a husband to grow into, the object of great love, unscrupulous easy-rider, scrupulous loveretc. For instance: "They had no children, but Vakhtang successfully replaced a son. He needed the food cooked, the clothes washed, he had to be consoled and he received the pocket money. However, he was not the son" (Tokareva. To Say or not to Say...).

This example demonstrates the attitude of woman towards the beloved man, as towards the son (but Vakhtangsuccessfully replaced a son). One of the man's roles is the role of child, whom the whole mother's love is aimedat. To characterize a man, the lexemes with positive and negative components are distinguished. Lexico-grammatical group "Ideal" unites the lexemes, expressing positive evaluative component: divorced, beautiful, no harm habits, sober husband, staying at home and reading Dickens, a reward in life, a gift, a life, happiness, love, a heroic deed of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

changes, the creative flight, full independence, the dream, her dare husband, anugget, exclusive, fragile genius, extraordinary, beautiful and impudent, he is a man to fingertips, shocking, and it is not important, drunk, sober, excellent lover, talented, tender, a wonderful person.

The ideal man in female literary texts, firstly, sober stays with family. For instance: "Her friends did notdare to dream about such happiness, as a sober husband, staying at home and reading Dickens" (Tokareva. ALong Day). The relation of woman to contradictive advantages of the man can be presented by the following examples: 1) "Nevertheless, men and women are completely various biological individuals. Elisev loved women. Womenunderstood him. He could lie drunk, in snots, and they said, that he was elegant, extraordinary, fragile genius"

(Tokareva. Anton, put on the Shoes!); 2) "Butonov was an excellent lover, it was measured by centimeters, minutes, hours, the quantity of hormones in blood. He had good appearance and that all! Your Alik is a perfectperson, smart, talented. Butonov cannot hold a candle on him, but Alik is just unworthy of you.

—Shut up! cried Masha. Shut up! Take your Butonov with all his centimeters!" (Ulitskaya. Medea and herChildren).

All above given samples show, that the woman's choice of the man, as the love object, is not always clear and not always answer to logics. He could lie drunk in snots, and they said, that he was elegant, extraordinary, fragile genius. In ideal women's presentation, the man shall be beautiful (luxurious beast), talented (creative fly), gifted (fragilegenius), excellent lover (measured in centimeters), shall be sober family man (sober husband, staying at home). The lexico-grammatical group "Anti-ideal" in the discourse of modern female prose is presented by the lexemeswith negative evaluative component: indistinct husband, complete turkey-cock, unhappy swaggerer, devil, careerist and egoist, sniveller, cissy, duster, cowardly and hesitating, cad, barnstormer, backward stub, transit lover, ungifted, ungainly. For instance: 1) "You like to strike, said the wife. You are the miserable swaggerer" (Tokareva. Zigzag); 2) "...I know you. You are cowardly and hesitating" (Tokareva. The Dog was walking along the Piano).

In the discourse of modern female prose, the man's image is presented by means of different lexical impressive means, for instance, intensifying adjectives and adverbs, comparisons, metaphors, metonymy, periphrases, irony, the words with bright expressive coloring. At first sight, a man in the meaning of women-authors is revealed in unattractive way: egoist, unscrupulous lover, sniveller, coward and drunkard: "She had different magnificent relations: brave test-pilot and well-known Jewish academician, witty and unscrupulous lover and young actor, a tributary of early glory and earlier alcoholism" (Ulitskaya. Medea and her Children).

In modern female fiction, we see a persistent "search for the ideal", which reflects new tendencies in family-marriage relations of postindustrial society. Now all these changes are based on such phenomena, as the growing personal liberty, developing momentum individualism, strengthening principle "The family for a person", actualization of the human right for the intimacy, irrespective of the society. If the family arises, then the equal relations are put at the head, then the stability of marriage is determined by the quality level of mutual relations between partners.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

IV. DISCUSSION

Thus, the representatives of female prose remark the growth of psychologization and intimization in modern family, resulting in the growth of love matches and leaving the marriage of convenience. The sociologists mention, and it is proved by modern women-writers, such situation makes the family instable due to the fact, that the partners make the psychological motives of top priority, as the demands of both men and women to the emotional sphere of marriage have increased. In modern cognitive linguistics, the text is considered as a way of fixation of individual consciousness of its author (Ewans, 2014 [9]). Each text is based not only on the judgment about the reality, but also on the certain communicative purposeful orientation, defined by the situation of communication and tasks, set by the author. A concept, as a key word, plays a determining the importance in creative process of text writing: it effects on the selection of speech figures, and also bears key ideas of personal outlook, characterizes the individual style of creative linguistic personality. A notion is a combination of cognitive level in structure of female linguistic personality. A concept, verbalized in the discourse of female prose, represents the female linguistic personality and describes the specificity of language and style of the woman-author. In the texts of female prose, a concept "MAN" is marked based on frequency marker; it is semantically loaded, as it presents one of the basic concentration points of meaning and energy of ideas of the woman-author. For a woman, a man stays to be a personification of her heart's desires: love, happiness and life.

The search for the ideal man, the desire to the ideal life, the feeling of loneliness and guilt accompany the woman for the whole life: grief, happiness of previous years, fear of loneliness, misfortune, to search, to wait, the last wagon of hope. In the texts of female prose, the man is "what every woman needs": "Don't understand, don't understand, Emma shook her head. He is fabulous, and it is not important, if he is drunk or sober. He is the one that every woman needs. He is the man to the fingertips. He is just on hunkers. And he brought me to this terrible situation. He is not guilty. Just the circumstances..." (Ulitskaya. The Women in Russian Villages). The fear of loneliness and the drive for love exist in the life of each woman. For instance: "Although, how does he come into the picture? It is just the fear of loneliness and the drive for love. It was the matter. The fear and the drive" (Tokareva. Anton, Put on the Shoes!). The text of female prose is a dynamic verbal object, generated by the individual consciousness of the woman-author and fixing the specificity of the female linguistic world view. Itis characterized a functionally reflected sequence of speech actions, each of which implements the relation of the woman-author to the item values of the literary text. Alongside with that, it shall be confessed that there is a dichotomy, reflecting "old" orientations on woman's behavior in family, love, society (Al-Batini & Wells, 1987 [1]) and "new" realties, where the woman is the same equal and equipollent partner, as a man. Thus, the female literary text is a vivid and adequate mean to translate the conceptual worldview of the woman, who has an individual character, fixes and analyzes the notional, emotional, associative cultural content of worldview objects.

V. CONCLUSION

The linguistic consciousness of the woman, the author of the literary text, is unmatched and unique, that is reflected on the level of text, discursive model of its presentation. The woman herself finds the reason of her sufferings, inner feelings. She has another higher status in the society, than the man. "She has the experience, inaccessible to the man: pregnancy. The woman is put by nature on the edge of entwinement and periodical alternation of birth and death, and this

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

inner connection through the organism with the natural, elemental, determines the woman's consciousness in whole" (Dark, 1991 [7]). From this follows that the natural predetermination of the woman "cuts from culture and culture creation". For instance: "It is not for nothing, that in the Biblical legend, the woman chose the fruit of knowledge, who pays, that one chooses. Who chooses, the one cries. She is the one, who gives birth, and pays for upright posture and great brain. For being equal to Gods—pain in labor" (Sukhanova). A concept "man", being one of the basic categories in the investigation of individual-author linguistic worldview of the female prose, conveys the author's interpretation of common cultural notions. Lexical means of the "man" concept explication, revealed in the course of analysis of lexical organization of text fragments, representing this implementation of the dominant topic, can be presented in the view of several text lexical unifications, lexico-semantic groups: "Image", "Gender role", "Ideal", "Anti-ideal".

The investigation provides us with the presentation about the woman-writer's world view the result of interaction of woman's personality value system, outlook with her life values, goals, behavioral motives, orientations, presented, especially, in the produced texts. Alongside with that, the female prose defines the evolution of stereotypes in society relatively sexual, matrimonial and reproductive behavior of the woman in a vivid manner. Accentuation on basic concepts of modern woman's inner world speaks about those changes that took place in the woman's life from full subordination to the man to the appearance of proper imaginative nature in the society. The pieces of female fiction are studied "as a field of gender stereotypes functioning in which the notions of masculinity and femininity, accepted in the society, gender roles.

REFERENCES:

- **1.** Al-Batini, Suzi W. (1987). Traditions: The folklore of women and children in Kuwait. Kuwaitbookshops LTD. 1987. p.152.
- **2.** Avery JD, Liss JM. Acoustic characteristics of less-masculine-sounding male speech. Journal of the Acoustical Society of America, 1996;99(6):3738-3748.
- **3.** Baxter J, Al-A'ali H. Your situation is critical: The discursive enactment of leadership by businesswoman in Middle Eastern and Western European contexts. Gender and Language, 2014;8(1):91-116.
- **4.** Bianchi C. Indexicals, speech acts and pornography. Analysis, 2008;68(4):310-316.
- **5.** Cameron D. The myth of Mars and Venus: Do men and women really speak different languages? Oxford University Press. 2007. p. 208
- 6. Cameron D. On language and sexual politics. Routlrdge. 2012. p208.
- 7. Dark O. Female antinomies. The Friendship of Nations, 1991;(4):253-257.
- 8. Derrida J. The fields of philosophy. M.: Academic Project. 2012. p.376.
- **9.** Ewans V. The language myth: why language is not an instinct? Cambridge University Press. 2014. p.314.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

PERSONAL SPIRITUALITY OF ECONOMIC REFORM EFFECT ON APPEARANCE

Ismoilova Gulhayo Kamol qizi*

*Teacher, Karshi State University, Karshi, UZBEKISTAN Email id: guli_ismoilova021@bk.ru

DOI: 10.5958/2249-7137.2021.02752.X

ABSTRACT

In the article the author seeks to analyze the changes in the spiritual appearance of the person that occurred under the influence of economic refonns. In her opinion, economic traiisformalion became the reason of a fundamental change in beliefs, social qualities and attitudes. In addition, these changes in some cases had a positive, and in others - a negative connotation. According to the author, a scrapulous study of the essence of these processes can determine the laws of the impact of society on the individual.

KEYWORDS: Economic Reforms, The Spiritual Image Of The Person, The Influence Of Economic Re- Forms On The Spiritual Image Of The Personality, A Change In The Conviction Of The Personality, A Change In Personality Traits, A Change In The Life Position Of The Personality, The Primacy Of Material Values And Needs Over The Spiritual, The Com-Mercialization Of Consciousness And Personality Behavior, Change Life Values And Needs Of The Individual.

INTRODUCTION

Our country has been living in the conditions of radical economic reforms since the last years of the last century. In the course of these reforms aimed at building a democratic state and civil society based on market relations in Uzbekistan, many processes and factors are interacting, new institutions, structures, mechanisms and relations are emerging. Implemented on the basis of a well-thought-out program or concept, these reforms have made it possible to create market institutions in the country's economy, achieve macroeconomic stability, eliminate the commodity-based economy, and accelerate the development of the national economy.

METHODOLOGY

Today, economic reforms in our country have entered a new phase. At this stage, "our most important task is to further strengthen macroeconomic stability and maintain high rates of economic growth ..."[1]. There are the following main criteria for achieving macroeconomic stability: 1) to prevent a reduction in production; 2) creation of favorable conditions and use of internal reserves at the enterprises of priority sectors; 3) ensuring the state budget and financial stability of enterprises; 4) curbing inflation and strengthening the national currency; 5) improving the balance of payments and state foreign exchange reserves; 6) stabilization of the social situation, improvement of living standards.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Each of these criteria, of course, serves to radically change the real situation in the economy. At the same time, it must be acknowledged that thirty years of economic reforms, their directions, factors, and the resulting phenomena and mechanisms have a significant impact on the spiritual image of the individual. But this effect, its result can not be characterized in purely positive or negative colors. These changes are somewhat complex. For example, under the influence of economic processes, in one case some of the qualities of the individual became more developed, in another case a number of defects began to appear in him. The same can be said about the impact of economic reforms on a person's beliefs and position in life.

MAIN PART

In our opinion, the impact of economic reforms on the moral image of the individual is reflected in the following: [2]

- 1. As a result of the reforms, the individual's beliefs took on a special character. It is well known that belief refers to the knowledge that a person lives in his second life in his mind, which is "rediscovered" in proportion to his interests and used in human activity [3]. Belief has its own components of intelligence, evaluation, and activity. The economic reforms carried out in our country have gradually radically changed all these components of the individual's faith. Hueusansaid the following components of a person's faith have undergone a process of renewal;
- A) knowledge, ideas, theories (or mental component) of society, social development, social progress, economic processes; While in the years of Soviet rule this knowledge of the individual was based on the communist ideology and theory of political economy, economic reforms greatly expanded the scope of this knowledge at the expense of various economic theories and experiments;
- B) the person's attitude to knowledge of economic processes (or assessment component); The reforms carried out in our country have radically changed the attitude of the people to the centralized planned economy, to the economic policy of the Soviet government, to the principles of economic management, to the nature of the relationship between economy and politics;
- C) knowledge-based forms of social activity (or activity component); Economic knowledge of a new nature transformed the economic activity of the individual into a new way. This is the development of such activities as small business, family business, home-based work.
- 2. Economic reforms have affected personality traits and characteristics. During the years of Soviet rule, such evils as dependence, indifference, and irresponsibility took root in the spiritual image of the individual. Indeed, such an aspiration was natural for an economy based on the principles of equalization, which required the central planning of even the smallest domestic issues, did not approve of the initiative. The emergence of market infrastructure in our country, the introduction of the principles of a market economy, in particular, the privatization of state property has radically changed the situation. In particular, the property class began to form in the social structure, small business and private entrepreneurship entities emerged, and the share of people working in the non-governmental sector increased.

There are some aspects of working in the non-governmental sector: the industry cannot turn a blind eye to selfishness, dependency, lack of initiative and irresponsibility. Because the main purpose of the activities of the subjects of the industry is to make a profit. X, any selfishness, dependence, lack of initiative, irresponsibility leads to a decrease in the income of these subjects,

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and ultimately to its decline. For the same reason, the emergence of the non-governmental sector, the increase in the number of people working in it, in the short term hit the root of the abovementioned shortcomings. Thus, economic reforms have led to positive changes in the spiritual image of the individual.

3. Economic reforms have led to a change in the individual's position in life. A vital position is a combination of social, civic duty, and moral responsibility. According to experts, it is a person's attitude to the world, which is reflected in his actions and deeds [4/]. This concept also includes efforts to satisfy one's social and personal interests, to improve social and personal living conditions in accordance with humane ideals. If a person has a deep understanding of his social duties and makes them his beliefs, the norm of his activity, his life position is considered active. A person acting on the basis of such a position serves to increase the material and spiritual wealth of his country, to ensure the well-being of the country.

The impact of economic reforms on an individual's position in life has occurred in a variety of ways. In particular, first of all, thanks to the reforms, the social system, the way of life in society has taken on a new look. This, in turn, affected the person's position in life. Second, economic reforms have changed the social environment (labor community, community organizations, family, etc.) that directly surrounds the individual. These changes have left their mark on a person's spiritual image and position in life. Third, the renewal of the character of the needs and interests of the individual during the reforms also affected the position of the individual in life.

However, as we have noted, economic processes have not had a positive effect on the spiritual image of the individual. There are a number of negative consequences in this regard. Therefore, when analyzing the problems of interdependence in the context of "society-person", "economic processes - the spiritual image of the person", we need to put aside passion and euphoria and mention the negative products of these processes. Because without personal interest, there can be no question of initiative and entrepreneurship. The primacy of personal interests subordinated the spiritual image of the individual to the principles of individualism. Today, man is becoming a pure individualist: he is trying to separate himself from others, to distance himself from them, to worship nothing but the market, where the spirit of consumerism and the principles of hedonism are blowing. According to Antoine de Saint-Exupery, "There is only one problem in this world, and that is to give people spiritual content, spiritual worries." the idea that.

Under the influence of economic processes, the consciousness and activity of the individual are becoming commercialized, that is, subject to material interests. It is well known that commercialization means the activity of an individual or organization to make a profit in any way. In the economic context, this process has no negative character [5]. However, the absolute commercialization of an individual's consciousness and activities can have tragic consequences. Unfortunately, the number of citizens of our country who organize their activities and lifestyles on the basis of this principle is growing every year.

Economic reforms are also changing individual values and ideals. Abu RayhanBeruni, who gave the whole century a name for a large group of people today, Habib Abdullayev, who was known for his determination, and Musa TashmuhammadogluOybek, who dared to praise the greats of his nation even during the colonial years, did not leave a mark on Asadbeku's singing. it is worrying that betaine is becoming an 'artist' ideal.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

CONCLUSION

Thus, the ongoing economic reforms in our country have led to significant results, but at the same time it has had a significant impact on the moral image of the person. In particular, under the influence of economic reforms, a person's beliefs, qualities and attributes, life position have taken on a new look. At the same time, during the reforms, there were some defects in the spiritual image of the individual, and a diligent study of these processes will help to determine the laws of society's influence on the individual.

REFERENCES

- **1.** Mirziyoev ShM. Critical analysis, strict discipline and personal responsibility should be the daily rule of every leader's activity. We will resolutely continue our path of national development and raise it to a new level. Volume 1. T.: Uzbekistan, 2017. p.237.
- **2.** Erkaev A. The way of Uzbekistan. T.: Spirituality, 2011. p.169.
- **3.** Choriev S. A politically mature person. T.: Publishing House of the National Society of Philosophers of Uzbekistan, 2004. p. 60.
- **4.** Saint-Exupery A. The Little Prince. M.: Eksmo, 2018. p. 47.
- **5.** Kashitssha T, Nikishina E. Commercialization of innovations. Vladimir: Publishing house Vladim. State unta, 2011.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

FACTORS TO ENSURE THE BALANCE OF CONTINUOUS EDUCATION AND TRAINING IN RENEWING UZBEKISTAN

Mallayeva Feruza Radjabliyevna*

*Teacher, Karshi State University, Karshi, UZBEKISTAN Email id: feruzka088@mail.ru

DOI: 10.5958/2249-7137.2021.02753.1

ABSTRACT

The role and importance of the education system in solving social problems formed under the influence of man-made civilization is growing. Consequently, a new image of education is reflected in its future goals. Efficient work is being done to ensure that the education system of Uzbekistan takes its rightful place in the international educational space. The world community recognizes that the gradual reforms in education in Uzbekistan are in the national interest and adhere to specific principles.

KEYWORDS: Education, Upbringing, Reform, Academic Affairs, Higher Education, Modernization, Education System.

INTRODUCTION

The accession of Uzbekistan to the world democratic community in the third millennium requires that it participate in the joint solution of not only domestic problems, but also global problems of a global nature. Today, improving the quality of the education system is becoming an important factor in enhancing the international prestige, spiritual prestige and human potential of the nation.

At present, education is recognized as a major factor in shaping the worldview, national spirit, a major sector that determines the level of civilization of society. Indeed, the determination of the country's power by the education system is becoming more widespread. Therefore, the education system in the XXI century differs from all other eras by its role in shaping not only the national spirit of young people, but also their political thinking. The main focus is on improving the national education system, its formation and development.

METHODOLOGY

Indeed, "we will mobilize all the forces and capabilities of our state and society to ensure that our young people develop independently, have high intellectual and spiritual potential, and become happy people who do not lag behind their peers in any field around the world" [1]. However, we must not forget that a person with his own internal laws, age and other characteristics does not always accept these influences on his own. It is very important to take into account the ability of a person to analyze information at different stages of development.

Efficient work is being done to ensure that the education system of Uzbekistan takes its rightful place in the international educational space. The Decree of the President of Uzbekistan on the Strategy of Actions for the Further Development of the Republic "On improving the quality of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

education and training Improving the quality and efficiency of higher education institutions based on the introduction of international standards of assessment, gradual increase in admission quotas to higher education institutions; to stimulate research and innovation activities, to create effective mechanisms for the implementation of scientific and innovative achievements, to establish specialized research and experimental laboratories, high-tech centers and technology parks at universities and research institutes "[2]. In this regard, the work done in the education system of the Republic of Uzbekistan in recent years and their historical foundations serve as an important factor. Educating a new generation of intellectual property owners to establish a dialogue with the world has become one of the priorities of public policy.

MAIN PART

In all countries of the world, special attention is paid to the education of harmoniously developed individuals as an important factor in the development of society, and in this regard, educational models under the influence of the country's political system, social relations, national and political mentality. [3]

In the process of sustainable development of Uzbekistan from national revival to development, attention is paid not only to the education system, but also to deep and comprehensive reforms in the field of education. This process involves a movement from the bottom up, from simple to complex. In particular, the announcement of the decision of December 29, 2017 in Uzbekistan "On measures to further improve the system of preschool education" can be compared to a gardener who began to care for the roots of the tree to bear fruit. The establishment of the Ministry of Preschool Education in Uzbekistan in 2017, the establishment of at least 20 competitive private preschools in each region is an important factor in ensuring the balance of education and upbringing of children. According to the 4th principle of the Action Strategy for the further development of the Republic of Uzbekistan, 5 initiatives to plan systematic activities to raise the reform of the education system to a new level, to organize work in the social, spiritual and educational spheres on the basis of the new system are recognized as factors. After all, ensuring the balance of education and upbringing requires the upbringing of young people who can adapt to any situation, who adhere to the integrity of knowledge and integrity in the organization of activities. [4]

Along with the transition to the organization of 11-year school education from 2017, the introduction of a system of 50 vocational training for 2 years is a guarantee that young people in any situation will be socially active in society with their profession. The establishment of specialized schools in our country is, on the one hand, an effort to train every child as a specialist in a particular specialty, and, on the other hand, a sign of the importance of relying on world experience. The opening of Presidential schools in the Republic of Uzbekistan, the introduction of the competition for school-age boys and girls is a bold step towards the establishment of a well-thought-out system of upbringing worthy generations and the humanization of education.

The world community recognizes that the gradual reforms in education in Uzbekistan are in the national interest and adhere to specific principles. Continuous improvement of the education system, further universalization of the standards of the higher education system in the framework of various regional, interstate associations are becoming an important factor in the continuation of democratic reforms for many countries, including the new Uzbekistan. Attracting public, non-governmental and foreign investment to finance the higher education system continues. The practice of providing preferential loans to students enrolled on a contract basis is improving.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The creation of regional standards in the renewed Uzbekistan, the implementation of the results of research and development, the exchange of electronic information, the development of Internet technologies is a factor in adapting the national education system to world standards. Uzbekistan is gradually implementing a policy aimed at training modern personnel. If in 25 years a total of 60 higher education institutions were established, in 2017-2019 34 higher education institutions were established, now their number has reached 132, the admission quota is growing from year to year, which indicates the growing importance of elite education in Uzbekistan. Elite education, on the other hand, is a factor in shaping the elite culture of different segments of the population. requires the education of young people who adhere to the integrity of knowledge and integrity of faith in the organization of activities. [5]

Along with the transition to the organization of 11-year school education from 2017, the introduction of a system of 50 vocational training for 2 years is a guarantee that young people in any situation will be socially active in society with their profession. The establishment of specialized schools in our country is, on the one hand, an effort to train every child as a specialist in a particular specialty, and, on the other hand, a sign of the importance of relying on world experience. The opening of Presidential schools in the Republic of Uzbekistan, the introduction of the competition for school-age boys and girls is a bold step towards the establishment of a well-thought-out system of upbringing worthy generations and the humanization of education.

The world community recognizes that the gradual reforms in education in Uzbekistan are in the national interest and adhere to specific principles. Continuous improvement of the education system, further universalization of the standards of the higher education system in the framework of various regional, interstate associations are becoming an important factor in the continuation of democratic reforms for many countries, including the new Uzbekistan. Attracting public, non-governmental and foreign investment to finance the higher education system continues. The practice of providing preferential loans to students enrolled on a contract basis is improving. [6]

The creation of regional standards in the renewed Uzbekistan, the implementation of the results of research and development, the exchange of electronic information, the development of Internet technologies is a factor in adapting the national education system to world standards. Uzbekistan is gradually implementing a policy aimed at training modern personnel. If in 25 years a total of 60 higher education institutions were established, in 2017-2019 34 higher education institutions were established, now their number has reached 132, the admission quota is growing from year to year, which indicates the growing importance of elite education in Uzbekistan. Elite education, on the other hand, is a factor in shaping the elite culture of different segments of the population.

From 2017, the allocation of quotas for admission to 114 new bachelor's degrees in 36 higher education institutions of the Republic of Uzbekistan and 104 master's specialties in 42 higher education institutions shows the growing demand for new specialties. Also, the establishment of a targeted admission quota for higher education institutions is an opportunity for future employment of young people.

The introduction of academic mobility in the higher education system with foreign educational institutions, student exchanges, the establishment of the El-Yurt Umidi Foundation can be considered as conditions for talented young people to express themselves, value their knowledge and appreciate the work of the state.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Decree of the President of the Republic of Uzbekistan No. PP-5847 of October 8, 2019 "On awarding the concept of development of the higher education system of the Republic of Uzbekistan until 2030" is an effort to increase the responsibility of all higher education institutions, to realize that education is the most important guarantee of sustainable development. The abolition of the part-time and evening education system in the higher education system in 2004 could in fact be assessed as a violation of human rights. The revival of the system of part-time and evening education in 2017 at the initiative of Sh. Mirziyoyev is a proof of the restoration of the bent stature of the people of Uzbekistan, the realization of their dreams.

The most important thing is the creation of conditions for the education of young people serving sentences, the high humanity and tolerance of the head of our state, the feeling of pain and concern of the people and the efforts to eliminate them. This is one of the priorities of the ongoing reforms in our country. As the President of the Republic of Uzbekistan Sh. Mirziyoyev noted, "Currently, 32% or 10 million of the population of our country are young people under 30 years old. We are all proud that our young people are rightly able to take responsibility for the future of our country and become a decisive force for today and tomorrow" [2]. Indeed, we should be justifiably proud of the achievements of the youth of our country. In particular, in 2000-2016, the youth of Uzbekistan participated in world science olympiads. it is true that he has won more than 200 medals in his treasury. However, it is also true that in the last four years this figure has tripled.

CONCLUSION

Should be noted that on May 3, 2019 at the initiative of the President of the Republic of Uzbekistan in order to ensure the implementation of the Resolution No. PP-4306 "On measures to identify talented young people and establish a continuous system of training highly qualified personnel" The establishment of the Department of International Relations, the awarding of prizes of 100 million, 54 million 35 million to the winners of international science Olympiads, their inclusion in the reserve of gifted students, the allocation of incentive prizes to their teachers are a guarantee of sustainable development in the country.

In conclusion, it should be noted that today the wise policy and leadership skills of the President of the Republic of Uzbekistan Sh. Mirziyoyev have become a practical basis for the development of the national education system, the awakening of self-awareness and patriotism in society. Corruption in the education system, in particular against personnel corruption, has begun to be fought, and some progress has been made in this area. Transparency is ensured in the process of admission to higher education institutions.

REFERENCES

- 1. Decree of the President of the Republic of Uzbekistan. On the Action Strategy for the further development of the Republic of Uzbekistan. Tashkent: Adolat, 2017. p.25
- **2.** Mirziyoev ShM. Together we will build a free and prosperous, democratic state of Uzbekistan. Tashkent: Uzbekistan, 2016. p.14
- **3.** Mirziyoev ShM. Together we will build a free and prosperous, democratic state of Uzbekistan. Tashkent: Uzbekistan. 2016. p.14.
- **4.** Hotamiy A. From the history of Islamic thought. Tashkent: Minhoj, 2003. p.110.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **5.** Mirziyoev Sh. Let us work together more resolutely for the fate and future of our country. Tashkent: Uzbekistan, 2017. p.18
- **6.** Mirziyoev ShM. The rule of law and the protection of human interests are the key to the development of the country and the well-being of the people. Tashkent: Uzbekistan, 2017. p.23

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

ENHANCING ESP LEARNERS' COMMUNICATIVE COMPETENCE THROUGH ROLE-PLAYING TASKS

Kadyrkhodjayeva Dilnoza Bakhtiyor qizi*

*Teacher of English Language,
Department of University of World Economy and Diplomacy,
Tashkent city, UZBEKISTAN
Email id: kadyrkhodjayevadili22@list.ru

DOI: 10.5958/2249-7137.2021.02749.X

ABSTRACT

This article is intended to investigate the effect of role-playing tasks on the speaking skill of preintermediate ESP learners. For this reason, the popular scientists and researchers examined the students' speaking ability in two groups: the experimental group and the control group. Twentyfour male and female ESP learners at pre-intermediate level were selected after taking a pretest. Then, they were assigned into two groups in a random manner. In the experimental group, role-playing tasks were utilized for teaching conversation, but the control group was shown to the conventional method of teaching speaking. After several sessions of treatment, a post-test was conducted in order to check the students' speaking capability. Concerning the data analysis, two independent and paired sample t-tests were used to analyze the data, collected using three testing instruments: Longman Placement Test (2004); the semi-structured interviews; and SPSS software version 20. Based on the inferential statistics, the participants in the experimental group illustrated an importantly better performance in the post-test. It was finished that the treatment provided for the experimental group had a positive effect on the learners' speaking ability. In addition, the participants' attitudes to role-playing tasks and their roles in language learning were positive. It is expected that ESP teachers and course book writers, syllabus designers, and material producers will get advantage from the findings of this article.

KEYWORDS: ESP Course, Communication, Communicative Activities, Speaking Skill, Tasks, Role-Playing, Comprehension, Competence.

I. INTRODUCTION

Students who study English as a foreign language (EFL) usually have limited opportunities to speak English outside the classroom and have also limited exposure to English speakers in the international community. Richards and Renandya (2002) [15] pointed out that a large percentage of the world's language learners study English in order to improve quality in speaking. Speaking is used in most daily interactions and transactions and that is why many the researchers, language experts, curriculum designers, teachers, mentors and language trainers claim that speaking is the main sense feature of the second language learning and teaching. People who know a language are related to as speakers of the language, as if speaking contained all other kinds of knowing and many if not most foreign language learners have not interest primarily in learning to speak. From this time, speaking is considered as one of the essential elements of communication in EFL

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

and ESP teaching. It provides opportunities for learners to present their meaning in spoken way. [16]

Communication is one of the four macro skills necessary for useful talking in any language, particularly when speakers are not using their mother tongue. Most of the time, English learners find it difficult to enhance their speaking ability and establish their relations with others. Since English is a global language utilized, as a means of communication, speaking skill should be improved along with other skills so that these integrated skills increase communication achievement of the learners in an international community. For many people, mastering speaking abilities is the main aim of acquiring a foreign or second language and the other skills are overshadowed by its importance (McCarthy, 1998 [12]; Nunan, 2004 [14]). Thus, teachers are demanded to emphasize on the verbal form of FL and try to help students engage in speaking. In other words, when students are engaged in dialogues, their motivation and self-confidence will develop and help them with their speaking abilities. To teach speaking abilities, teachers used to conduct and give some patterns to focus on some particular elements of language form. They tried to continue practicing by repetitions. As we know, practice makes perfect. On this case, the teacher used and provided some chances for the students to listen and to repeat peculiar strings of language that may pose some linguistic difficulty in oral form (Brown, 2007) [1].

As a great achievement in teaching a foreign language, task-based language teaching (TBLT) has proved itself very effective in bringing about real situations of language use in language learning setting. Still, as Kumaravadivelu (2006) [6] comments, the more the novelty of communicative language teaching is wearing thin, the more "Task-Based Language Teaching" (TBLT) is gaining significance. In other words, in the post-modern era, the word "communicative" is gradually being replaced by the word "task". Hence, task-based instruction is shedding a new insight on teaching English as a foreign language. As the title of this research illustrates, its underlying aim is to research the efficiency of role-playing on the speaking ability of pre-intermediate ESP learners.

The late 1970s and early 1980s witnessed the beginnings of what we now recognize as a "communicative approach" as we better comprehend the functions that must be incorporated into a classroom (Brown, 2007) [1]. Meaning was significant in communicative language teaching (CLT) while grammar was ignored completely. Grammar would be acquired unconsciously. During the last decades, technology has developed so fast and learners are required to cope with them. CLT was more appropriate because it demanded interacting with speakers of other languages especially from the developed countries in order to accept merits of technology and cultural interactions. Scientists believed with great force that students would learn language fast if they interacted with other language learners in various contexts to negotiate meaning (Richards, 2006) Richards popularized group work, role-play, and project work as interesting and commonly used activities of CLT. Zainudin (2011) [4] and his colleagues presented that these activities created an information gap. Richards supposed that communication must take place to shorten the gap and do the task. The focus of these activities was to negotiate meaning. It happened in a real situation. So, these activities improve the learners' opportunities to attract in learning and acquiring the language.

The tenets of communicative language teaching pay attention to students' capacity to utilize language in real-life situations, which were conducted in foreign and second language classroom. In task-based instruction, the priority is not the *forms* of language, but rather the functional

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

purposes for which language must be used. While content-based instruction focuses on subject-matter content, task-based instruction focuses on a whole set of real world tasks themselves (Brown, 2007) [1]. This model offers the opportunity to "natural" learning inside the classroom and emphasizes meaning over form, but can also cater for learning form. Additionally, when learners are preparing their task, they are expected to consider language form in general rather than focusing on a single form. It is completely giving motivation and compatible with learner-centered educational philosophy. Furthermore, through various situations students have many opportunities to check their speaking skills and integrate the other skills.

As we come to the origin of role play, it is absolutely interesting and effective way of improving communicative competence. The history of role-play goes back to ancient times of Greeks when the play was used as a medium for requirement. Perhaps, the first role-play session was run when a master teaching a pupil, said to him: 'Act as if I am a customer and you are serving me'. The pupil played his role. The master played his role as a would-be-customer. When they made discussion their roles afterwards, play was utilized as method of instruction (Dorathy & Mahalakshmi, 2011 [3]). The educational usage of role-play in recent years has become more widely used. As Newmark points out, (Lakhdar Barker, 2006) [11], imaginary play has always been a powerful educational device both for children and adults. By creating a dramatic situation (role-playing) in a classroom by relabeling objects and people in the room the teacher can enlarge the classroom indefinitely and support imaginary natural contexts for the language being used. [2]

Harmer (2001) [6] advocates the use of role-play for three reasons:

- a) It is interesting and inspiring;
- b) Quieter students get the opportunity to show themselves in a more open way;
- c) The word of the classroom is broadened to include the outside word.

Nguyen (2017) in his study compared the effect of role plays on young learners with adults with two different numbers of learners. Results illustrated that there is an essential difference in the scores gained from the adult group in the post test and found that the role-plays in pairs and small groups helped the weak students and role-plays should be used in the working adult students. That is, using role plays was demonstrated to exert a positive effect on the speaking ability enhancement of the learners compared to busy and young ones. It was observed that those learners who got more attention and scaffolds illustrated greater progress in their speaking. [7]

According to Tompkins (1998), role-playing or simulation is a valuable technique for foreign language learning. It gives the learners opportunities to act out different roles chosen to show actual role that would be in the field of situation. Role-playing is a good technique to check interaction in foreign language classroom, and in teacher and management trainings. It shows a shift of attention and focus to more real, certain conversation and communication. [5]

Thus, incorporating role-playing in the classroom adds diversity to the activity of the classroom. It is an opportunity for language production along with fun. Real life situation can be created and students can have advantage from practice; especially if it is created for a specific purpose. The teaching of English for specific purposes in its early days was largely motivated by the need to communicate across language in areas such as commerce and technology. A key feature of an ESP course is that the goals and content of the course are oriented to the specific needs of

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

learners. ESP courses then focus on the language, skills, and genres appropriate to the specific activities the learners need to carry out in English, mainly, ESP students are adult learners. They are also often a homogenous group in terms of learning goals, although not always in terms of language effectiveness. So, due to the significance of communication in the process of learning a foreign language and difficulties of ESP learners in learning this vital skill, the aim of the present study is to investigate the effect of role-playing as a technique on developing speaking ability of pre-intermediate ESP learners. [8,9]

II. METHODOLOGY

This paper took the merit of a quantitative, quasi-experimental research design. The participants, who were the staff of a hotel in Chabahar, were 24 learners at the pre-intermediate level selected by taking a pre-test. Their age range was above twenty-five. They were male and female learners but the gender was not under the focus of this research. These participants were in two groups: twelve participants in the control group and the twelve others were in the treatment or experimental group. These two groups were not selected randomly, but they were defined to treatment and experimental groups randomly. At first, the learners participated in a placement test conducted by the language center affiliated to the English department of Chabahar Maritime University to measure how much they know English.

This study was held at a hotel in Chabahar. ALongman Placement Test was administered prior to the study to ensure that learners were at the same level of proficiency. Actually, to present the efficiency level of the participants, four macro-skills of language learning were tested. Then, to check and assess the level of learners' speaking ability, a speaking examination as a pre-test was managed in both control and experimental groups. In the interview, the learners were asked some questions about their personal backgrounds appropriate for pre-intermediate learners, such as their age, academic major, hometown and their mother tongue. After the administration of the pre-test examination which supplied with information for the test of participants' homogeneity, the treatments started in research groups for eighteen sessions. It took six weeks, and was held three times a week continuing for two hours of teaching. In the experimental group, role-playing was conducted in performing conversation through in-group activities. To follow a general lesson planning, the researcher tried to observe three steps in the experimental group.

Step 1. Preview (Pre-Task Phase)

To help the learners prepare for what they were going to act out in the speaking, the researcher asked different questions about the topic to check and make active their background knowledge. Then, some appropriate vocabularies with preview activities were practiced.

Step 2. Listening and Speaking (Task Phase)

After a preview activity, the researcher played the listening material for a general understanding to give the opportunity to the learners to get the basic interpretation and act out the material later. At this stage, learners were expected to listen to the pronunciation of the new words and learn the structure of the phases or sentences. The following week, learners were given a text in the form of dialogues. They were asked to read them together, to get the gist, and to express their ideas about the content of the role they were going to perform. Finally, learners were asked to act out and play the role of each individual according to the tape.

Step 3. Acting out or role-playing

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

In the final stage, dialogues were given to the learners to practice each situation with one another. The situations were examples of real-world conversations related to the hotel staff, required to meet the needs of following personnel: receptionists, porter, waiters/waitress, room-attendants, technicians, and kitchen staff. To conduct role-playing, the teacher's role was very important. The teacher helped the learners whenever it was needed. Each role-play was performed at least twice with learners changing their roles. In group situations the competent learners acted out the role-play to the whole class.

The teacher used to take one of the roles if needed. The teacher avoided making corrections until role-playing was finished. The teacher was also a facilitator. As learners kept on practicing the role-play, they sometimes found that they had problems with understanding new words and phrases. In the practice stage, the teacher had the chance to 'feed-in' the appropriate information. This required the teacher to act as a sort of facilitator or a spectator monitoring the class and offering assistance when it was necessary at the end. The teacher sometimes engaged in the classroom activity as a participant; that is, when the situation demanded, the teacher got attracted and took part in the role-playing. [10]

But, in the control group, the conventional method of teaching speaking was used. That is, the teacher asked questions to warm up the learners and practiced suitable vocabulary items with preview activities. In the control group, the teacher utilized reading tasks and conversation between two learners without giving them the chance to act out role-playing. Finally, both groups' speaking ability was measured after the treatment and quantitative data was gathered through post-test. Post-test was an interview recorded. The interviews were rated by two PhD candidates in TEFL. So,semi-structured interview was used to check and evaluate how the participants of the experimental group felt about using role-playing tasks and its impact on enhancing their speaking skill.

Data Analysis

The quantitative analyses of the collected data were conducted with the aid of SPSS (version 22) software. For the aim of replying questions given by this research, at first descriptive statistics and an independent sample t-test were used to introduce the kind of data, data distribution, and data comparison to observe the groups' homogeneity and provide information to compare with the post-test data. An independent sample t-test was used to compare post-tests to participants on role-plays. Also, two paired sample t-test were used to evaluate whether the two groups had acquired any knowledge of speaking due to the treatment they accepted. A paired sample t-tests was used to compare the mean scores for two various groups (control and experimental). A test of Cronbach's Alpha formula and Pearson Product Correlation Coefficient were regulated to depict the internal consistency of the evaluation. Also, the data achieved from the interview were analyzed using descriptive analysis method.

III.RESULTS

The researchers managed an item interview with twelve participants of the experimental group. The questions on the interview examined attitudes and world looking of the participants of the experimental group towards using role-playing tasks and their effects on their speaking ability. The most of the ESP learners believed that these tasks had animportant impact on their speaking capability. Twelve participants (100%) in the experimental group answered that it was an enjoyable experience for them. A great number of the students found role-playing tasks were so

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

informative and interesting. Shima said that "they were very interesting and attractive." All the participants in the experimental group stated that they intended to continue using these tasks, so that they helped them to enhance their speaking ability. All of the ESP learners mentioned that they like role playing tasks because they helped them to be so innovative and creative as well. Ali declared that: 'I like them, sir. I think they are so suitable for improving speaking skill.' One of the questions was about the students' motivation to speak English by using role-playing tasks. The majority of the ESP learners agreed that role playing motivated them to speak English language. According to the interview, most of the students will use these tasks to improve their speaking skill. For example, Sine stated: 'I didn't try to improve my speaking ability up to now, but when I got familiar with these tasks, I plan to reinforce it.' They were also interested to gather some new experience through using these tasks in the class. Actually, the interest and enthusiasm among the ESP learners regarding role plays were vividly present through the amount of positive response. Then we can finish that many pre-intermediate ESP learners had a positive attitude towards utilizing role-playing tasks and their effects on their speaking ability.

IV. DISCUSSION

As it was mentioned above, today's study made an effort to answer the research questions regarding the impact of role-playing task on improving ESP learners' speaking ability and the approaches, treatments of ESP learners towards using role play and its effect on their speaking skill. Actually, it was conveyed that there was main difference between the performance of the role play group and control group on the post-test in comparison to their pretest results achieved; yet the role play group had a better performance in comparison to the control group which confirmed the essential reasons, impacts of role playing on the speaking ability of pre-intermediate ESP learners. Factually, the results illustrated role-playing tasks were useful and developed the speaking ability of pre-intermediate learners because they helped the ESP learners focus not only on language, but also on the learning process itself. It can be said that role-play tasks can transform the language teaching and learning process from non-inventive to an inventive and attractive form and provide ESP learners an opportunity to practice speaking skills in multiple social contexts and roles.

Also, role-playing technique can expand ESP learners' creativity in the process of language learning. Providing role-play tasks in classrooms contributes to the collaborative and cooperative learning and raises the level of exposure to peer scaffolding which benefits all learners. Also, with regard to the findings of the study obtained from the post- treatment interview, the participants of the experimental group had a positive attitude concerning the advantage of role-playing tasks on their speaking ability. The present study's results accord with Nguyen's study (2017), which compared the impact of role-playing tasks on young and adult learners with two different numbers of learners. The Results showed that role-playing tasks had significant effect on improving speaking ability of EFL learners. Therefore, by applying role-playing tasks in the process of language teaching, we can support good chances for introvert learners to present their ideas and combine the world outside with the classroom (Harmer, 2001) [6].

Students who practiced role-playing had to use the power of their imagination, have rehearsals and act out in class in front of their peers and this process probably improved their expressive ability. They were thus more conscious of the grammatical competence when demonstrated their roles and more prepared for the actual conversations in real events. Interestingly, the participants in the present study enjoyed various models and the researcher observed less and less errors in

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

their speaking with working out functional and situational conversations one after the other in the proceeding sessions, which highly pinpoints the conscious-raising and self-monitoring development power of learners who practice role plays. Also, the current study showed that when Learners are involved in role-playing activities, they can improve fluency in language and oral communication skills, as well as the use of the body in face-to-face communication. From the results of the study, it is concluded that incorporating role-play into classroom adds variety, a change of peace and opportunities for considerable language production. [13]

V. CONCLUSION

The results of this study indicated that role-playing tasks had a significant impact on developing speaking ability of Iranian pre-intermediate ESP learners and they had a positive attitude regarding the usefulness of role-playing tasks for enhancing speaking ability. Role playing tasks were effective in teaching speaking and they can be one of alternative techniques in teaching speaking. In addition, it provided learners the chance not only to evaluate their own learning progress and proficiency, but also their peers' performance.

The main limitation of the study was the size of the class with limited number of students. Since the participants were staff of a hotel and busy most of the time, the researcher sometimes found it difficult to get together for further practice. Besides, the participants felt reluctant to become involved for fear of being humiliated before their colleagues. Yet, this technique has many positive impacts on the speaking ability of ESP learners so that it assists them tube exposed to a variety of experiences into the educational setting and enable them to interact with others. The researchers indicated that the foreign language teachers and instructors need to create a learning environment to compensate the authentic atmosphere in the process of language learning using pair-group work which helps in carrying out the learning process to be a successful work in promoting and adopting new techniques that will help to expand the speaking skills. Also, language teachers can get benefit from the results of this study so as to manipulate the methodology throughout their classes and keep their students motivated and encouraged. Furthermore, this study will assist university ESP students to develop their speaking ability along pair-group work which helps in carrying out the learning process to be a successful work in promoting and adopting new techniques that will help to expand the speaking skills. Also, language teachers can get benefit from the results of this study so as to manipulate the methodology throughout their classes and keep their students motivated and encouraged. Furthermore, this study will assist university ESP students to develop their speaking ability along with technical English. Based on this study, further research can be done into the application of the technique on pre-intermediate university students having courses on General English. English language institutes offering English courses on different improvement levels can also carry it out. The study can be approached worldwide in several countries not just in teaching English but in teaching any other foreign language.

REFERENCES:

- **1.** Brown HD. Teaching by principles: An interactive approach to language pedagogy. (3rd Ed). New York: Pearson Education, 2007.
- **2.** Chauhan V. Drama techniques for teaching English. The Internet TESL Journal. 2004;10(10).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

- **3.** Dorathy AM. Second language acquisition through task-based approach: Role-play in English language teaching. English for Specific Purposes World, 2011;11(33):1-7.
- **4.** Eileen A, Morales-Jones C, Yahya N, Zainuddin H. Fundamentals of teaching English to speakers of other languages in k-12 mainstream classrooms. Dubuque, Iowa: Kendall/Hunt Publishing Company. 2011.
- **5.** Halapi M, Saunders D. Language teaching through role-play: A Hungarian view. Simulations and Gaming, 2002;33(2):69-178.
- **6.** Harmer J. The practice of English language teaching. Harlow: Pearson Education ESL. 2001.
- **7.** Hutchinson T, Alan W. English for specific purposes: A learning-centered approach. Cambridge: Cambridge University Press. 2010.
- **8.** Jones K. Stimulations in language teaching. Cambridge: CUP. 1982.
- **9.** Joyce B, Weil M. Models of teaching. Boston: Allyn and Bacon. 2000.
- **10.** Kumaravadivelu B. Understanding language teaching. New Jersey: Lawrence Erlbaum Associates, INC. 2006.
- **11.** Lakhdar Barka S, Benabadji S. Improving students' fluency through role-playing. (Unpublished MA thesis), University of Oran, Algeria. 2006.
- **12.** MacCarthy M. Spoken language and applied linguistics. Cambridge: Cambridge University Press. 1998.
- **13.** Narimanova JY. The Role of Teachers' Cultural Awareness in Preparing To Work with Multicultural Students. The American Journal of Social Science and Education Innovations 2020;2(9):172-183.
- **14.** Nunan D. Task-based language teaching. Cambridge: Cambridge University Press. 2004.
- **15.** Richard JC. Methodology in language teaching: An anthology of current practice. Cambridge: Cambridge University Press. 2002.
- **16.** Richards JC. Communicative language teaching today. New York: Cambridge University Press. 2006.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492

A peer reviewed journal

"MODERN ENDOGENOUS REGIMES AND EVOLUTION OF THE EARTH'S CRUST OF UZBEKISTAN"

Akhmadjon Tukhtasinov*; Davron Khusanbayev**; Dilshot Atabayev***; Chingiz Mukhammedrakhimov****

*Faculty,

Geology National University of Uzbekistan named after Mirzo Ulugbek, Tashkent UZBEKISTAN Email id: axmad326@mail.ru

**Faculty,

Geology National University of Uzbekistan named after Mirzo Ulugbek, Tashkent UZBEKISTAN

***Faculty,

Geology National University of Uzbekistan named after Mirzo Ulugbek, Tashkent UZBEKISTAN

****Faculty,

Geology National University of Uzbekistan named after Mirzo Ulugbek, Tashkent UZBEKISTAN

DOI: 10.5958/2249-7137.2021.02702.6

ABSTRACT

This paper presents the results of the modeling of the modern endogenous regimes of the earth's crust in Uzbekistan. They were based on a tectonic basis in the form of classification of the earth's crust according to a complex of five features, which included information about the modern structure and state of the crust. Based on the results of comparing this tectonic base with the thresholds of modern endogenous regimes, a formalized map of the modern endogenous regimes of the earth's crust in Uzbekistan was compiled. In the study area, the following are distinguished: three subclasses of the platform regime - with hot, with warm, and with cold crust; orogenic regimes - the first, second, and third stages; superimposed regimes - taphrogen on the second and third stage orogen. The data obtained made it possible to analyze modern endogenous processes occurring in the earth's crust and its evolution at the present stage.

KEYWORDS: Classification, Cluster Analysis, Modern Endogenous Regimes, Orogen, Taphrogen, Asthenosphere, Heat Flow, Isostatic Anomalies Of Gravity, Crust, Mantle.

INTRODUCTION

Consideration of the main regularities in the development of the earth's crust shows that endogenous processes - tectonic, magmatic, metamorphic - are manifested in certain regular combinations with each other (Belousov, 1978 [1]; Marakushev, 2008 [5]). Moreover, as a rule, an increase or decrease in the intensity of these different processes proceeds in parallel. Thus, the internal unity of various endogenous processes is demonstrated, which gives the right to speak about the presence of certain endogenous regimes in the life of the earth's crust. Each of them is

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

characterized by a certain shape, scale, and sequence of tectonic movements, magmatic and metamorphic processes, and exists in a particular area during a particular period of geological time.

The main source of endogenous activity of the Earth is the process of differentiation of its substance. It begins in the lower mantle, from where the heavy and light fractions, respectively, descend into the core and rise to the upper mantle (Marakushev, 2008 [5]; Sorokhtin et al., 2002 [9]).

The asthenosphere is the level at which material is generated that rises from the lower mantle. With the next portion of hot deep matter, the temperature of the asthenosphere rises. This is the mechanism of "excitation" of the asthenosphere, as a result of which melting in it intensifies, its viscosity and a density decrease, and not only geophysical but also geochemical parameters change (Marakushev et al., 2008 [5]; Zubkov, 2000 [4]). Consequently, specific endogenous regimes are determined by the ratio of the asthenosphere and lithosphere. The main role in the formation of one or another endogenous regime is played by the heat flow and the permeability of the earth's crust.

Within the framework of this article, the selection of modern endogenous regimes is provided. It is based on the use of data on the modern structure and state of the earth's crust (GI Reisner, MG Reisner, 1986, 1993 [7,8]). The classification of the crust based on the complex, and the analysis of the boundaries of the obtained types of the crust makes it possible to identify modern endogenous regimes and predict the development of the earth's crust.

The main role in the formation of one or another endogenous regime and the nature of its manifestation in the earth's crust is played by the heat flux.

METHODS

Heat comes to the upper mantle and crust from below, from the deeper shells of the Earth. It comes mainly by heat and mass transfer, convectively, with melts and fluids. This process of floating up of hot, relatively light material from the deep bowels of the Earth to the surface reflects the phenomenon of general differentiation going in the depths of our planet and continuing to the present time, unevenly in time and space.

Depending on the permeability of the earth's crust, the heat flow heats it in different ways. "The most effective heating of the crust occurs in an environment of high and necessarily diffuse crustal permeability when the hot material of the upper mantle penetrates the crust with a dense net" (Belousov, 1978 [1]). In this case, the crust heats up, and the upper mantle cools, giving all its warmth to the earth's crust.

Another way of transferring heat from the upper mantle is observed in rift and orogenic regions. In this case, the material of the upper mantle with deep heat moves along deep faults, and most of the heat is carried to the surface. At the same time, the bark heats up weaker.

Permeability is another of the most important characteristics of the earth's crust. It is determined by the ratio of the thickness of the earth's crust to its consolidated part. The thickness of the earth's crust, due to its heterogeneity, leads to an inhomogeneous distribution of the heat flux, which comes from the depths. At the same time, the heat flux affects the changes in the power of the earth's crust. N.I. Pavlenkova (1987) [6] notes that "in many regions, there is clear feedback between the heat flow and the power of the earth's crust: the higher the heat flow, the thinner the

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

earth's crust. The higher the temperature at the "M" border, the shallower it lies. And this means that deep heat is the main reason for the destruction of the earth's crust and movement along with the depth of its bottom ".

The above processes are apparently due to the partial melting of the Earth's Jurassic. This is not just the melting of the bottom of the earth's crust, but more complex processes leading to a significant change in the physical properties of crustal matter.

Uneven heating of the bark leads to disruption of the gravitational equilibrium. Jets of hot fluids, penetrating with a large amount of heat into the rocks of the earth's crust, make them plastic and loosen them. As a result, a density inhomogeneity arises, causing a violation of isostatic equilibrium.

As you can see, the heat flow, the structure of the earth's crust, and inhomogeneities in the earth's crust form a single system of internal interaction. "The main law of the development of this system is the isostatic balance of each of its links. Sedimentary basins are balanced by the rise of the "M" boundary or compaction of the consolidated crust; areas with a thin earth's crust are underlain by a mantle with a lower density "(Pavlenkova, 1987 [6]).

The main factors of this system are heat flow, the permeability of the earth's crust, and isostatic equilibrium.

Based on this, the following set of initial information is proposed in the method of classification the earth's crust based on a complex of geological and geophysical data (Reisner et al., 1986 [7]):

- 1. Heat flow
- 2. The thickness of the earth's crust
- 3. Modern relief map
- 4. Isostatic gravity anomalies.
- 5. Depth of the consolidated foundation.

When solving classification problems, when one has to deal with large arrays of heterogeneous information, with complex combinations of initial data, the best way is its complex comprehensive, and simultaneous analysis. Such an analysis is possible by the method of cluster analysis (Durand, Odell, 1977 [3]). In this analysis, the criterion for unification can be a measure of proximity for the entire set of features in a multidimensional space. For a measure of proximity, you can take the Euclidean or Cartesian distance, the logarithmic or racial Pearson criterion, or some other measure. The solution to the problem of cluster analysis is to split an object of the same rank, characterized by a complex of initial data, into objects of a higher rank, each of which can be described by a set of values of the same initial data inherent only to it.

In this study, we used one of the cluster analysis methods - the McQueen k-means method. The classification principle is reduced to some, possibly random, initial partitioning of the set of objects into a given number of clusters (classes, groups, populations), the subsequent assignment of the remaining objects to the nearest clusters, recalculation of new "centers of gravity" of the clusters and the continuation of the described procedure until it is obtained some optimal partitioning. A feature of the method is that the clusters identified as a result of calculations will not intersect - it is guaranteed that each classified object will be assigned to only one cluster.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

To carry out cluster analysis by the k-means method, the authors of this study used the STATISTICA v 6.0 program. The program starts with k - randomly selected clusters and then changes the belonging of objects to them to: firstly, to minimize the variability within the clusters, and secondly, to maximize the variability between clusters.

Euclidean distance was used as a measure of proximity

$$L_{n,e} = \left\{ \sum_{j} \left(X_j^n - X_j^e \right)^{\frac{1}{2}} \right\}$$

where, X_j^n and X_j^e -the initial characteristics are n and e, respectively.

It is natural to expect that a small value of this distance indicates that the objects are similar or "close" to each other, while a large value indicates a lack of similarity.

The technology of the method consists in performing the following procedures. The entire study area is divided into cells of the same size (20 'x 30' degree grid). This corresponds to one tablet of a 1: 100000 topographic map. The choice of this cell size seems to be optimal. Firstly, it is because all the source maps from which information is taken are small-scale (1: 1,000,000). And if we choose a slightly larger cell size, the initial information will be significantly averaged, while its smaller size will not be provided by the initial information of the taken scale. Secondly, each cell will represent a volume of the earth's crust of the same size with data characteristic only of it.

For each cell, the values of the initial information are taken from each of the five selected features (maps). The initial information obtained in this way is entered in the form of a format file on a computer for further processing. The data format is integers.

When conducting cluster analysis, the territory of the Republic of Uzbekistan is divided into 339 cells, each cell, as already noted, above corresponds to a 20 'x 30' degree grid. Using k-mean cluster analysis, the entire set of input data was divided into clusters into five steps. At the first step of cluster analysis, when the measure of proximity is small, i.e. the distance between the signs is small. The whole territory of Uzbekistan is divided into 200 clusters. For the second, third, fourth, and fifth steps of cluster analysis, 150, 120, 50, and 25 clusters were obtained, respectively.

Based on the results obtained, a formalized map was constructed for 25 clusters (A. Tukhtasinov, D. Khusanbaev, 2021 [10]) (Fig. 1).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Fig. 1. Formalized map of classification of the earth's crust in Uzbekistan (25 types)

In fig. 1 clearly shows two large structural units divided the study area into the Turan plate and the Tian Shan orogen. The latter has a sublatitudinal elongation, thereby correlating well with the real situation.

Let's consider each of these structural units separately. The Turan plate is characterized by 1, 2, 3, 4, 6, 7, 8, 9, 11, 14, 16, 17, 19 types of crust. This territory as a whole is characterized by a low relief up to 0.4 km., The compensated crust is isostatic anomalies from - 13 to +22 mGal, a small thickness of the earth's crust from 35 to 41 km., And widely varying values of heat flow from 43 to 93 mW / m2.

The Orogen of the Tien Shan is represented by crust types 12, 13, 18, 20, 21, 22, 23, 24, 25. The relief varies in a wide range from 0.5 to 4 km, isostatic anomalies in the Fergana intermountain depression up to - 50 mGal, in Surkhandarya depression up to - 22.5 mGal, for axial parts of mega anticlines up to +20 mGal. The thickness of the earth's crust is from 42 to 50 km, the heat flow values vary widely from 55 to 150 mW/m2.

RESULTS AND DISCUSSIONS

The results of classification of the earth's crust in this step (25 types), when examined, correlate well with the latest tectonics. This situation makes it possible to use the results of classification to solve the set task of identifying modern endogenous regimes.

The main problem in identifying modern endogenous regimes is to determine the relationship between the adjacent types of the cortex. Previous work on the identification of both endogenous and modern endogenous regimes showed that there are three types of boundaries: a constructive boundary, at which the values of the heat flow and the thickness of the earth's crust increase. Destructive boundary, at which the heat flow increases, and the thickness of the earth's crust decreases. With the third type of boundaries, the behavior of the main features (heat flow and thickness of the earth's crust) is usually not maintained, or the change in these features is insignificant or they are noted only for one of them (Belousov 1986 [1], Pavlenkova 2002 [6], G.I. Reisner, M.G. Reisner, 1986, 1990 [7,8]). At the same time, when identifying modern endogenous regimes, an important task is to determine the boundary values for several signs that allow one or another territory to be attributed to the sphere of manifestation of different regimes.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The analysis of the pattern led to the choice of the following boundary values (thresholds) for the identification of modern endogenous regimes (GI Reisner et al. 1993 [8]) (table 1).

TABLE 1. MATRIX OF ENDOGENOUS MODES OF STAGES OF THEIR MANIFESTATION AND PHASES OF STATE (GI REISNER ET AL, 1993 [8])

DT (km)	R (km)	$\boxed{\begin{array}{c}Q\ (mVt/m^2)\end{array}}$						
	<=+0,4	< 50	0=50. <70	>70				
	>0,4. <+1,0	P-Ph1	P-Ph2	P-Ph3				
0 km	>1,0<=2,5	01-Ph1	01-Ph2	01-Ph3				
	>2,5	02-Ph1	02-Ph2	02-Ph3				
	,	03-Ph1	03-Ph2	03-Ph3				
	<=+0,4	T1- Ph 1	T1-Ph2	T1-Ph3				
-6.0 km > = DT < 0	>0,4.<=1,0	T101-Ph1	T101-Ph2	T201-Ph3				
	>1,0<=2,5	T102-Ph1	T102-Ph2	T202-Ph3				
	>2,5	T103- Ph1	T103-Ph2	T203-Ph3				
	7-							
-15 km>DT<-	<=+0.4	T3-Ph1	T3-Ph2	T3-Ph1				
6,0	>0.4.<=1.0	T301- Ph1	T301- Ph2	T301-Ph3				
	>1.0<=2,5	T302- Ph1	T302- Ph2	T302-Ph3				
	>2,5	T303- Ph1	T303- Ph2	T303-Ph3				

Note: 1. Letters denote the names of endogenous modes - P-platform, T-taphrogenic, O-orogenic, T / O - taphrogenic in place of the early orogenic: the stages of manifestation of endogenous modes are indicated in Arabic numerals: the symbol Ph indicates the activity of the regime, and the Arabic numeral next - 1,2,3 phases; DT - deficit of the thickness of the earth's crust in km; R - elevation of relief in km; Q- heat flow in mVt/m^2 .

It should be noted that the authors of this article agree. As a result of comparing the results of classification of the earth's crust with the thresholds of endogenous regimes, a map of modern endogenous regimes was obtained (Fig. 2) and the average values of the types of the earth's crust corresponding to various modern endogenous regimes were obtained (Table 2.)

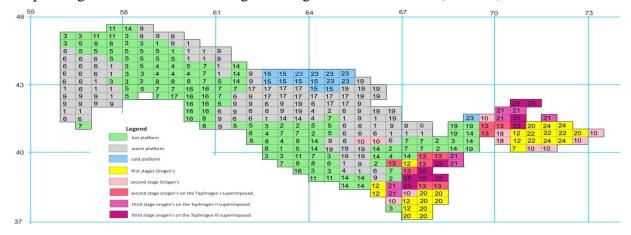


Fig. 2. Formalized map of modern endogenous regimes of Uzbekistan

TABLE 2. AVERAGE VALUES OF THE TYPES OF THE EARTH'S CRUST CORRESPONDING TO VARIOUS MODERN ENDOGENOUS REGIMES

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

№	Q	R	Н	I	F	Tips of MER	DH
	64,10714	1,61786	39,62250	5,96429	2,29393	Warm	
Claster1						platform	1,603
	69,44444	5,46667	41,72445	2,66667	1,03556	Warm	
Claster2						platform	1,280
	68,25000	1,69000	40,23400	-1,15000	4,16400	Warm	2.160
Claster3	· ·	0.17070	20.50010	1.07072		platform	2,169
Claster4	75,00000	2,17273	39,50818	1,27273	1,95364	Hot platform	1,139
Claster5	70,00000	1,36400	39,66440	5,36000	2,80040	Hot platform	1,805
CltC	63,08823	2,44706	39,69765	13,14706	2,44588	Warm	1 150
Claster6	72.00524	2 24762	40.74420	15 ((((7	1.20667	platform	1,156
Claster7	73,09524	3,34762	40,74429	15,66667	1,29667	Hot platform	1,635
Claster8	81,42857	1,60000	39,28143	5,57143	2,93143	Hot platform	1,273
ClastarO	58,90625	1,43750	39,75938	1,34375	2,42188	Warm	1 052
Claster9	60,00000	10 (555)	16 17667	4 00000	1 (2111	platform Oragan II	1,853
Claster10	60,00000	12,65556	46,17667	4,88889	1,62111	Orogen II	1,203
Claster11	81,66666	1,90000	40,65667	-6,33333	6,10667	Hot platform	2,459
Claster12	79,2857	8,1429	45,2429	-19,7143	5,6286	Orogen I	3,112
Claster13	80,00000	16,09000	46,48900	2,80000	1,83500	Orogen II /Taphrogen I	- 0,647
	67.269.42	3,90000	41,96368	-8,78947	2,39526	Warm	,
Claster14	67,36842					platform	2,506
Claster15	43,12500	2,16250	39,87875	3,75000	0,94125	Cold platform	1,516
Claster16	98,00000	1,56000	38,98600	16,70000	1,66600	Hot platform	1,003
	50,38462	2,83846	39,23000	23,76923	0,57385	Warm	
Claster17						platform	0,441
Claster18	120,0000	14,0000	48,1000	-21,0000	3,2000	Orogen II	2,28
	56,5000	3,3200	40,8870	-10,6500	1,1985	Warm	
Claster19	30,3000	3,3200	40,0070	-10,0300	1,1703	platform	1,795
Claster20	54,4444	8,8000	45,7578	-18,8889	8,4244	Orogen I	3,213
Claster21	66,2500	21,4125	47,7788	-11,6250	1,1588	Orogen III /Taphrogen II	- 2,711
Claster22	62,5000	4,7500	46,9250	-52,5000	7,9750	Orogen I	6,932
Claster23	43,5714	2,4857	40,9200	-19,8571	1,1343	Cold platform	2,354
Claster24	58,3333	7,1667	48,0500	-32,3333	5,7167	Orogen I	6,534
Clastel 24				·		Orogen III	-
Claster25	80,50000	30,77000	49,05700	4,50000	0,37300	/Taphrogen III	7,328

The spatial distribution of modern endogenous regimes in Fig. 2 shows that within the studied region, 8 varieties of modern endogenous regimes are distinguished, which are currently in different phases of activity. There are only 3 main modern endogenous modes-platform, orogenic and taphrogenic.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

The platform regime in the studied area passes through several stages in its development, including those associated with thermal excitation of the earth's crust and upper mantle. But structural changes in the earth's crust (change in thickness, relief height, etc.) have not yet occurred.

The platform mode in the calm phase (cold platform) is distributed partially mainly in the northern part of the Republic of Uzbekistan (Kokayaz depression). In contrast, the platform regime in the transitional phase (the platform is warm) is widely developed on the Ustyurt plateau, in the Central Kyzyl Kum, the Pritashkent depression, partly in the Bukhara and Chardzhou tectonic steps. The platform regime in the active phase (hot platform) is also widely developed and covers the central part of the Ustyurt plateau, the Aral depression, the Bukhara and Chardzhoi tectonic stages.

The orogenic regime on the territory of Uzbekistan manifests itself only in the active phase, and the action of this regime affects the earth's crust both constructively and destructively with the imposition of a taphrogenic regime of various stages on it.

The first stage of the manifestation of the orogenic regime spreads along the Nurata ridge, the northwestern spurs of the Turkestan and Zeravshan ranges, the Surkhandarya and Fergana depressions. These areas are, in fact, currently active areas of the transition from the platform to the orogen.

The second stage of manifestation of an active orogenic regime is developed in the western end of the Zeravshan ridge, in the southwestern spurs of the Gissar ridge, in the Chatkal-Kuramin, and Turkestan-Alai systems of uplifts in fragments. In some parts of these orogenic systems, the orogenic regime of the second stage was replaced by the taphrogenic regime in the first stage (cluster 13). Geomorphologically, these are the southwestern spurs of the Chatkalo-Kuramin mountains, the northwestern and southeastern spurs of the Gissar ridge.

On the axial parts of the ridges of the Chatkalo-Kuramin mega anticline and the Zeravshan-Gissar mega anticline, the orogenic regime of the third stage in the active phase was replaced by the superimposed taphrogenic regime of the second (cluster 21) and third stage (cluster 25), which actively affects the formation of a deficit in the thickness of the earth's crust.

CONCLUSION

Based on the materials obtained, the following conclusions can be drawn. At the end of the Middle Cretaceous, there is a decrease in the gradient of vertical movements, and this entire huge area becomes a platform. The next, orogenic regime began in almost the entire eastern part of the considered territory in the Neogene. Within the study area, the newest orogenic regime replaced the platform regime, in the part where, as a result of endogenous activity in the upper mantle, the thickness of the earth's crust increased. This constructive orogenic regime continued approximately until the end of the Pliocene when the formation of structures and mountainous relief was completed. An abrupt change in the endogenous environment occurred at the beginning of the Quaternary period when development along the taphrogenic line began to dominate. This is observed in the deficit of the earth's crust, which is on the axial parts of the ridges of the Chatkalo-Kuraminmeganticline and Zeravshan-Gissarmeganticline (clusters 21 and 25), respectively, minus 2.7 and 7.3 km. from normal. But in the areas of development of the orogenic regimes of the second and third stages, which are superimposed on taphrogenic regimes, there are no elements of crustal extension. Under lateral compression, the pure rift

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

process becomes impossible. The compressed continental crust does not diminish its thickness. Partially molten material of the mantle, reaching the bottom of the crust, differentiates; molten material is localized in the form of magma chambers under the crust. Light mantle cumulates, formed as a result of differentiation and corresponding in composition to the earth's crust, solidify, join the crust with the displacement of the Mohorovichich surface to a new, deeper hypsometric level. A body light in comparison with the mantle in the lower crust, striving to restore isostatic equilibrium, lifts the earth's crust with the formation of mountains (Atabaev, Khusanbaev, 2020 [11]).

The data presented show that in the southeastern part of Uzbekistan (Western Tien Shan), there is a spatial combination of different modern endogenous regimes and their overlap with previously developing ones. The processing of the previously created orogenic structure by the modern taphrogenic regime occurs, apparently, by capturing its parts, which does not change its spatial position with the neighboring ones, as evidenced by the preservation of a single structure. The presence of taphrogenesis in the earth's crust under these mountain structures was pointed out at different times by many researchers.

In contrast, only the platform regime is developed within the Turan plate, characterized mainly by high values of the heat flow, which indicates large energy, and, consequently, the endogenous and tectonic potential of the earth's crust of this territory, ready for transformations.

REFERENCES

- 1. Belousov VV. Endogenous regimes of continents. M.: Nedra, 1978. 232p.
- 2. Belousov VV, Pavlenkova NI. Types of the Earth's crust. Geotectonics, 1985;(1):3-14.
- 3. Durand K, Odell F. Cluster analysis. M.: Statistics, 1977. 239p.
- **4.** Zubkov VS. On the question of the influence of hydrocarbon-inorganic fluid on deep geodynamics and processes in the lithosphere. Geochemical processes and useful minerals. Bulletin of GeoIGU, 2000;(2):10-28.
- **5.** Marakushev AA, Marakushev SA. Hydrogen respiration of the Earth its origin, geological and biological consequences. Alternative energy and ecology. 2008;1(57):156-174.
- **6.** Pavlenkova NI. The structure of the earth's crust, upper mantle and global tectonics. Controversial aspects of plate tectonics and possible alternatives. M.: IPE, 2002, pp.64-72.
- **7.** Reisner GI, Reisner MG. Modern endogenous regimes. Reports of the ANSSSR, 1986;291(6):1336-1339.
- **8.** Reisner GI, Ioganson LI, Reisner MG, Baranov YE. Classification of the earth's crust and modern geological processes. NIIEIR. M.: IPE RAN, 1993, 210 p.
- **9.** Sorokhtin OG, Ushakov SA. Development of the Earth. M.: Moscow State University, 2002, 506p.
- **10.** Tukhtasinov AKh, Khusanbaev DD, Atabaev DKh. Classification of the earth's crust in Uzbekistan based on a complex of geological and geophysical data. Science and innovative development, Tashkent, 2021. pp. 43-54.

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

11. Atabaev DKh, Khusanbaev DD, Atabaeva NE, Israilova ZU. Some Peculiarities of the Tectonic Development of the Jointing Area of the Turanian Plate Origened Tien Shan Structures. Solid State Technology. 2020;63(4).

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Editorial Board

Dr. B.S. Rai,
Editor in Chief
M.A English, Ph.D.
Former Principal
G.N. Khalsa PG.College,
Yamunanagar, Haryana, INDIA
Email: balbirsinghrai@yahoo.ca

Dr. Romesh Chand Professor- cum-Principal CDL College Of Education, Jagadhri, Haryana, INDIA

Email: cdlcoe2004@gmail.com

Dr. R. K.Sharma Professor (Rtd.) Public Administration, P U Chandigarh, India

Email: sharma.14400@gmail.com

Dr. Mohinder Singh Former Professor & Chairman. Department of Public Administration K. U. Kurukshetra (Haryana) Email: msingh_kuk@yahoo.co.in

Dr. S.S. Rehal Professor & chairman, Department of English, K.U. Kurukshetra (Haryana) Email: srehal63@gmail.com

Dr. Victor Sohmen
Professor,
Deptt. of Management and Leadership
Drexel University Philadelphia,
Pennsylvania, USA.
Email: vsohmen@gmail.com

Dr. Anisul M. Islam
Professor
Department of Economics
University of Houston-Downtown,
Davies College of Business
Shea Street Building Suite B-489
One Main Street, Houston,
TX 77002, USA

Email: islama@uhd.edu

Dr. Zhanna V.Chevychalova, Kharkiv, Associate Professor, Department of International Law, Yaroslav Mudry National Law University, UKRAINE Email:zhannachevychalova@gmail.com

Dr. Kapil Khanal Associate Professor of Management, Shankar Dev Campus, Ram Shah Path T.U. Kirtipur, NEPAL. Email:kapilkhanal848@gmail.com

Dr. Dalbir Singh Associate Professor Haryana School of Business, G.J.U.S & T, Hisar, Haryana, INDIA Email: dalbirhsb@gmail.com

Nadeera Jayathunga Senior Lecturer Department of Social Sciences, Sabaragamuwa University, Belihuloya, SRI LANKA Email: nadeesara@yahoo.com

Dr. Parupalli Srinivas Rao Lecturer in English, English Language Centre, King Faisal University, Al-Hasa, KINGDOM of SAUDI ARABIA Email: vasupsr@yahoo.com

ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492 A peer reviewed journal

Calegories

- Business Management
- Social Science & Humanities
- Education
- Information Technology
- Scientific Fields

Review Process

Each research paper/article submitted to the journal is subject to the following reviewing process:

- 1. Each research paper/article will be initially evaluated by the editor to check the quality of the research article for the journal. The editor may make use of ithenticate/Viper software to examine the originality of research articles received.
- 2. The articles passed through screening at this level will be forwarded to two referees for blind peer review.
- 3. At this stage, two referees will carefully review the research article, each of whom will make a recommendation to publish the article in its present form/modify/reject.
- 4. The review process may take one/two months.
- 5. In case of acceptance of the article, journal reserves the right of making amendments in the final draft of the research paper to suit the journal's standard and requirement.

Published by

South Asian Academic Research Journals

A Publication of CDL College of Education, Jagadhri (Haryana) (Affiliated to Kurukshetra University, Kurukshetra, India)

Our other publications:

South Asian Journal of Marketing & Management Research (SAJMMR)

ISSN (online) : 2249-877X

SAARJ Journal on Banking & Insurance Research (SJBIR)

ISSN (online) : 2319 – 1422