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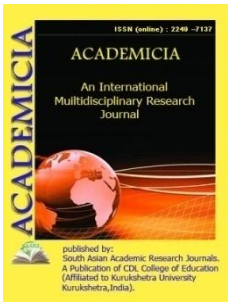

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SIGNIFICANCE OF MULTIMEDIA TUTORIAL ON LEARNING IN DISTANCE EDUCATION

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ABSTRACT

The purpose of the article is to learn the advantages of multimedia tutorial on learning in distance education programs. As we know, distance education is related to self-study and self-confidence on improving language skills. Also, in order to analyze the basic importance of multimedia tutorial, fifty graduate students were chosen as a sample for the research work. The researcher separated this sample into two groups, experimental group and control group. Both groups' students utilized traditional printed learning material of the university during their study. Despite this, the experimental group, along with print material, helped from multimedia tutorial of psychology in education. Results illustrated that students in the experimental group presented better than the students in the control group. The researcher knew that multimedia tutorial rose learning. This study suggested that multimedia tutorial techniques may be utilized face- to- face tutorial meeting between distance learners and teachers in distance learning programs to improve learning of students.

KEYWORDS: *Multimedia Tutorial, Distance Education, Information And Communication Technologies, Synchronous And Asynchronous Delivery Methods, Conventional And Technical Devices*

I. INTRODUCTION

Distance education is a teaching method that is based on informing students off-campus, at a distance and with a special, standard time-table. The distance education is an extremely wide learning period and covers all the conventional and technical devices to give more information about education to the masses. Distance education systems utilize correspondence, audio or

videotapes, or both, telecommunication and compressed video and audio systems for instructional goals [3].

The early distance education (DE) systems used print material for requirements and correspondence courses was the most ordinary delivery method of course material to learner that is interested in distance learning. Actually, at the present time, the DE systems utilize information and communication technologies (ICT) along with the above given method for instructional aim. The ICT consists of web based instruction, online (chat) communication, offline (e-mail) communication, video conferencing, and computer assisted instruction. The multimedia software available on CD-ROM has a great importance in labs, lectures, tutorial, and project works [15].

Koehler and Blair [8] have divided methods of distance education into two groups: Synchronous and Asynchronous delivery methods. In synchronous method, instructor and learners interact with each other in same time. A traditional classroom, two way closed circuit TV, and video conferencing are examples of synchronous methods of learning. Secondly, in Asynchronous method creation and delivery of instruction and the consumption of instruction occur at different times and usually at different places. Correspondence courses, audio video tapes, and courseware packages placed on CD-ROM or offered through a website are examples of asynchronous method of giving information on delivery. There are many popular universities in the world. Now, one of the most famous universities is the World languages university which is the largest one in Tashkent that challenges a diversity of distance learning degree programs at undergraduate and graduate levels. The university utilizes various devices to bring the gap between its teachers and students and to develop learning of. In AllamaIqbal Open University case, usually, method of instruction is print material which is sent to the learners through mail. Learning is also supported by TV/Radio programs and optional face to face meetings with the instructor. Besides these methods, OLIVE (open learning institute of virtual education) has been established since 2000. It has three models for delivery of instructions. In model A online assignment submission/checking, online special/guest lecture, and multimedia course streaming are provided. The second delivery model (model B) focuses on the students who have access to the internet. Internet based live sessions with teacher through OLIVE LMS is the main feature of this model. While in model C, students are provided self-learning multimedia courseware and reference material on CDs. Students can study material at home, office or any place of their choice. Moreover model B and model C can be combined to make a hybrid model for instruction delivery [15].

“Multimedia is defined as an interactive, computer mediated presentation that includes at least two of these elements Text, sound, still graphics images, motion graphics images and animation.” These tutorials consist of a user-friendly interface which provides control of navigation to learners [22]. Kruse and Kiel [9] has defined multimedia slightly different from that of Tannenbaum. They defined multimedia as CD-ROM. They say “CD-ROM provide a more engaging learning experience with text, audio, video, and animations all used to give information the set of multiple media means that learning is optimized.”

The generation of twenty first century has some distinct characteristics that set them apart from the previous generation. Technology has changed the lives of people of this generation. Most of the people of this generation have access to computers, video games, digital music players, video

cams, cell phones, and all the other toys and tools of this digital age. This technology rich culture has influenced the skills and interests of the people of the digital age. The students of this age are dependent on communication technologies for accessing information and for interacting with others [2].

Personal computers and laptops and other digital devices have changed today's learning style. Personal computers, laptops, cell phones, and other digital devices could be networked together. They are getting cheaper and are becoming smaller and more portable [4]. The use of this technology has created a new term of Ubiquitous Learning. Use of computer and internet in education is very common. It has generated many new terms like e-learning, online learning, Ubiquitous learning etc. Now it is possible to deliver computer based tutorial to a large number of students through systems distance learning [5]. Computer can be used to access information on CD- ROM, can be used to prepare material for teaching. It provides access to large amount of resources for teachers.

II. METHODOLOGY

There are basic different learning methods in educational spheres by dividing into four groups. Each of them has got its own power, importance and limitations.

a) VOICE

In this method the gap between the learner and teacher is formed by simple telephone calls, audio conferencing, audio tapes and audio CD-ROM

b) VIDEO

Video tools with instructions include slides, films, video tape, and interactive video,

c) DATA OR COMPUTER-BASED SYSTEMS.

Computer is a dynamic device which has more abilities of storing, processing, and communication of data, so the learner can use computer for chatting, blog, e-mail, or for watching video clips. The basic programs of Multimedia have a lot of good sides over traditional book version materials. Teaching with the help of computers results in active learning by interaction with computer based material, self-paced and individualized instruction, and presentation of multiple real time simulations [16].

Majority of teachers or scientists have been conducted research to determine effective sides of multimedia tutorials. One such research was conducted by Asan in Karadeniz Technical University, in Turkey in 2000-2001 [1]. In this research two groups of teachers were separately taught with traditional lecture method and multimedia. The results of the research work illustrated that the appropriate score in multimedia group was higher in terms of depth of comprehension, accuracy, rich supporting detail, organization, scope and reflection [1].

Advantages of the multimedia tutorials are concluded in the following points.

1. Allow self-paced instruction.

2. May incorporate text, graphics, video, and audio.

3. Allow high level of interactivity

4. Provide written record of discussion and instruction

5. Are cost effective

6. flexible in format and distribution

7. World wide access

The first and mostly utilized distance learning methods is print in. It is the cheapest source of communication used for correspondence courses. Print formats contain textbooks, study guides, workbooks.

Interactive multimedia learning is a new paradigm of learning. Multi-media tutorials deliver requirements to learners in a combination of several forms like, text, audio, video, animations and simulations. Multimedia express a computer based instruction which includes text, audio, moving pictures, and still pictures.

III. ANALYSIS AND RESULTS

The computer mediated instruction is emerging as new way to add interactivity to the distance education. A lot of text as well as audio and video data can be stored on a CD-ROM. Students may utilize it in learning anywhere, any time. The multimedia software available and possible on CD-ROM has a great a role in labs, lectures, tutorial, and project works [13].

In this digital era teaching learning activities are now not limited to a class room. Technology has changed the lives of people of this generation. The people of this generation have access to computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of this digital age. This technology rich culture has influenced the skills and interests of the people of the digital age. The students of this age most of the time use communication technologies for accessing information and for interacting with others. Desktop computers, laptops and other digital devices have changed today's learning style. Personal computers, laptops, cell phones, and other digital

Multimedia based instruction provides significant opportunities to improve the quality of teaching profoundly and cost effectively. There is 50% increase in the retention, a significant improvement in the learning rate, an increase in course completion, and a decrease in the overall cost of education [6]. Multimedia based education requires transformation of paper based contents to digital format. This new paradigm provides new learning environment. The conventional paper based contents may not fit to this environment. In the development of multimedia tutorial efforts are made to design and develop such contents for the new learning environment. For this paradigm shift transformation of education, especially distance education is necessary. The distance educational institutions (open universities) prepare interactive multimedia programs to overcome the shortcomings of the print material. Bork [2] suggested that natural way, to deliver multimedia tutorial, is through distance education. The tutorial can be used by distance learner anywhere and at any time. These tutorials motivate learners which is essential for successful distance teaching. In CD ROM a distant teacher can pack all the learning material (text, graphs, sound, videos, models and pictures), he wants to present learners for learning.

In AllamaIqbal Open University case, the usual method of instruction is print material which is sent to the learners through mail. Learning is also supported by TV/Radio programs and face to face meetings. Besides these methods, OLIVE (Open Learning Institute of Virtual Education) has been established since 2001. It has three models for delivery of instructions. In model A - online assignment submission/checking, online special/guest lecture, and multimedia course streaming are provided. The second delivery model (model B) focuses on the students who have access to the internet. Internet based live sessions with teacher through OLIVE LMS is the main feature of this model. While in model C students are provided self-learning multimedia courseware and reference material on CDs. Students may study material at home. Moreover, model B and model C can be combined to make a hybrid model for instruction delivery [13].

It was an experimental research in which difference between two methods of instruction was studied. As n=60 n >30 (n is the size of experimental or control group) therefore for testing of hypothesis t-test was used. It has been stated in the proceeding section that the final examination held by the university was used as base. Therefore, grades in the examination were used as data which were collected from the controller of examinations AIOU and analyzed using Student's t-distribution.

IV.DISCUSSION

The role of ICT in education has been investigated by some organizations. According to a report of UNESCO [21] "A various computer-based technologies have been utilized including the distribution of sample lesson plans on CD-ROMS, setting up exchanges by computer conference between teachers' colleges, supporting the interactive usage of computer-based learning materials, encouraging the use of web-based materials, and using computer conferencing to encourage discussion among learners". Computer based instruction provide high-interest drill and practice programs to support learning, especially for students demanding skill remediation. Student evaluation is related that the new media of conferencing, e-mail, Web sites and electronic resources via library databases and the Internet are helpful in effective learning. An annual survey (conducted by UNECO) of different courses shows that Open University (OU) students in different faculties use these media in their courses. According to the survey findings [18]: over 40 per cent of their students rated such materials as very helpful. Science students, however, gave very low helpfulness ratings to audio CD, 60 per cent of language students rated audio CD as very useful, 40 per cent in health and social care, arts and education rated audio CD as very fruitful.

Computer based instruction supports crucial opportunities to enhance the teaching quality profoundly and cost efficiently. There is 50% increase in the retention, a significant improvement in the learning rate, an increase in course completion, and a decrease in the overall cost of education [7]. Some authors use the term e-learning which covers all forms of leaning in which computer is an essential component. Bandon Hall defines e-learning as instruction delivered electronically wholly by a web browser, through internet or intranet, or through CD-ROM or DVD multimedia platforms. When contents are delivered via CD-ROM or DVD it is referred to as computer based training. The use of WWW, CD-ROM, and computer based learning resources in the process of learning, anywhere, are various forms of e-learning.

The following beneficial ways of e-learning were defined by Choy in 2007:

1. Enhances learning

2. Improves engagement

3. Extends experiences in empowers the learner to take responsibility for scheduling and managing learning journey.

What is the role of multimedia tutorial in education and especially in distance education? Is its role effective? Before moving forward let's find answers to these questions. Multimedia tutorials have many advantages. While learning through multimedia students actively interact with learning material. It enables students to learn at their own pace. Individualized instructions and presentation of multiple real time simulations are the main features of these tutorials [10].

Multimedia programs have a great importance and efficacy in the process of learning. Teachers conducted a research to compare two methods of instructions, multimedia and lecture. The findings of the research related that average score in multimedia group was higher. They were better than the lecture group in depth of understanding, accuracy, rich supporting detail, organization, scope, and reflection.

Every Learning theory dictates some new changes in teaching/learning styles, situations, media, and methods. Developmental psychologists argue that important learning happens only in purposeful context and through active learning. Such type of learning is called situated learning. It is creation of an environment where students are actively participating in the exploration and analysis. Multimedia tutorial provide such environment where situated learning takes place [1].

Multimedia based instructions, like other teaching learning methods need support of a theory. Cognitive theory of multimedia learning supports and explains multimedia learning. According to this theory human information system consists of two separate channels, auditory channel and visual channel. Auditory channel is for the processing of auditory input and verbal representations. Visual channel is for the processing of visual input and pictorial representations. The theory further explains that the meaningful learning occurs after a cognitive process in auditory and visual channels. The cognitive process contains drawing attention to the presented material, organizing the presented material into a coherent structure, and integrating the presented material with existing knowledge [10]. After discussing the multimedia tutorial and its providing learning theory now let's discuss role of multimedia tutorial in distance education. Multimedia tutorial enhances effectiveness of distance education. It has the ability to be delivered to the distance students over a CD-ROM or a DVD, or through internet.

This study has used a post-test only control group design. Two groups (control group and experimental group) were formed. For an experimental study 30 numbers of subjects in each group is considered enough. However, in distance education usually the dropout rate is high and also by increasing size of a sample generalizability of a research can be increased.

V. CONCLUSION

Computer based instruction (multimedia tutorial) techniques are more helpful than face to face tutorial. Performance of the students in the experimental group was better than the control group. The study recommended that the tutorial should be used as a supplement to the printed material in distance education. Multimedia tutorial techniques may be used along with face to face tutorial. To sum up, the main purposes of the article is to assess effectiveness of multimedia

tutorial in learning and to explore the role of multimedia tutorial in distance education. The term distance education indicates that there is a distance between learner and teacher. In distance education a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner [20]. Distance education is a deliberate process and it consists of all types of formal instruction that are conducted when teachers and learners are not located at the same place [6]. Unlike learner of formal education distance learners use some means to overcome the distance between them and distant teacher. The face-to face meetings are used to overcome many of the flaws of print material. It provides a two-way real time interaction. But increase in face-to-face tutorial meetings may decrease the benefits of distance education. It also violates the principle of flexibility of distance education.

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