

FACTORS AND EDUCATIONAL OPPORTUNITIES OF FORMING THE CULTURE OF INNOVATIVE ACTIVITY OF THE STUDENTS OF TECHNICAL HIGHER EDUCATIONAL INSTITUTION

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ABSTRACT

In this article, scientific analyzes and foundations of the factors affecting the formation and development of the culture of innovative activity of students and the opportunities created in the educational process are presented.

KEYWORDS: *Innovative Culture, Innovations, Innovative Potential.*

INTRODUCTION

Social awareness is a factor that helps to constantly increase the innovative potential of future specialists of technical family educational institutions. For this, the specialist, in addition to having information about the shortcomings and achievements of his field, needs to know the demands and offers of the society, its strengths and weaknesses, to determine the direction of new innovations, to create new types of products or services, to create a healthy enables the emergence of competitive social sectors, the creation of new innovative techniques and technologies, the improvement of working conditions with innovative elements, and the creation of innovative networks directed towards constant scientific and technological discoveries.

Innovating is looking outside of our current work and coming up with a new idea to help us do our work in a new way. Thus, the goal of innovation is to achieve a result that is more effective and beneficial for the work we are doing, either qualitatively, quantitatively, or both. The effectiveness of a new innovation is evaluated by its rapid and widespread implementation [1].

In technical educational institutions, it is considered appropriate to organize the processes of teaching technical sciences in an innovative way so that students can develop a culture of innovative activity and become specialists who can implement innovations in practice. Students should be able to imagine the location of spatial bodies and their structure, to understand the internal and external structure of technological and energy machines, the constructive sequence of their details, to give cuts and cuts to complex and simple nodes, connections and details, to skillfully perform internal and external connections in details, In order to have knowledge of design of standard and non-standard details, design of machines, mechanisms, units, bricks and details through computer programs, theoretical and practical knowledge of "Engineering and computer graphics" is required. The science of "Theoretical Mechanics" for the static study of the laws of movement of mechanical bodies, kinematic and dynamic analysis, the balance of stationary bodies, checking the stresses of compression, stretching, twisting, and bending of the

elements in machines and mechanisms, checking the integrity, priority, and strength limits of the structures that create them. studying the science of "Resistance of Materials", types of machines and mechanisms, including: the structural and kinematic structure of gear, pneumatic, hydraulic, gear (cylindrical, conical and worm), punch, belt, friction and electric mechanisms, laws of movement, types of kinematic pairs and kinematic properties, calculating the degrees of freedom of mechanisms, learning the methods of kinematic calculation of mechanisms, learning the procedure for applying diagram methods in the "Theory of Machines and Mechanisms" and other technical sciences n developing an innovative culture in educational processes so that students master their knowledge perfectly, acquire practical application skills, participate in the creation of new innovative engineering projects, as well as create new innovations in the fields of production and technical service it is necessary to introduce mechanisms. In this regard, technology is considered as one of the main directions for family educational institutions, and it is the only system for training national personnel as specialists who can meet modern requirements, and this is certainly an innovative educational process.

Of course, in the organization of such an educational process, it is necessary to prepare textbooks, teaching and methodical manuals created by professors-teachers, sets of assignments prepared for the completion of graphic and course work, in the preparation of graduation and qualification theses of students, master's theses. providing instructions and concepts regarding the formation of the culture of innovative activity of students in the implementation is of great importance in achieving our goal.

In the collections of scientific articles and journals published by technical educational institutions, the results of scientific research necessary for the formation of the culture of innovative activity of students are announced, and scientific and practical assistance is provided to students in order to increase their innovative abilities. to develop critical and analytical thinking skills in the search for solutions to science and industry problems, to be able to consciously understand reforms in the social and economic spheres, to improve their spiritual and moral qualities, to develop the desire to make positive changes necessary for the state and society will give. Also, organizing creative meetings of students with industry specialists and scientists in the field of technology, giving them advice in the direction of their field and interests also shows positive results. It should be noted that, together with the scientific and research institutions of the scientific and research institutions of the scientific and research institutions of the production industries, technical service organizations and the Academy of Sciences, the creation of science programs and the organization of educational processes in cooperation with them, the joint implementation of practical and laboratory training gives very positive results.

Providing information about the modern and advanced techniques and technologies of the world to the students of the technical family educational institution, their application and implementation in the educational process will give the expected results. Also, in order to produce mechanics and technologists with innovative potential who can fully meet the requirements of today's production industries and technical service industries, to establish the integration of production industries and service industries with technical educational institutions. , if the educational activities of the students are organized together with the production processes, the technical assignments, graphic works, coursework, graduation qualifications and independent educational assignments given to the students are also focused on the solutions to the production problems, and the students become strong individuals and mature specialists. to establish mutual

cooperation between professors and experts in the field, to solve production problems, to create innovative ideas and to train high-quality personnel, Republican scientific-practical conferences of students in the field of technical education Annually in cooperation with production companies and organizations, organize laboratories to test students' innovative ideas in practice, organize innovation centers in each faculty and department, promote students' innovative ideas and initiatives to universities, families It would be appropriate to introduce permanent incentive mechanisms by the Ministry of Education, cooperating enterprises and organizations, and our state.

As a result of a person's innovative thinking process, it is possible to create a new type of product or service, but if there are no conditions that can turn the spark of the first innovative thoughts that appeared in his mind into a flame, i.e., an innovative environment that allows the development of innovative thought, any new ideas will not be created. It may disappear by itself [2]. Therefore, it is necessary to create an innovative educational environment in technical educational institutions in order to form and develop the culture of innovative activity of students.

Innovative ideas are often the basis for the emergence of new markets, new types of production, creation of new products and services. But in order to form innovative ideas, first of all, it is necessary to go through the stages of identifying problems, collecting data, forming new ideas, evaluating ideas and implementing them. In order to implement this, mutual integration of production enterprises and technical higher education institutions is evaluated [9].

The process of creating innovations and their implementation requires the systematic participation of many individuals and organizations. Academicians, professors, scientific staff, students, managers, investors, industry partners, manufacturing enterprises, etc. can participate in such a process [10]. But the interest of each participant in the implementation of innovative ideas should be fully ensured.

The emergence and implementation of innovations depends on many components, their interconnection and sequence. Innovative abilities of people are constantly formed in the family, social environment, in the process of education and working conditions. But among these stages, the stage that has a great influence on the formation and development of innovative abilities of a person is the educational process [8].

Each person has a unique system of thinking, and the role and importance of higher education institutions in the formation and development of their innovative aspects and capabilities is considered very great [3].

Two directions of creation and development of innovations have been identified, they can exist and be classified as evolutionary or revolutionary [4]. Evolutionary innovation leads to incremental improvements in growth, but requires persistence. Revolutionary innovations are often completely renewed in a short period of time or replace the old with the new. It has innovation characteristics that support industry innovations, reduce existing workloads, improve existing working conditions and work environments, while at the same time revolutionizing the entire industry by creating national innovations in education. 'changes [5].

When various innovations are introduced into the traditional educational process, for example, a more expressive presentation of new material using multimedia tools, more effective teaching methods, or the use of new innovative methods in the educational process, the educational

efficiency of students increases to a new level. possible [6]. In this way, applying evolutionary innovations to the educational process partially improves the existing teaching method and gives students the opportunity to learn subjects better. In practice, inquiry-based, problem-based, cooperative, or small-group learning methods are evolutionary innovations because they change the way students learn. The use of educational technology in the traditional classroom, whether using a projector, video or iPad, is evolutionary because they only change some aspects of learning. But reforms in the field of national education should always be a revolutionary innovation, because they focus on the complete renewal of the education system [7]. An example of such an innovative education system is the online education system, because it has caused systemic changes that fundamentally change the structure, format and methods of teaching and learning. Introducing innovative approaches to education to meet the requirements of modern education, introducing new educational technologies, teaching using unusual or non-traditional methods will develop the culture of innovative activity of students and their future creates an opportunity for them to become innovators in their field.

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