IBAST
International Bulletin
of Applied Sciences and Technology
Volume 2 Issue 8
Open Access | Peer Reviewed | Monthly
Impact factor: 8.2   ISSN (E): 2750-3402

FORMATION OF TECHNICAL CREATIVITY IN STUDENT YOUTH

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Abstract

This article covers the use of innovative pedagogical technologies in teaching technology in general secondary education schools and the formation of technical creativity in student youth.

Keywords: Technology subject, intellectual projects, creativity, rationalization, invention.

Introduction

Today, as times are rapidly developing, future teachers are required to aim for even higher goals and be aware of innovations in science, technology, and engineering. The world community recognizes that our great ancestors have been eager for innovation since ancient times and initiated the Renaissance period in the East. In particular, our forefathers had a very strong desire to acquire knowledge, learn a craft, and become specialists in a profession, which, in turn, led to the emergence of many scholars in our land who made great contributions to the development of world science.

The fundamental reforms being implemented in the field of education in our country today, as President Shavkat Miromonovich Mirziyoyev noted, serve the development of young people, who are considered the future of our country, as comprehensively developed individuals for the prosperity of our Motherland and their becoming competitive personnel. The 21st century is leading to rapid changes in science and technology. The reforms being carried out in the field of education, in order to fully preserve the rich cultural heritage and historical traditions of our people, and to widely promote crafts, are supported by the Decree of the President of the Republic of Uzbekistan "On the Development of Crafts and Technologies" of 2017, which serves to improve the quality of education in full compliance with the State Educational Standards.[1]

Literature Analysis And Methodology

In general education schools, technology teachers should not feel like secondary subject teachers and should be able to awaken students' interest in the subject by mastering this subject deeply. Teachers of the subject "Technology" in the process of conducting lessons should deeply feel the role and essence of this subject in society, the goals of teaching the subject, and at the same time teach students diligence, creativity, and, in a certain sense, entrepreneurship.

"It is known that the teaching profession is a very responsible profession and requires various integrated knowledge and skills. In the future, a technology teacher, along with imparting knowledge to students, will also develop professional skills in them. In this case, the teacher must possess high qualifications and professional skills in manufacturing the given items. To achieve this result, in addition to knowledge and skills, the teacher must have their

own proven methodology, the ability to influence students through education and upbringing. In the course of the lesson, along with providing students with knowledge, it is necessary to form in students in higher educational institutions the ability to develop their work skills and educate them through work.

"Technology plays an important role in introducing students to the world of work and professions. Improving its methodology, strengthening its material equipment, strengthening the school's connection with the surrounding industrial production sector, organizing socially useful, productive labor, increasing its educational and economic effectiveness and combining it with education, and improving students' preparation for work are among the urgent tasks of today.

Although the technology lesson applies general didactic principles for other school subjects, it also has its own peculiarities. Students engage not in cognitive activity, but in creative activity. The subjects, tools, and processes of the science of technology serve not as a simple object of study, but as a means of demonstration, a didactic material, a technical means of education, activating the work of students.

Technology as an academic discipline teaches these and other characteristics."[3]

The study of the science of technology consists of the study of materials, their properties, and the manufacture of various products based on the properties of these materials. This process consists of applying technological knowledge from teachers, analyzing the quality level of finished products through creative and technical thinking, and instilling professional knowledge in students.

Teaching students to work from an early age yields great results in their future lives. In this case, along with labor skills, it is necessary to form such abilities as creativity, technical knowledge, and collective creativity in students.

In one of the most authoritative philosophical dictionaries of the early twentieth century, the famous idealist philosopher E.L. Radlov wrote that creativity is connected with the creation of something, that the ability to create is most inherent in God, and that a person can perform only relatively creative actions... Along with such statements, attention was drawn to the presence of unconscious processes within the creative process. Later, as the scientific study of various types of creativity changed, the attitude towards it in general and the definitions given to creativity also changed. Recently, attention has mainly been paid to the fact that the creation of a new product is associated with creativity, which has not existed before; creativity manifests itself in various spheres of human activity, when new material and spiritual values arise.

Creativity is an activity that contributes to the creation, discovery of something previously unknown for a certain topic. Another point is related to the scale of creative activity. In social practice, as a rule, creativity is measured by such categories of novelty as discovery, invention, rationalization. Recently, much has been said about innovative activity related to the introduction of innovations into organizational and technological processes. But such activity can be called rationalization.

Rationalization - to improve the use of existing technologies (we will take only the aspect related to solving technical problems). Thus, we can say: the inventor is primarily interested in the final effect, the function, the designer - the device performing the function, and the rationalizer - the more rational use of the finished device for some personal purposes.

A rationalization proposal is a solution to a specific problem to improve the performance of a particular problem in a local (unlike an invention of general significance) new specific environment (for example, in some workshops of a factory), but not on the scale of the entire factory, but on the scale of maximum production). In certain cases, a rationalization proposal can be an invention. Design can be "attached" to the activity of an inventor and a designer, if it is necessary to create certain designs for their implementation. The practical difference between invention, design, and rationalization should be sought in the nature of the goals of each activity. The invention is aimed at solving a technical problem, a problem in general; design - creation of a structure;

A project is a creative solution of an intellectual and practical nature, implemented by students. Independent work of students, performed under the guidance of a teacher. If we focus on the working definition of creativity, it seems appropriate to connect it with solving new problems or finding new ways to solve previously solved problems, solving various problems that arise in production, situational difficulties, and everyday life. Before considering the structure of a creative solution to a new problem, we will dwell on a general overview of the types of technical creativity. Types of professional creativity include invention, construction, rationalization, and design. There is a close relationship between all types of technical creativity. In the first period of rapid technological development, such a division was not observed, and the scientific literature mainly focused on inventive activity. Currently, there is a scientific and practical division of discoveries, inventions, and rationalization proposals, which are implemented not only in relation to technical objects. Thus, discovery is understood as the establishment of a previously unknown, objectively existing property or phenomenon. An invention called a new solution to a problem that has positive significance for production, culture, etc. Inventions are divided into constructive (devices), technological (methods), and those related to the creation of new substances. [4]

Conclusion

The science of technology opens up opportunities for us to enter new areas of the education system. Another clear example of this is the transformation of labor education into technology. The main reason for this is that the word "labor" has a broad meaning and does not correspond to our time of advanced technology. It is necessary to form an innovative infrastructure by introducing digital technologies and modern methods into the process of technological education. However, to achieve a high level in this area, first of all, the material and technical base must meet modern requirements.To eliminate these shortcomings, it is necessary to implement the following measures:

- the content of the current technology subject taught in general education schools is insufficient for the formation of technological literacy, critical thinking and creative competencies, which can be applied in independent life;

- insufficient metapredmet competencies and interdisciplinary connections in teaching the subject of technology;

- the fact that the assessment criteria in the regulatory documents of the subject of technology are developed only for the competence of the graduate and there is a lack of textbooks, workbooks and teacher's books, multimedia applications, didactic materials;

- the lack of elements necessary for the development of the economy of Uzbekistan, such as mechatronics, robotics, electrical engineering, automation, arduino, in the content of the

subject "Technology," negatively affects the professional qualities of future school graduates and specialists;

- lack of equipment and devices aimed at developing students' tactile competencies in modern technology, mechatronics, robotics, electrical engineering, and automation to form a strong motivation for learning in students;

- obsolescence of the material and technical base of the science of technology, its lack of modern equipment and technologies, as well as the absence of proposals for taking adequate measures to provide funds from the budget

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