



## **IMPROVING THE MECHANISM OF FORMATION OF STUDENTS' CREATIVE ABILITIES**

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<b>Received:</b> 7 <sup>th</sup> September 2021 <b>Accepted:</b> 10 <sup>th</sup> October 2021 <b>Published:</b> 27 <sup>th</sup> November 2021	In the article, it was analyzed that students will be able to acquire creativity and inventive skills through the development of direct imaginative thinking and the formation of their initial knowledge and abilities, that students will be able to theoretically analyze what they are studying and create a new theory in practical classes.
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Technical creativity in higher education institutions is a type of activity that serves to ensure the strength and perfection of the knowledge acquired by students, the formation in them of the qualities of active and independent thinking, the development of mental abilities.

Great attention should be paid to the development of creative talents of young people at all stages of the education system. One of the main tasks of teachers is to help young people to see and implement innovative initiatives and ideas, talents and abilities in a timely manner. Young people are required to cultivate high-spirited young leaders through the development of organizational skills and management skills, to guide them for the development of our country and its prospects.

The solution of modern engineering problems involves the analysis of the real situation, identification of key opportunities for the use of existing scientific and technical ideas and technologies, development of new solution models, selection of optimal solution, development and implementation of solution results. The work of an engineer is always concerned with the search, invention, creation and mastery of new machines, devices and equipment, new technologies and materials. [1]

Indeed, if the learning process is based on the study of existing problems to solve them, then there is no room for deep creativity and engineering work becomes the norm. Only a handful of those who have the talent of an inventor are able to develop and use it. There are philosophical, psychological, pedagogical, cultural and other approaches to considering the essence of the creative process.

The concept of creativity refers to the field of creation of objects and things, as well as the field of relations between people and their level of humanity. From a psychological point of view, we can say that creativity is the highest form of social, cognitive and aesthetic activity, as well as personal self-improvement. The components of creativity are the creative process, the creative personality and creativity. Creative abilities are defined as the psychological characteristics of a person, on which the acquisition of knowledge, certain skills and abilities depend.

Man's creative abilities, his talents, the tendencies inherent in any man, only create an opportunity for the emergence and development of the creative process. The essence of the creative process is the same for everyone, only the object of creation (material or ideal), the scale of achievements, their different social significance. The mechanism of formation of external and internal factors during the creative process in each specific situation is based on the contradiction, the incompatibility of the subject of creation with things that are external to him and with the specific components of the person.

The methodological principle of the organization of the education system is the unity of the teaching, research and educational process. At the heart of educational policy is a measure of the development of any society, the ability of a person to realize his creative potential, his level of moral perfection and freedom of personal development. [2]

The pedagogical system of training creatively active youth should be holistic and organic, which implies that internal parameters (goals, objectives, content, teaching methods and tools) are related to the external environment (school, higher education and postgraduate education). The structure of the mind consists of the effective-practical aspects of verbal-logical and mental operations, which are traditionally associated with verbal responses, and which develop figurative and practical thinking.

The leading components in the structure of students' mental abilities depend on the high level of development of their imagination, consistency and agility of their practical thinking. These qualities are professionally necessary within the mental abilities of students.

Due to the study of the cycle of technical education, general education and special subjects, it has the maximum impact on the rapid intelligence of the student - it is a decisive factor of creative thinking. Students' knowledge, skills and abilities are an integral indicator of the development of their creative activity.

Today, the rapid development of information technology shows that there is a growing demand for visual and mental abilities. The level of a student's creative ability largely depends on his or her mental transformation, how developed his or her spatial thinking is, and how mobile he or she is.

Students should have the understanding and imagination required to develop a new technical solution in shaping their creativity. In the teaching of practical training, his creativity is formed by being able to fully understand the topic, to have an idea of the mechanism being studied. In addition to shaping students' creativity, they should also have inventive skills. Then students will be able to theoretically analyze the mechanisms they are learning and create a new theory. [3]

During the practical training, students first use technical drawings, which provide information about a number of described features of the mechanism (material, shape, size, level of production accuracy, location of individual parts, etc.). This allows students to reflect not only on a particular machine, devices and equipment during the course, but also to describe their technological features and functional parameters. Through the use of technical drawings, the student will be able to master this mechanism and express their technical idea in a form that is convenient for practice.

In practical classes, students should be directly involved in the development of their thinking and the formation of basic knowledge and skills as a form of figurative thinking.

It is necessary to design special pedagogical situations that require creative solutions and create conditions for the formation of creative experience. The student's imagination and his imagination are constantly interacting dialectically and complementing each other, because the student cannot have a clear and stable idea of how the mechanism works without resorting to the imagination in his mind.

In developing students' creative abilities, it is important to focus on systems analysis based on systems analysis and decision-making technologies, as well as on the creation of systemic ideas, basic concepts of system theory, systems analysis and technology. At the same time, students should study the theoretical and practical issues of the organization of systems in the study of mechanisms, the study of practical approaches to production, economics, transport, energy and other areas, and the development of decision-making skills in students. [4]

In practical classes, it can also be done by moving the elements of the parts of the mechanism or changing their proportions by the teacher performing various exercises to develop the student's skills to fully master the process of working the mechanism. Because the solution of drawing problems associated with the construction of the machined part from the shape of the mechanism (making all kinds of grooves, holes, cuts in the part) is aimed directly at the development of creative thinking.

Problem situations can also arise in creative activities by giving students a variety of tasks that require knowledge and ingenuity to perform independently, which develops their creative abilities. These creative problems cannot be solved in certain ways, because there are various problems in the student's imagination during the operation of the mechanisms, and it is not possible to copy the image from the analyzed sample. At the same time, the student's work methods in the process of working with the mechanism allow him to consider traditional new, unexpected problem-solving methods, put forward new hypotheses, compare them and choose the best way out of the existing problem situation. As a result, the student had the task of modeling the shape of the mechanism part (design the part according to the description, changing the position of the object), proposing many solutions. Then the student is particularly interested in the problems associated with proving the correctness of the solution on the basis of certain rules and descriptive theorems on the structure of the mechanism. The student simulates the activities of a designer, technologist, etc. in special parts of the mechanism in solving this problem. This takes into account not only the complexity of the part, but also its originality, production and aesthetics. [5]

Their research in developing students' creative abilities is based on cognitive activity, which includes problem solving, complex conflicting situations. At the same time, the results of search and prediction activities are determined by how ready he is for mental change, how developed his spatial thinking is, and how mobile he is.

Thus, in order to fully introduce the basics of students' creativity into the educational process during the practical training, it is necessary to develop imaginative thinking, analysis and decision-making, which will ensure the formation of their ideas.

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