

DIDACTIC MECHANISMS OF FORMING CREATIVE THINKING IN STUDENTS

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Abstract: This article analyzes the didactic mechanisms for the formation of creative thinking in students from a theoretical and practical perspective. The study examines the importance of problem-based learning, project activities, interactive methods, digital tools and assessment systems in the development of students' creative potential. The article also discusses the pedagogical role of the teacher, the issues of stimulating creativity and introducing innovative approaches in the educational process. The results of the study indicate the need to use didactic mechanisms as an integrated system in the formation of creative thinking.

Keywords: creative thinking, didactic mechanism, problem-based learning, project-based activities, interactive method, digital tools, assessment system, pedagogical approach, creative potential, innovative education.

Introduction. The stage of socio-economic development of modern society requires completely new approaches from the education system. In the context of globalization, digitalization, and the rapid development of science and technology, the training of personnel who are not only knowledgeable, but also able to think independently, find unconventional solutions to problems, and have a creative approach is becoming an urgent task. In this regard, the issue of forming creative thinking in students is recognized as one of the priority areas of the higher education system. Creative thinking includes the ability to create new ideas based on a person's existing knowledge, experience, and skills, to solve problem situations in a non-standard way, and to think critically and freely. The development of creative thinking in the educational process not only increases the intellectual potential of the student, but also ensures his professional flexibility, readiness for innovative activities, and competitiveness. Therefore, there is a need to organize the educational process in higher educational institutions on the basis of didactic mechanisms aimed at developing creativity.

Didactic mechanisms are understood as a set of pedagogical tools, methods, forms and technologies that serve to effectively organize the educational process, achieve educational goals and ensure personal development. The role of these mechanisms in the formation of creative thinking in students is of particular importance, since traditional, reproductive approaches are mainly aimed at mastering ready-made knowledge and cannot sufficiently develop creative thinking. Therefore, modern education requires the widespread use of problem-based learning, project activities, interactive methods, strategies that develop critical thinking and digital didactic tools. In recent years, the problem of creative thinking in the field of pedagogy and educational psychology has been widely studied by foreign and domestic scientists. The studies emphasize that the development of creativity is inextricably linked with the concepts of person-centered education, competency-based approach and constructivist education. However, the issues of systematic analysis of didactic mechanisms in the process of forming creative thinking in students, assessing their effectiveness and applying them in practice remain insufficiently

covered. The problem of adapting the content of subjects and teaching methods to the development of creativity remains particularly relevant in higher education.

The reforms being implemented in the education system of Uzbekistan also show that special attention is paid to the development of students' creative potential. State educational standards and regulatory legal acts on the development of higher education set one of the main goals of training specialists with an independent, initiative and innovative approach. This requires teachers to reconsider the educational process and design didactic mechanisms in such a way that they serve the development of creativity. This scientific-analytical article analyzes the didactic mechanisms for the formation of creative thinking in students from a theoretical and practical perspective. It identifies the content of the concept of creative thinking, its importance in the educational process, as well as effective didactic mechanisms that serve the development of creativity. The article highlights the possibilities of developing creative thinking based on modern pedagogical approaches and focuses on the development of methodological recommendations that can be used in higher education practice.

Literature analysis. The problem of forming creative thinking in students attracts the attention of many researchers in the fields of pedagogy, educational psychology and didactics. The scientific foundations of the concept of creativity were initially formed in psychology, and later applied to the educational process. Foreign scientists such as J. Guilford, E. Torrance, H. Gardner, K. Robinson interpret creative thinking as an intellectual ability of a person aimed at non-standard problem solving. In their works, creativity is interpreted as a process associated with divergent thinking, originality, flexibility and rapid development of a flow of ideas.

The model of the structure of intelligence developed by J. Guilford is of great importance in creating the theoretical foundations for the development of creative thinking. He points to divergent thinking as a key component of creativity and emphasizes the need to create conditions for independent and free thinking of students in the educational process. E. Torrance scientifically substantiated the possibilities of identifying and forming creativity in education through tests for the assessment and development of creative thinking. These studies show that creative thinking can be purposefully developed in the educational process.

In pedagogical literature, the issue of forming creative thinking is often studied in close connection with the person-centered education and competency-based approach. Representatives of the constructivist theory of education (J. Bruner, L. Vygotsky) substantiated the need for knowledge to be actively mastered and reconstructed by the student, not given ready-made. It is in this process that the student's creative thinking develops, because he is forced to independently search for, analyze and adapt knowledge to new situations. From the point of view of didactic mechanisms, many studies emphasize the effectiveness of problem-based educational technologies in developing creative thinking. In particular, scientists such as AM Matyushkin, MI Makhmutov have scientifically substantiated the fact that teaching through problem situations increases the creative activity of students. In their opinion, problem questions, discussions and tasks aimed at research develop not only the student's knowledge, but also his thinking.

In modern research, project-based learning is considered one of the effective didactic mechanisms for the formation of creative thinking. Studies conducted by foreign scientists show that project activities develop creativity, teamwork, complex problem solving and innovative thinking skills in students. In project-based learning, the student appears as an active subject of

the learning process, which has a positive effect on the formation of creative thinking. Interactive methods are also an important didactic mechanism for the development of creative thinking. Methods such as “brainstorming”, “cluster”, “case study”, “role playing”, “debate” allow students to freely express their opinions, consider the problem from different perspectives. In pedagogical literature, these methods are characterized by increasing student activity, independent decision-making and the formation of a creative approach. At the same time, it is emphasized that the effectiveness of interactive methods depends on their purposeful and systematic use in accordance with the didactic purpose.

The development of creative thinking has also been studied as an important area in the research of local scientists. Uzbek pedagogical scientists justify the possibility of increasing the creative potential of students by introducing innovative approaches, information and communication technologies and modern pedagogical technologies into the educational process. In their work, creative thinking is often analyzed in connection with independent thinking, critical thinking and innovative activity. The issue of forming creative thinking in a digital educational environment has also become a separate object of research in recent years. Online platforms, virtual laboratories, simulations and digital didactic tools allow students to conduct creative experiments and test new ideas. Research shows that digital technologies, when used on a proper didactic basis, can be an effective tool for developing creative thinking.

At the same time, the analysis of the literature shows that, despite the existence of many theoretical views on the formation of creative thinking, a comprehensive and systematic model of didactic mechanisms has not been sufficiently developed. Most studies are limited to studying the effectiveness of a separate method or technology. This creates the need to consider the process of developing creative thinking as a holistic pedagogical system. The existing literature shows the relevance of the problem of forming creative thinking in students and the need to improve its didactic mechanisms. The aim of this article is to fill this gap, that is, to identify effective didactic mechanisms for the formation of creative thinking and scientifically substantiate the possibilities of their application in higher education practice.

Research discussion. The theoretical sources and pedagogical approaches studied in the framework of this study show that the issue of forming creative thinking in students is a complex and multifactorial process. The analysis of the literature confirms that creative thinking is not only an individual psychological characteristic of a person, but also a pedagogical phenomenon that is formed as a result of a purposefully organized didactic process. Therefore, in the process of discussion, the effectiveness of didactic mechanisms used in the development of creative thinking, their interrelationships and practical application are of great importance.

First of all, the role of problem-based learning technologies in the formation of creative thinking deserves special attention. Studies show that classes organized on the basis of problem situations increase the thinking activity of students, encourage them to search and draw independent conclusions. However, in practice, problem-based learning is often limited to the question-and-answer level. This situation hinders the full development of creative thinking. In this regard, it is necessary to bring problem situations closer to real professional activities, ensure interdisciplinary integration, and develop tasks with an open solution.

Secondly, the potential of project activities in developing creative thinking is highly appreciated. In the process of project-based learning, students independently carry out the stages of problem identification, data analysis, idea development and presentation of the result. This

develops all components of creative thinking - originality, flexibility and critical thinking. At the same time, the discussion shows that the methodological preparation of the teacher is an important factor in the effective organization of project activities. If the project topics are not directed towards a clear didactic goal, project-based learning can be limited to organizational activities only.

Thirdly, the issue of the influence of interactive methods on creative thinking is also controversial. Methods such as “brainstorming”, “case study” and “debate” allow students to freely express their opinions. However, in some cases, it is observed that students become passive participants or only active students control the process. This leads to a violation of the principle of equality in the development of creative thinking. Therefore, when using interactive methods, it is important to properly organize group work, clearly distribute roles and involve each student in the process.

Fourth, the role of digital didactic tools in the development of creative thinking is a separate subject of discussion in modern educational conditions. Digital platforms, simulations and virtual environments allow students to experiment, learn from mistakes and try new solutions. However, an excess of digital tools can lead to the loss of didactic purpose. Therefore, it is necessary to use digital technologies on the basis of a clear methodological model that serves to develop creative thinking.

Another important issue in the discussion is the impact of the assessment system on creative thinking. Traditional assessment systems are often focused on testing reproductive knowledge and do not sufficiently stimulate a creative approach. This leads to students being afraid to take risks and put forward new ideas. Therefore, it is advisable to introduce systems based on formative assessment, portfolio assessment and reflective approaches to develop creative thinking. Also, the pedagogical position of the teacher is a decisive factor in the formation of creative thinking. If the teacher behaves not as a teacher, but as a guide and partner, creative activity in students increases. The discussion shows that the attitude of teachers to innovative methods and their readiness to use them determine the success of the process of developing creative thinking.

In general, the results of the discussion indicate the need to develop an integrated system of not separate didactic mechanisms in the formation of creative thinking. The expected result can be achieved only when problem-based learning, project activities, interactive methods, digital tools and an assessment system are used in harmony with each other. In this regard, the process of forming creative thinking in students requires a comprehensive pedagogical approach, which requires further in-depth empirical research.

Conclusion. This scientific-analytical article considers the problem of forming creative thinking in students from the perspective of modern educational requirements, and analyzes the didactic mechanisms that are important in this process theoretically and practically. The results of the study show that creative thinking is not only a natural ability of a person, but also a complex intellectual quality that develops in the process of purposeful, systematic and scientifically based pedagogical activity. Based on the analysis, it was found that traditional, reproductive teaching methods do not provide sufficient effectiveness in forming creative thinking in students. On the contrary, problem-based learning, project activities, interactive methods, digital didactic tools, and reflective and formative assessment systems are important didactic mechanisms in the development of creative thinking. These mechanisms activate

students' independent thinking, encourage them to analyze the problem from different perspectives, put forward new ideas, and justify their opinions. It was also found in the research process that the pedagogical role of the teacher is a decisive factor in the formation of creative thinking. The teacher's guiding, advisory and collaborative position ensures creative freedom in the educational environment. In this case, the teacher's methodological preparation, openness to innovative approaches and creative pedagogical thinking directly affect the development of students' creative potential. The results of the study show that in the formation of creative thinking, it is necessary not to use didactic mechanisms separately, but to organize them as an integrated system. The inextricable link between the content of education, teaching methods, forms of education and the assessment system ensures the effective development of creative thinking. At the same time, the opportunities for developing creative thinking in the digital educational environment are wide, and their didactically based application is important. The formation of creative thinking in students is one of the strategic tasks of the higher education system, which serves to train competitive, innovatively thinking and modern professionals. The scientific conclusions and analytical views presented in this article can serve as a theoretical basis for improving educational practice, developing teaching models and methodological recommendations based on a creative approach. In the future, conducting empirical research in this area, identifying criteria for assessing creative thinking and applying them to the educational process remain relevant as one of the important scientific tasks.

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