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Research Article

Technologies For Developing Creative Thinking in The Pedagogical Process

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ABSTRACT:

This article analyzes the theoretical foundations and practical possibilities of technologies for developing creative thinking in the pedagogical process. Creative thinking is viewed as a key factor that enhances students' independent reasoning, ability to find unconventional solutions, and intellectual activity. The article provides a comprehensive discussion of the integration of innovative educational technologies, interactive methods, reflective approaches, and problem-based learning in fostering creativity.

Keywords: *Creative Thinking, Pedagogical Technologies, Innovative Education, Interactive Methods, Reflective Approach, Learner-Centered Education, Creativity, Problem-Based Learning.*

INTRODUCTION

In the modern education system, the issues of activating human thinking, awakening creativity, and managing the process of self-awareness of the individual occupy an important place. The main goal of the pedagogical process is now not only to provide knowledge but also to develop independent thinking, analytical, and creative thinking of pupils and students. Creative thinking is becoming the center of the philosophy of education as a force that frees a person from existing stereotypes, puts forward new ideas, and expands the scope of thinking. From this point of view, the main task of the teacher's activity consists of teaching the student unusual thinking, independent decision-making, and finding creative solutions.

Creative thinking is the highest level of human thinking, and it is the ability to combine existing knowledge in a new way and create new ideas and concepts. To develop it in the educational process, the teacher must abandon traditional lecture and reproductive approaches and involve the student in the process as an active subject. Because only in the process of active learning does a person learn to express their opinion, approach a problem in different ways, and justify their point of view. Creativity is not a result of teaching, but a state formed in the process of reading itself. To organize the pedagogical process in the spirit of creativity, the teacher participates simultaneously as a motivator, leader, and partner. For the student, the teacher should not be a source of knowledge, but a partner in the thinking process and a spiritual support on the path of search. In such a pedagogical environment, the student expresses their opinion freely, is not afraid of making mistakes, and every mistake becomes a source of analysis. Precisely such a reflexive environment creates the natural basis for the development of creative thinking.

METHODOLOGY

The educational process requires the teacher to perform the role of not only a knowledge provider but also a developer of the individual, an expander of the scope of thinking, and an awakener of creative potential. For this reason, today the development of creative thinking has become a central issue of pedagogical activity. Creative thinking is a new perspective, unusual analysis, and

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the ability to solve a problem through unexpected solutions. It determines the student's culture of thinking, intellectual flexibility, as well as personal motivation and reflexive activity. Technologies for developing creative thinking in the pedagogical process turn education into a process with a new philosophical content. Creative thinking is not only the goal of education but also its tool; it leads the student from acquiring knowledge to creating, and from ready answers to the search process. Thus, an education model based on creative thinking forms the student as an active person in society with their own thinking, views, and values. To develop creative thinking in the pedagogical process, it is necessary to integrate innovative pedagogical technologies, interactive methods, and reflexive approaches. Innovative technologies (for example, project-based learning, creating problem situations, cluster, and aquarium methods) ensure the active participation of the student and allow them to think freely and make independent decisions. In this, the teacher, as a leader, leads the student into an environment of creative research. The reflexive approach ensures the analysis of the results of the student's activity, evaluation of one's own thoughts, working on mistakes, and self-development. Reflection is an important condition for the formation of creative thinking because it teaches the student to understand the essence of their thinking and to manage it. At the same time, problem-based teaching methods involve the student in an active thinking process. In the process of solving problem situations, the student learns to apply existing knowledge in a new context, which strengthens their creative thinking.

The effectiveness of creative thinking development technologies depends on the teacher's methodical skill, strategies for encouraging students, and the degree of freedom of the educational environment. The teacher must create such a psychological environment in the lesson process that every student can freely express their opinion, not be afraid of making mistakes, and have the opportunity to test their ideas. In such conditions, the student's thinking is directed toward creativity, and they feel themselves not as a learner of knowledge, but as a creator. Lessons organized on the basis of the person-centered education concept create a favorable opportunity for the development of creative thinking. In such lessons, the student participates as an active subject and independently determines their own learning path. In this process, the teacher guides the student in the direction of self-awareness, analyzing thinking, and realizing their creative potential. Information and communication technologies (ICT) also play a large role in developing creative thinking. Digital tools encourage the student to learn actively through visual, auditory, and interactive perception. In the ICT-based educational process, the student expands their creative abilities by expressing their ideas in a virtual environment and creating digital projects.

LITERATURE ANALYSIS

In the process of forming creative thinking, interactive methods such as problem-based learning, project-based teaching, cluster, debate, aquarium, and role-playing give high results when used in mutual harmony. These methods lead the student not just to master ready knowledge, but to the level of reprocessing knowledge and giving it personal meaning. In this way, the student learns to consciously manage their thinking and approach new situations creatively. The effectiveness of creative thinking development technologies depends on the student's motivation and the teacher's reflexive analysis. As long as the teacher does not analyze their own lesson process, they do not see the methodical errors in it, and the student's thinking process remains in a repetitive, passive state. Therefore, the pedagogue must create an environment to activate the student's thinking through a reflexive approach to their activity. When every lesson is organized as a creative experience and every task as a practical exercise testing thinking, the content of education changes. Creative technologies of education have reached a new stage, especially in the information-communication environment. Digital resources, interactive platforms, visual and multimedia tools activate students' thinking through multi-channel perception. In this, the student learns to think not only through textual knowledge but also through images, sound, movement, and symbols. This creates a basis for multi-dimensional, systematic development of thinking. Also, through digital projects, the student

tests their ideas in virtual form, which strengthens the skills of independent thinking and creating innovation.

The deep essence of developing creative thinking is that it ensures the student's transition from the level of memorizing knowledge to the level of analyzing knowledge in a new way. This process includes three stages of thinking—reproductive, reflexive, and creative stages. If education stops only at the first stage, the student only repeats; at the second stage, the student evaluates their thoughts; and at the third stage, they create a new idea. Thus, creative thinking is an evolutionary form of the human mind, and it is the highest goal of the teaching process. The effectiveness of the pedagogical process is also directly related to the level of creative dialogue between the teacher and the student. Every question and every thought of the student provides a new opportunity for analysis for the teacher. In such interaction, the teacher also develops their own thinking; this process ensures two-sided creative growth. Therefore, creativity is a phenomenon determined by the thinking level of the entire education system, not just the student.

RESULTS

Through the effective application of creative thinking technologies, the spiritual, intellectual, and aesthetic content of education is enriched. Such an approach forms the individual as an active person who thinks independently, has their own ideas, and can make innovative decisions in life. This, in turn, creates a basis for the innovative development of society. The education system will have a truly humanitarian and modern content only if it forms not only knowledge in the individual, but also creative thinking, reflection, and openness to innovation. As a result of introducing technologies for developing creative thinking in the pedagogical process, students:

1. Learn independent and critical thinking;
2. Form decision-making skills in unusual situations;
3. Form a creative approach to problems;
4. Gain the skill of confidently defending their opinion;
5. Gain the competence of justifying their idea.

All of these ensure the integral development of the student's personality, intellectual independence, and social flexibility.

One of the most important aspects of organizing the pedagogical process on the basis of creativity is educational motivation. If the student has internal motivation, they participate actively in the process of expressing their opinion, creating innovation, and analyzing the problem. In awakening motivation, problem situations, creative tasks, debates, and interactive sessions used by the teacher play an important role. Precisely these methods lead the student to independent thought and make them feel like the author of their own idea. In developing creative thinking, problem-based teaching technology has a special significance. Because every problem situation encourages the student to know, to understand cause-and-effect relationships, and to form new knowledge. For example, through the question "what happens if a different decision is made in this case?", the student's thinking is turned in a creative direction. Through such exercises, the student actively applies mental operations such as analysis, comparison, generalization, hypothesis, and conclusion. This strengthens their intellectual potential.

CONCLUSION

In conclusion, it can be said that technologies for developing creative thinking in the pedagogical process brought a new philosophical, psychological, and methodological approach to the content of education. Modern education is now aimed not at mastering ready knowledge, but at directing the student to think, analyze, find creative solutions, and create new ideas. Creative thinking is the highest stage of human thinking, determined by the individual's independence, reflexivity, intellectual flexibility, and openness to innovation. Developing creative thinking is not just a set of methods, but a change in the philosophy of education. Because it requires constant reflection, a quest for innovation, and a creative methodical approach from the teacher as well. In such a pedagogical environment, the teacher appears to the student not only as a source of knowledge but as a partner who manages thinking

and awakens motivation. Thus, as a result of the effective use of technologies for developing creative thinking in the pedagogical process, the educational process turns into a humanitarian, interactive, and innovation-creating system. The individual formed as a result of this process appears as a perfect person capable of self-awareness, striving for creativity, thinking independently, and showing social activity. Therefore, a pedagogical approach based on creative thinking serves the most important goal of today's education—to raise a thinking, innovation-creating individual.

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