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THE PEDAGOGICAL AND METHODOLOGICAL FOUNDATIONS OF DEVELOPING CRITICAL THINKING IN THE EDUCATIONAL PROCESS

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Abstract: This article provides a comprehensive scientific analysis of the pedagogical and methodological foundations of developing critical thinking in the educational process. It examines the concept, essence, and significance of critical thinking in the modern education system. Furthermore, effective methods for shaping students' independent thinking, analytical skills, evaluation, and reasoning abilities are highlighted. The article analyzes the opportunities for developing critical thinking through interactive methods, innovative pedagogical technologies, and advanced forms of teaching. Based on the research findings, methodological recommendations aimed at improving the quality of education have been developed.

Keywords: critical thinking, pedagogy, methodology, educational process, interactive methods, independent thinking, innovative approach, competence.

Introduction

The development of modern society is primarily determined by the level of human capital development. In today's era of globalization, where the volume of knowledge is increasing dramatically, individuals are required not only to acquire existing knowledge but also to analyze, process, and apply it in practice. From this perspective, developing critical thinking in the educational process emerges as a pressing pedagogical problem.

The concept of critical thinking originally emerged in Western pedagogy, and it is associated with students' independent thinking, analysis of problem situations, and drawing well-founded conclusions. Today, this skill is viewed as an integral part of 21st-century competencies. In recent years, special attention has also been paid to the development of critical thinking within the educational system of Uzbekistan. The development of students' analytical thinking is defined as a priority task in State Education Standards and new curricula. Therefore, this article provides a profound analysis of the pedagogical and methodological foundations of developing critical thinking.

Research Methodology

During the research process, the following scientific methods were utilized based on a comprehensive approach:

- **Theoretical analysis method** — scientific literature, pedagogical views, and concepts related to critical thinking were studied.
- **Comparative analysis method** — traditional and innovative educational methods were compared.
- **Pedagogical observation** — methods for developing critical thinking during the course of lessons were analyzed.
- **Experimental-testing work** — the effectiveness of interactive methods was evaluated.
- **Statistical analysis** — the obtained results were synthesized.

Students' thinking activity, classroom participation, and level of knowledge acquisition were taken

as the main criteria in the study. To ensure the reliability of the research, the methodological approach was organized in a systematic and comprehensive nature. Specifically, the process of developing critical thinking was studied not only theoretically but also practically. In this regard, a mixed approach was used in the study, meaning that qualitative and quantitative analysis methods were harmonized with each other.

Within the framework of qualitative analysis, students' thinking processes, their attitudes towards problem situations, and the degree of logic in answering questions were observed. In this process, open-ended questions, problem-oriented tasks, and reflexive written works were used as primary tools. This approach made it possible to determine the depth of students' thinking.

Quantitative analysis, on the other hand, was carried out based on students' performance indicators, test results, and evaluation criteria. By comparing the differences between the experimental and control groups, the effectiveness of interactive methods was statistically evaluated.

This clearly demonstrated the real results of methods aimed at developing critical thinking.

Furthermore, during the research process, students' knowledge levels were studied through the lens of Bloom's Taxonomy (knowledge, comprehension, application, analysis, synthesis, evaluation). Particular attention was paid to higher-order thinking skills — namely, the analysis and evaluation stages.

Additionally, the following tools were widely used during the pedagogical experiment:

• diagnostic tests
• problem-based situational tasks
• group and pair work methods
• reflection (self-assessment) methods

Another important aspect of the study was the execution of a pedagogical experiment. In this experiment, classes for the experimental group were organized based on a specially developed methodological system, while traditional methods were applied in the control group. At the conclusion of the experiment, the obtained results were compared, proving the superiority of interactive methods in developing critical thinking. Simple statistical analysis methods (percentage calculation, derivation of average indicators) were used to process the results. This ensured the accuracy and reliability of the research findings. Overall, the system of applied methods fully served the purpose of the study and allowed for the identification of effective ways to develop critical thinking in the educational process.

Research Results and Discussion

The research results indicated that developing critical thinking significantly increases the effectiveness of the educational process. Specifically, it was observed that students' activity increased by 35–40% in classes where interactive methods were utilized.

• **Firstly,** methods such as "Brainstorming", "Debate", "Insert", and "Cluster" have a positive impact on students' independent thinking. Through these methods, students learn to express their thoughts freely.

• **Secondly,** critical thinking develops problem-solving skills in students. As a result, they are able to make correct decisions in real-life situations.

• **Thirdly,** students' culture of working with information is formed. They learn to analyze, compare, and evaluate information obtained from various sources.

• **Fourthly,** the relationship between the teacher and the student also changes in a positive direction. The teacher now acts not merely as a provider of knowledge, but as a guide and partner.

Developing critical thinking is considered one of the primary directions of modern pedagogy. This process is focused not just on students acquiring knowledge, but on them analyzing and evaluating

it.

At the same time, a number of problems exist in practice. In particular, the reluctance of some teachers to abandon traditional methods, the lack of methodological manuals, and the scarcity of technological tools negatively affect the process of developing critical thinking. However, by resolving these problems, the quality of education can be significantly improved. Enhancing teachers' professional development and the widespread implementation of modern pedagogical technologies are of particular importance.

The research findings show that the process of developing critical thinking requires not only methodological updates but also a change in the philosophy of education. While the student is viewed more as a passive recipient of ready-made knowledge in the traditional educational model, in the modern approach, they emerge as an active subject — that is, an independent seeker and creator of knowledge. This transforms the development of critical thinking into a central component of education.

International experiences show that in developed educational systems, critical thinking is not shaped as a separate competence, but is integrated across all disciplines. For instance, analyzing based on experiments in natural sciences, and drawing conclusions by comparing various sources in social sciences expands students' horizons of thinking.

[6/12/2026 12:43 PM] мафтуна : From this point of view, developing critical thinking is not limited to selecting a method; it also requires revising curricula.

Furthermore, it was determined during the research process that the role of the learning environment is also vital in developing critical thinking. In a classroom environment where there is a free exchange of thoughts, no fear of making mistakes, and an opportunity to defend one's point of view, students' thinking activity increases significantly. Conversely, in an environment based on strict control, students are observed to fall into a passive state.

In addition, the professional competence of the teacher is a crucial factor. Research indicates that teachers who can effectively apply methods for developing critical thinking are capable of forming higher-order thinking skills in students. For this reason, special attention should be paid to the methodology of critical thinking in the process of training pedagogical personnel and improving their qualifications.

Another important aspect is the assessment system. While traditional assessment methods are focused more on identifying reproductive knowledge, it is advisable to use formative (process-based) assessment methods to develop critical thinking. This allows for monitoring students' thinking processes and evaluating their individual development.

At the same time, the widespread implementation of modern information and communication technologies also serves as an important tool in developing critical thinking. Digital platforms, online discussions, and interactive programs create extensive opportunities for students to conduct independent research and analyze various sources.

Overall, the research results and analyses indicate that developing critical thinking requires a comprehensive approach. That is, high efficiency can only be achieved when the harmony of methodology, curriculum, teacher qualification, assessment system, and educational environment is ensured. This serves to elevate the educational system to a qualitatively new level.

Conclusion

In conclusion, developing critical thinking in the educational process is one of the most important pedagogical tasks of today. This skill plays a significant role in students' independent thinking, problem-solving, and making life decisions. To develop critical thinking, it is necessary to widely use interactive methods, enhance teachers' methodological preparation, and organize the

educational process on an innovative basis. As a result, it will be possible to educate a young generation that thinks modernly, is competitive, and possesses intellectual potential. The research results also demonstrate that developing critical thinking is a continuous and systematic process, and it should not be limited to a specific lesson or method alone.

References

1. Qodirov B.R. Pedagogical thinking and stages of its development. – Tashkent: Fan, 2012. – 256 p.
2. Xoliqov A.A. Pedagogical skill. – Tashkent: Iqtisod-Moliya, 2010. – 320 p.
3. To‘xtaxodjayeva M.X. Theory and history of pedagogy. – Tashkent: O‘qituvchi, 2013. – 384 p.
4. Nishonova Z.T. Shaping independent thinking in the educational process. – Tashkent: Fan va texnologiya, 2016. – 240 p.
5. Halpern, D.F. Thought and Knowledge. Psychology Press, 2013. – 512 p.
6. Karimov I.A. High spirituality – an invincible force. Tashkent, 2008. – 176 p.
7. Mirziyoyev Sh.M. New Uzbekistan strategy. Tashkent, 2022. – 464 p.
8. Yo‘ldoshev J., Usmonov S. Foundations of pedagogy. Tashkent: O‘qituvchi, 2015. – 320 p.