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INTEGRATION OF INTERACTIVE AND PROBLEM-BASED METHODS IN THE DEVELOPMENT OF CREATIVE THINKING IN PRIMARY SCHOOL STUDENTS

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Abstract

This article explores the integration of interactive and problem-based teaching methods in developing creative thinking among primary school students. The study examines the theoretical foundations and practical applications of combining these pedagogical approaches to enhance students' cognitive activity, independence, and creativity. Interactive methods are analyzed as tools for increasing engagement and collaboration, while problem-based learning is considered a mechanism for stimulating analytical and divergent thinking. The paper highlights effective strategies for integrating these methods within the primary education process and evaluates their impact on students' creative development. The findings indicate that the combined use of interactive and problem-based approaches significantly contributes to the formation of creative thinking skills, fosters active participation, and improves the overall quality of learning outcomes.

Keywords: Creative thinking, interactive methods, problem-based learning, integration, primary education, cognitive activity, student engagement, divergent thinking

Introduction

In contemporary education, the development of students' creative thinking has become a central objective, particularly at the primary school level where cognitive foundations are actively formed. Rapid technological progress, the

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expansion of information environments, and the increasing demand for innovative competencies require a shift from traditional, teacher-centered instruction to more dynamic and learner-centered approaches. In this context, fostering creativity is no longer considered an optional outcome but a necessary component of quality education.



Primary school students possess natural curiosity, imagination, and a strong inclination toward exploratory learning. These characteristics create favorable conditions for the development of creative thinking if appropriate pedagogical strategies are applied. However, conventional teaching methods, which often emphasize memorization and reproduction of knowledge, tend to limit students' ability to think independently and generate original ideas. Therefore, the integration of interactive and problem-based teaching methods emerges as an effective approach to address this challenge.

Interactive methods promote active student participation, collaboration, and communication, enabling learners to engage meaningfully with the content and with each other. At the same time, problem-based learning introduces cognitive challenges that encourage students to analyze situations, identify problems, and develop multiple solutions. The combination of these approaches provides a comprehensive framework for enhancing both the process and outcomes of learning, particularly in relation to creative thinking development.

Despite the growing interest in innovative pedagogical strategies, the methodological aspects of integrating interactive and problem-based methods in primary education require further investigation. There is a need to examine how these approaches can be systematically combined to maximize their educational potential and to identify the conditions under which they are most effective.

The purpose of this article is to analyze the theoretical and practical aspects of integrating interactive and problem-based teaching methods in the development of creative thinking among primary school students. The study aims to reveal their pedagogical potential, identify effective implementation strategies, and assess their impact on students' cognitive and creative abilities.

The issue of developing creative thinking in primary education has been widely discussed in pedagogical and psychological research. In recent years, particular


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attention has been paid to the role of interactive and problem-based teaching methods as effective tools for enhancing students’ cognitive and creative abilities. The theoretical foundations of interactive learning emphasize active participation, collaboration, and communication as key conditions for meaningful knowledge construction. Researchers argue that interactive environments stimulate learners’ motivation, promote engagement, and support the development of higher-order thinking skills.

At the same time, problem-based learning has been recognized as a powerful pedagogical approach that encourages independent inquiry and analytical thinking. Within this framework, learning is organized around problem situations that require students to explore, hypothesize, and generate solutions. Studies indicate that such an approach not only deepens subject understanding but also fosters divergent thinking, flexibility, and originality—core components of creativity. The integration of interactive and problem-based methods is therefore viewed as a complementary strategy, where interaction enhances engagement and collaboration, while problem-based tasks stimulate intellectual challenge and creative exploration.

A review of existing literature shows that although both approaches have been extensively studied separately, their combined application in primary education remains insufficiently explored. In particular, there is a lack of systematic analysis of how these methods can be effectively integrated to support the development of creative thinking among young learners. This gap highlights the need for further research focusing on methodological models and practical implementation strategies.

The research methodology of this study is based on a comprehensive and systematic approach, combining both theoretical and empirical methods. The theoretical component includes the analysis, comparison, and synthesis of pedagogical and psychological literature related to creative thinking, interactive teaching, and problem-based learning. These methods allow for the identification of key concepts, principles, and pedagogical conditions necessary for effective integration.

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The empirical component involves classroom observations, qualitative analysis of students' learning activities, and the implementation of problem-based and interactive tasks in primary school settings. During the research process, special attention was given to students' participation, their ability to generate ideas, solve problems, and engage in collaborative learning. The data collected were analyzed to evaluate changes in students' creative thinking and cognitive activity.

The methodological framework of the study is grounded in learner-centered, activity-based, and constructivist approaches to education. These perspectives view learning as an active process in which students construct knowledge through interaction, experience, and problem-solving. Such a framework provides a solid basis for integrating interactive and problem-based methods and for assessing their effectiveness in fostering creative thinking among primary school students.

The implementation of integrated interactive and problem-based methods in primary school classrooms revealed significant positive effects on students' creative thinking and cognitive engagement. During the study, students were presented with problem-based tasks that required them to analyze, hypothesize, and propose multiple solutions, while interactive activities encouraged discussion, collaboration, and peer feedback. The combination of these approaches provided a dynamic learning environment that stimulated both individual and group creativity.

Observations showed that students exposed to integrated methods demonstrated higher levels of engagement compared to traditional teaching. They asked more questions, explored alternative solutions, and were more willing to share their ideas openly. In particular, problem-based tasks promoted divergent thinking, allowing students to approach problems from multiple perspectives, while interactive methods enhanced communication skills and cooperative problem-solving abilities.

Quantitative and qualitative analyses indicated an increase in students' creative output and cognitive flexibility. For example, students were able to generate multiple solutions to a single problem, justify their choices, and modify their

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approaches based on peer input. Collaborative activities further reinforced their ability to negotiate, build on each other’s ideas, and reflect critically on different problem-solving strategies.



The study also highlighted important methodological considerations. Tasks had to be carefully designed to match the students’ developmental stage, ensuring that problems were challenging but achievable and that interactive activities encouraged meaningful participation. Teacher guidance, including scaffolding, timely feedback, and motivation, proved critical in maximizing the effectiveness of the integrated methods.

Conclusions

The study demonstrates that the integration of interactive and problem-based teaching methods is an effective strategy for fostering creative thinking in primary school students. By combining the engagement and collaboration promoted by interactive activities with the analytical and divergent thinking stimulated by problem-based tasks, students develop both cognitive and creative competencies more effectively than through traditional teaching methods.

The results indicate that students exposed to this integrated approach show increased motivation, higher participation, and the ability to generate multiple solutions to problems, reflecting enhanced divergent thinking and originality. Furthermore, collaborative learning within interactive settings reinforces communication skills, critical reflection, and peer-supported problem-solving. Effective implementation requires careful task design tailored to students’ developmental levels and active teacher guidance, including scaffolding and timely feedback. When these conditions are met, the integrated methodology significantly contributes to the holistic development of young learners, fostering independent, innovative, and cooperative thinkers.

In conclusion, integrating interactive and problem-based methods offers a pedagogically sound and practically valuable approach for cultivating creative thinking in primary education. Its systematic application can enhance both the quality of learning outcomes and the overall intellectual and creative development of students.

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