



## **ENHANCING INDEPENDENT THINKING SKILLS IN PRIMARY SCHOOL STUDENTS IN TEACHING MATHEMATICS**

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### **Abstract**

Currently, one of the main tasks of teaching mathematics in primary school is to educate students as well-rounded individuals. In addition to providing mathematical knowledge, it is essential to ensure that the acquired knowledge is solid and well-founded, and to develop the skills and competencies necessary to apply that knowledge. Particularly in mathematics lessons, it is crucial to foster independent thinking skills and equip students with the necessary competencies to successfully apply acquired knowledge in real-life contexts. From this perspective, teaching students to solve mathematical problems, especially those based on real-life contexts and their own experiences, plays a key role in understanding the content and essence of mathematical concepts. Integrating such problems into the learning process enhances the relevance and practical application of education. Developing and implementing these methods contributes to improving the quality and effectiveness of instruction. This article outlines strategies and techniques that teachers can use to cultivate independent thinking culture among young learners, enabling them to analyze, question, and innovate in their academic and social activities.

**Keywords:** Primary school, independent thinking, pedagogical technologies, interactive methods, creativity development, reasoning, logical thinking, mathematics, problem-solving, puzzles.



## **Introduction**

It is well known that applying methods that encourage independent and creative thinking is one of the key tasks in primary education. To achieve this goal, new pedagogical technologies have been introduced into the teaching process. These technologies play a vital role in the intellectual development and maturity of primary school students. Among them, interactive teaching methods have become particularly widespread. Such methods should be implemented in a way that activates all students in the classroom, allowing parts of the learning material to be explored independently by students. The teacher acts as a facilitator, guide, and monitor of the educational process. Creating a classroom environment where students feel psychologically safe and emotionally satisfied with their learning experience enables them to express their ideas freely.

Improving independent thinking skills in primary school students is crucial for nurturing their creativity, problem-solving abilities, and overall cognitive development. Investing in the development of these skills prepares students to tackle complex challenges, adapt to changing conditions, and become lifelong learners capable of making meaningful contributions to society.

Problem-solving is an essential component of teaching mathematics. It is nearly impossible to imagine mastering mathematics without engaging in problem-solving activities. Solving problems serves as a key method for applying theoretical knowledge to practical situations and plays a significant role in deepening understanding of mathematical concepts and fostering students' cognitive abilities. Problems are typically constructed based on a system of practical tasks. Each new concept should be introduced with tasks that help explain its relevance and application.

Simple arithmetic problems are used to introduce the meaning of operations and the relationships between them. These problems form the foundation for more complex problem-solving skills, helping students develop the necessary knowledge, skills, and competencies. Such problems stimulate analytical and synthetic thinking, comparison, generalization, and other cognitive processes essential to mathematical learning. Problem-solving enhances students' interest in the subject and develops independence, critical thinking, perseverance, and goal orientation. Real-life problems also contribute to broadening students' worldviews and play an important role in their overall development.



One of the key methods for developing independent thinking in primary school students is fostering curiosity and encouraging inquiry. By creating a classroom environment that values questioning, investigation, and discovery, teachers can inspire students to actively seek answers, explore new ideas, and approach the world critically. Cultivating curiosity lays the foundation for independent thinking by nurturing a sense of wonder and inquisitiveness. Integrating problem-based learning into the curriculum is an effective way to enhance independent thinking. By presenting real-life challenges that require creative solutions, teachers provide students with authentic learning experiences that promote critical thinking, collaboration, and decision-making.

Encouraging students to work collaboratively, think innovatively, and approach problems from different perspectives helps them apply their independent and analytical thinking skills in practical situations. In primary grades, moving from simple to complex problem-solving helps shape new concepts. This includes solving a range of problems involving addition, subtraction, multiplication, and division, such as finding the sum of identical addends, partitioning into equal parts, increasing or decreasing numbers, comparing quantities, and finding unknown components of operations. More complex problems, including inverse problems and those involving the sum of two products, can also be explored.

When a given problem is similar in complexity to previously solved problems, students should be encouraged to find the solution independently. For this purpose, students must be taught generalized approaches to solving problems.

## **Conclusion**

In conclusion, developing independent thinking skills in primary school students is a multifaceted process that requires a combination of strategies, approaches, and a supportive learning environment. By fostering curiosity, promoting critical dialogue, engaging in problem-based learning, encouraging reflective thinking, and nurturing creativity, teachers can empower young learners to think independently, analyze critically, and approach learning with confidence and determination.



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