



## EXAMPLES RELATED TO DEVELOPING PRIMARY SCHOOL STUDENTS' LOGICAL THINKING SKILLS

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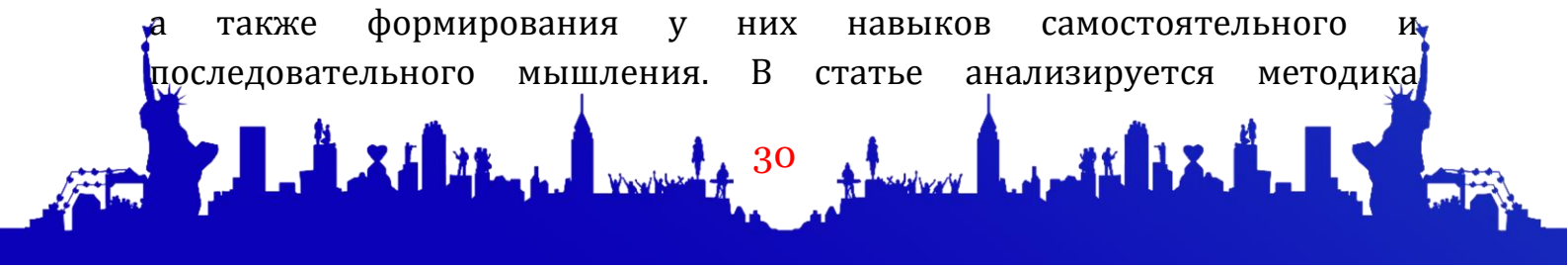
**Annotation:** This article examines the issue of developing logical thinking in primary school students as a scientific and pedagogical problem. It highlights the importance of fostering students' thinking abilities in the primary education process and teaching them to think independently and consistently. The article analyzes the methodology of using various examples, problems, didactic games, and tasks aimed at forming logical thinking. In addition, it presents methods for developing logical thinking while taking into account the age and individual characteristics of students. The study substantiates that the formation of logical thinking in primary school students contributes to improving the effectiveness of education.

**Keywords:** logical thinking, primary school, students, thinking skills, didactic games, examples, problems, educational process, methodology, development

**Annotatsiya:** Ushbu maqolada boshlang'ich sinf o'quvchilarining mantiqiy tafakkurini shakllantirish masalasi ilmiy-pedagogik muammo sifatida ko'rib chiqiladi. Boshlang'ich ta'lim jarayonida o'quvchilarning fikrlash qobiliyatini rivojlantirish, ularni mustaqil va izchil fikr yuritishga o'rgatishning ahamiyati yoritiladi. Maqolada mantiqiy tafakkurni shakllantirishga xizmat qiluvchi turli misollar, masalalar, didaktik o'yinlar va topshiriqlardan foydalanish metodikasi tahlil etiladi. Shuningdek, o'quvchilarning yosh va individual xususiyatlarini hisobga olgan holda mantiqiy fikrlashni rivojlantirish usullari keltiriladi. Tadqiqot natijasida boshlang'ich sinf o'quvchilarida mantiqiy tafakkurni shakllantirish ta'lim samaradorligini oshirishga xizmat qilishi asoslab beriladi.

**Kalit so'zlar:** mantiqiy tafakkur, boshlang'ich sinf, o'quvchilar, fikrlash qobiliyati, didaktik o'yinlar, misollar, masalalar, ta'lim jarayoni, metodika, rivojlantirish

**Аннотация:** В данной статье рассматривается проблема формирования логического мышления у учащихся начальных классов как научно-педагогическая задача. Освещается значение развития мыслительных способностей учащихся в процессе начального образования, а также формирования у них навыков самостоятельного и последовательного мышления. В статье анализируется методика





использования различных примеров, задач, дидактических игр и заданий, направленных на развитие логического мышления. Кроме того, представлены методы развития логического мышления с учетом возрастных и индивидуальных особенностей учащихся. В результате исследования обосновывается, что формирование логического мышления у учащихся начальных классов способствует повышению эффективности обучения.

**Ключевые слова:** логическое мышление, начальная школа, учащиеся, мыслительные способности, дидактические игры, примеры, задачи, образовательный процесс, методика, развитие

In our country, the comprehensive reform and modernization of the education system in accordance with contemporary requirements has been recognized as one of the priority directions of state policy. In particular, primary education plays a crucial role in shaping students' intellectual potential. Therefore, the development of logical thinking in primary school students is considered one of the urgent scientific and pedagogical issues today. As emphasized by Shavkat Mirziyoyev, "In building a New Uzbekistan, one of our most important tasks is to educate knowledgeable, independently thinking young people with a modern worldview"<sup>1</sup>. This idea once again highlights the necessity of forming independent and logical thinking skills in students. In addition, the Law of the Republic of Uzbekistan "On Education" defines the main goal of education as the upbringing of a comprehensively developed individual capable of independent thinking<sup>2</sup>. This, in turn, requires special attention to be paid to the development of students' logical thinking in the educational process.

Furthermore, in the Action Strategy for the Development of the Republic of Uzbekistan and subsequent presidential decrees and resolutions, particular emphasis is placed on improving the quality of education, introducing innovative methods, and developing students' creative and logical thinking<sup>3</sup>.

In the formation of logical thinking in primary school students, the use of various examples, logical problems, didactic games, and interactive methods is of

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<sup>1</sup> Mirziyoyev Sh.M. Speeches and addresses.

<sup>2</sup> Law of the Republic of Uzbekistan "On Education", 2020.

<sup>3</sup> Decrees and resolutions of the President of the Republic of Uzbekistan (Action Strategy, 2017).





great importance. Through these tools, students develop skills such as analysis, comparison, generalization, and drawing conclusions.

The aim of this course work is to develop a system of examples aimed at forming logical thinking in primary school students and to substantiate the methodology of their application in the educational process.

The objectives of the research are as follows:

- to study the theoretical foundations of the concept of logical thinking;
- to analyze the age characteristics of primary school students;
- to select examples and tasks that contribute to the development of logical thinking;
- to develop methods for their practical application.

The formation of logical thinking in primary school students is considered one of the key tasks of the modern education system. Logical thinking is the ability of a learner to understand reality through analysis, comparison, generalization, and drawing conclusions<sup>4</sup>. This type of thinking plays an important role in deep learning, independent reasoning, and solving problem situations<sup>5</sup>.

In the process of primary education, the development of logical thinking is closely related to the age characteristics of students. Children at this age tend to think more concretely and practically. Therefore, the tasks given to them should be simple, understandable, and engaging. In particular, activating students' thinking through examples and logical problems yields effective results.

In developing logical thinking, the use of the following types of examples is important:

Firstly, comparison-based examples. For instance, students are asked to compare two or more objects. Through this, they learn to identify similarities and differences.

Secondly, analysis and generalization tasks. For example, identifying the odd item in a sequence or determining a common feature develops students' analytical thinking.

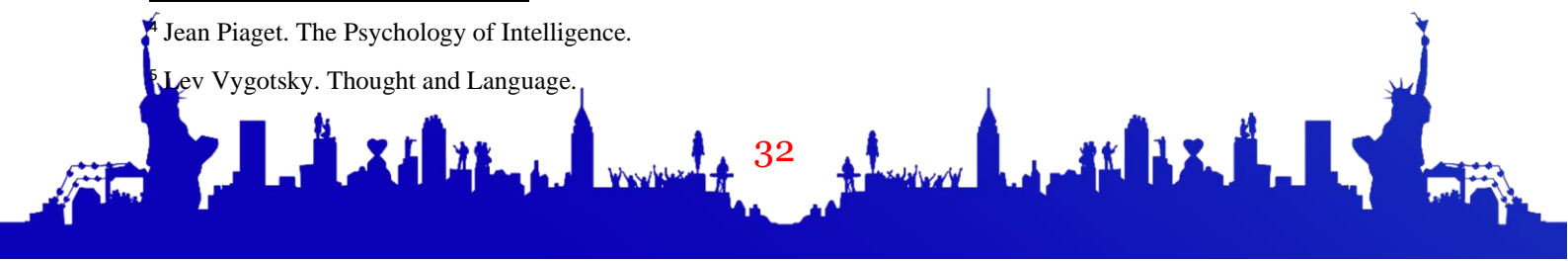
Thirdly, logical problems. For example: "If Ali has 3 apples and Vali has 2 more apples than Ali, how many apples does Vali have?" Such questions encourage students to think actively.

Fourthly, tasks based on didactic games. Game-based tasks increase students' interest and ensure their active participation. Games such as "Find and

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<sup>4</sup> Jean Piaget. The Psychology of Intelligence.

<sup>5</sup> Lev Vygotsky. Thought and Language.





Say” or “Find the Odd One Out” are effective in developing logical thinking<sup>6</sup>. In addition, the use of interactive methods is also important. Methods such as “Brainstorming”, “Cluster”, and “Insert” help to develop students’ independent thinking. These methods encourage active participation and allow students to express their ideas freely.

The role of the teacher is also crucial in forming logical thinking in primary school students. The teacher must organize lessons effectively, select tasks appropriate to students’ knowledge levels, and continuously motivate them. At the same time, it is important to consider students’ individual characteristics. As a result, the systematic use of examples and tasks aimed at developing logical thinking increases students’ knowledge levels, enhances their independent thinking skills, and improves the effectiveness of education.

One of the most effective approaches to developing logical thinking in primary school students is the integration of problem-based learning into classroom practice. Problem-solving tasks encourage students not only to apply previously acquired knowledge but also to search for new solutions independently. This approach significantly enhances critical and logical thinking skills.

In mathematics lessons, for example, teachers can use structured problem situations where students are required to find multiple solutions to a single task. Such exercises help learners understand that a problem may have more than one correct answer, thereby developing flexible thinking.

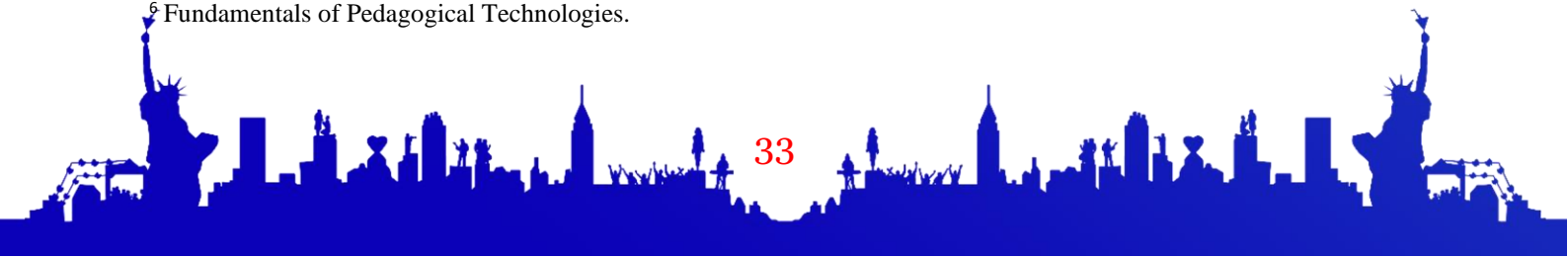
Another important aspect is the use of visual materials such as diagrams, tables, and schematic representations. Visual aids support students in organizing information, identifying patterns, and making logical connections between different concepts. This is especially important for younger learners who rely heavily on visual perception.

Group work and collaborative learning also play a significant role in developing logical thinking. When students work in groups, they are encouraged to discuss, justify their opinions, and evaluate different ideas. This interaction helps them develop reasoning skills and learn how to defend their conclusions logically.

Furthermore, teachers should gradually increase the complexity of tasks. At the initial stage, simple classification and comparison tasks can be used, while

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<sup>6</sup> Fundamentals of Pedagogical Technologies.





later stages should include multi-step logical problems. This gradual progression ensures continuous intellectual development without overwhelming students.

Assessment of logical thinking should not be limited to traditional testing methods. Instead, teachers can use formative assessment techniques such as oral questioning, observation, and performance-based tasks. These methods provide a more accurate picture of students' thinking abilities and help identify areas for improvement. The development of logical thinking in primary school students requires a systematic and well-structured approach. The combination of problem-based learning, visual aids, interactive methods, and collaborative activities creates a rich educational environment that fosters intellectual growth and prepares students for more complex learning stages.

The research conducted on the formation of logical thinking in primary school students shows that this process is an essential component of modern primary education. Logical thinking serves as the foundation for students' cognitive development, enabling them to analyze information, compare facts, draw conclusions, and solve problems independently.

The study demonstrates that the use of various examples, logical problems, didactic games, and interactive teaching methods significantly enhances students' thinking abilities. In particular, problem-based learning, visual materials, group work, and step-by-step task complexity contribute to the effective development of logical reasoning skills in young learners. It is also evident that the role of the teacher is crucial in this process. A well-organized lesson, appropriate selection of tasks, and consideration of students' individual and age characteristics ensure the successful development of logical thinking. Moreover, continuous encouragement and supportive feedback increase students' motivation and active participation in learning activities.

In conclusion, the systematic development of logical thinking in primary school students not only improves their academic performance but also prepares them for higher levels of education. Therefore, the integration of modern pedagogical approaches and innovative methods in teaching practice is highly recommended to achieve effective learning outcomes..

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