IMPROVING LOGICAL AND CRITICAL THINKING LITERACY OF PRIMARY CLASS STUDENTS

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Abstract. This article covers important issues of logical and critical development of elementary school students, information about the harmony and commonality of the concepts of "logic" and "criticism". The importance of the elements of personality development and the development of intellectual abilities in students of all subjects in primary school programs is considered.
Keywords: Mathematical thinking, critical thinking, tasks, development of mathematical skills, diagrams, international studies.

ПОВЫШЕНИЕ ГРАМОТНОСТИ ЛОГИЧЕСКОГО И КРИТИЧЕСКОГО МЫШЛЕНИЯ УЧАЩИХСЯ НАЧАЛЬНЫХ КЛАССОВ

Абстрактный. В данной статье освещены важные вопросы логического и критического развития учащихся младших классов, информация о гармонии и общности понятий «логика» и «критика». Рассмотрена важность элементов развития личности и развития интеллектуальных способностей у учащихся всех предметов в программах начальной школы.
Ключевые слова: Математическое мышление, критическое мышление, задачи, развитие математических навыков, диаграммы, международные исследования.

As our President emphasized: “Mathematics is the basis of all sciences. A child who knows this subject well will grow up to be intelligent, broad-minded, and will work successfully in any field.” After all, mathematics allows children to develop thinking, memory, attention, observation, and creative thinking. In addition, mathematics prepares the ground for students to develop their logical thinking skills, to express their thoughts clearly, correctly and intelligibly. The government of Uzbekistan has set goals for creating an innovative economy, implementing long-term goals and

objectives of the socio-economic development of Uzbekistan, and modernizing highly productive workplaces. Therefore, the success of our country in the 21st century. in terms of meeting the need for qualified specialists for science-intensive and high-tech industries, it directly depends on high-quality mathematical education. "The study of mathematics plays a systemic role in education, develops a person's cognitive abilities, including logical thinking..." All this implies the presence in modern society not only of well-educated specialists, but also of specialists who can think outside the box. In this regard, the priority direction of basic general education is to realize the development potential of students who are able to learn, self-educate and apply the knowledge gained in practice. One of the important components of a person's thinking ability is logical literacy, that is, a certain minimum set of logical skills and knowledge necessary for any intellectual activity. Thinking is a high form of human mental activity. Through thinking, we reflect in our minds things and phenomena that we cannot directly perceive with our sensory organs. Generally speaking, there are internal relationships and laws between things and events in the external environment that cannot be seen with the eye or heard with the ear. It is these internal relationships and laws that we can learn through thinking.

So, thinking is the reflection of the most important relationships and relationships between things and events in our minds. It is through thinking that we have the opportunity to know the essence of things and phenomena in the material world. Therefore, direct perception, perception, imagination and indirect thinking play an important role in knowing the world. The content and essence of the concept of thinking are interpreted differently by scientists in psychology textbooks. In particular, the definitions given to thinking in general psychology textbooks are different, emphasizing two or three of its important features, of course. For example, R.I. Ivanov's textbook defines "Thinking as such a mental activity of a person that allows him to reflect reality in the most accurate, complete, profound and generalized way, and to engage in more rational practical activity." This definition emphasizes the complete, clear and generalized reflection of thought, but the expression of its characteristic features directly through words remains outside the author's focus. According to M.V. Gamezo, “Thought is the reflection of reality in a generalized form through words and past experience.” He emphasizes the ability of thought to reflect generalized words and mediated environmental phenomena. The definition of thinking in the textbook edited by V.V. Bogoslovsky also highlights its generalized and indirect reflective properties, but it is not complete. Similar features of thinking are also found in the textbooks of F.N. Gonobolin and K.K. Platonov. Among the

definitions given, the definition in the textbook by O.K. Tikhomirov is considered to be more complete. In it, the components that make up the subject of thought are expressed as follows: "Thinking is a cognitive activity, a process that characterizes the direct reflection of reality by generalizing it with its product, and consists of differentiating it into types depending on the degree of generalization and the means used, as well as the novelty of such generalizations." E.Goziev, relying on the idea of neighborhood, gave the following conditional definition of thinking. “Thinking is a mental process that reflects the reality of the environment in a direct generalized form with the help of speech, is a mental activity aimed at understanding social-causal connections, increasing novelty and making predictions.” According to B.S. Abdullayeva, logical thinking is the process of analyzing and synthesizing reality, reflecting it directly and generally.

The teacher should take every opportunity to properly shape the thinking of his students:

1. He should teach students to correctly describe, analyze, compare, abstract and generalize.
2. Explain how to correctly, clearly and fluently express their thoughts.
3. Independently forming judgments and conclusions, reasoning increases students' intellectual knowledge, skills and abilities. In order to implement the above tasks, it is first necessary to introduce students to the need to independently compare objects of different types, to identify their similarities and differences. In human cognitive activity, the systematization of knowledge between subjects and objects arises.

Therefore, the systematization of knowledge is considered the initial stage of intellectual development. To assess students' knowledge of solving logical mathematical problems and identify their skills in applying them in practice, we conducted several observational studies in the primary grades of Gulistan City Secondary School No. 17. The test group spent 5-7 minutes of the organizational part of the mathematics lessons on solving logical problems. At the end of the experimental work, the students of the control and experimental groups were presented with written work, tests and independent work. Below are some of the written work options. Written work Option 1

1. There were 9 apples in the distribution. Lola ate 1 apple. How many apples were left in the distribution?
2. What number was dropped? 11, 12,13, …,15
3. Compare: 30 20 30 39 50 48
4. Find the number between 17 and 19.

5. Replace the dots with one of the signs “+”, “–”: 50...20 = 70

Option 2

1. There were 8 cockerels in the distribution. Komila ate 1 cockerel. When measured in several ways in the distribution, it turned out 3 kg. How many kilograms does the rooster weigh when measured standing on one leg? (Answer: 3 kg)

Task 2: There are 9 sparrows in a row on a tree branch. The fourth sparrow flew away. How many sparrows are left on the tree branch? (Answer: 8)

Task 3: 5 athletes participated in a 500-meter race. How far did each athlete run? (Answer: 500 m)

Task 4: There are 70 pieces of paper on the table. You can count 10 pieces of paper every 10 seconds. In this case, how many seconds does it take to count 50 pieces of paper? (20 seconds. The first ten are counted in 10 seconds, the second ten in the next ten seconds. There are 50 pieces of paper left on the table.)

Task 5: If one stick has 2 ends, how many ends does one and a half sticks have? (4)

This creative task can only be solved by the student by thinking logically. In this case, the student can observe the following: The number of sisters of Nadir is equal to the number of brothers. The number of brothers of his sister Umida is three times more than the number of sisters. So, Umida has 1 sister and 3 brothers. There are 3 boys and 2 girls in the family.

School experience shows that the use of interesting materials helps students in mastering mathematical knowledge and developing their logical thinking skills. The use of interesting materials for the following purposes gives good results: in the formation of mathematical knowledge, skills and abilities; in strengthening mathematical knowledge and abilities; in arousing children's interest in learning mathematics; in the formation of mathematical creativity skills and abilities, imagination and thinking; In order to instill in adolescents a desire to learn, it is advisable to link education with didactic games. The material taught to the child is easily learned and better retained in his memory if it is interesting. The main goal of this methodology is to teach children to think, concentrate their attention, be attentive, logical, and critical.

In short, various logical problems and tasks taken from life give the student pleasure. The student looks for ways to solve the task.

Such tasks not only strengthen the student's mathematical knowledge and skills, but also develop his logical thinking, encourage the student to search, be resourceful, and strive for the goal.

Logical tasks like this are common in textbooks. They help students focus on the lesson and increase their creativity.

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