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РАЗВИТИЕ ЛОГИЧЕСКОГО МЫШЛЕНИЯ НА УРОКАХ МАТЕМАТИКИ В НАЧАЛЬНЫХ КЛАССАХ

***Аннотация:** В статье описываются методы развития логического мышления на уроках математики начальных классов – как основа для дальнейшего изучения понятий и для осознания закономерностей в различных интерпретациях преемственности между начальной и средней школой.*

***Ключевые слова:** методы, логическое мышление, мыслительная операция.*

***Abstract:** the article describes methods for developing logical thinking in elementary school math lessons as a basis for further study of concepts and for understanding patterns in various interpretations of continuity between primary and secondary schools.*

***Keywords:** Methods, logical thinking, mental operation.*

The development of logical thinking in children is one of the important tasks of primary education. One of the main tasks of a modern school is to help students fully demonstrate their abilities, independence, develop initiative and creativity. [2; p. 10] Children already in primary school must master the elements of logical actions (generalization, classification, analysis, comparison, etc.). The teacher must teach students to highlight the main thing, analyze, compare, generalize and systematize, define and explain concepts, prove and refute, set and solve problems. Mastering these methods means the ability to think. Mathematics is the subject where you can implement this to a large extent. [1, с. 32]

Developing logical thinking in the learning process means:

develop the ability to distinguish essential properties of objects and distract (abstract) them from secondary, non-essential ones;

развивать develop students ' ability to compare observed objects, find common properties and differences in them;

учить teach students to draw correct conclusions from observations or facts, be able to verify these conclusions; instill the ability to generalize facts; develop students ' ability to convincingly prove the truth of their judgments and refute false conclusions;

учить teach children to dissect (analyze) an object into its component parts in order to learn each component part and combine (synthesize) mentally dissected objects into a single whole, while learning the interaction of parts and the object as a whole;

следить make sure that students ' thoughts are stated clearly, consistently, consistently, and reasonably. [4, с. 15]

The thinking of a child of primary school age is at a critical stage of development. During this period, the transition is made from visual-figurative thinking, which is the main one for this age, to verbal-logical, conceptual thinking. [1, p. 40]

Developing the thinking of younger students in the process of solving non-standard problems can instill a child's interest in the study of "classical" mathematics.

The principle of forming mental operations in math lessons is implemented as follows:

- the use of strain exercises;
- совместное joint and simultaneous study of related concepts and operations;
- the widespread use of the method of the inverse problem;
- simultaneous submission of the same mathematical information on several codes;
- consolidation of the original exercise through the student's self-preparation of new tasks.

Visual illustration of reciprocal operations forces the student to use reasoning, i.e. logical means of research that contribute to the development of thought operations. The main work for the development of logical thinking should be carried out with the task. After all, in any task there are great opportunities for the development of logical thinking. Non-standard logic problems are an excellent tool for such development.

The greatest effect can be achieved by using different forms of work on the task.

This:

1 Work on a solved problem. Many students only realize the plan for solving the problem after repeated analysis. This is the way to develop solid knowledge of mathematics. Of course, repeating the analysis takes time, but it pays off.

2 Solving problems in different ways. Little attention is paid to solving problems in different ways, mainly due to lack of time. But this skill indicates a fairly high mathematical development. In addition, the habit of finding another solution will play a big role in the future. But I believe that this is not available to all students, but only to those who love mathematics and have special mathematical abilities.

3 The correct way to analyze the problem is by question or from data to question.

4 Representation of the situation described in the task (draw a "picture"). The teacher draws the children's attention to details that need to be presented and that can be omitted. Imaginary involvement in this situation. Modeling the situation using a drawing, drawing.

5 Independent compilation of tasks by students.

Systematic use of special tasks and tasks aimed at the development of logical thinking in math lessons and extracurricular activities expands the mathematical horizons of younger students and allows them to more confidently navigate the simplest laws of the surrounding reality and actively use mathematical knowledge in everyday life. [1, c. 42]

Non-standard tasks require increased attention to the analysis of the condition and the construction of a chain of interrelated logical reasoning. I will give examples of such problems, the answer to which must be logically justified:

The box contains 5 pencils: 2 blue and 3 red. How many pencils do I need to take out of the box without looking in the box to have at least 1 red pencil among them?

The loaf was cut into 3 parts. How many incisions were made?

The use of such tasks expands the mathematical horizons of younger students, promotes mathematical development and improves the quality of mathematical preparedness. [5, c. 235]

- When solving entertaining tasks, the following goals are pursued: the formation and development of thought operations: analysis and synthesis; comparisons, analogies, generalizations, etc.;
- development and training of thinking in General and creative in particular;
- maintaining interest in the subject, in learning activities (the uniqueness of an entertaining task serves as a motivation for learning activities);
- development of creative personality qualities, such as cognitive activity, perseverance, perseverance in achieving goals, independence;

Podgotovka preparing students for creative activities (creative assimilation of knowledge, methods of action, the ability to transfer knowledge and methods of action in unfamiliar situations and see new features of the object). [1, c. 43]

Mastering the techniques of mental activity and generalized actions in primary classes makes it possible to gradually introduce children to the world of mathematical concepts, terms, symbols, i.e. the world of theoretical knowledge, and thus contribute to the development of both empirical and theoretical thinking. [3, c. 78]

Thus, the development of thinking of younger students in the process of teaching mathematics is the basis for further study of concepts and for understanding the laws in different interpretations, i.e. it is the basis for continuity between primary and secondary schools.

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