



## THEORETICAL FOUNDATIONS OF GROWING LOGICAL THINKING OF ELEMENTARY SCHOOL STUDENTS

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**Annotation:** In this article discusses the features and importance of shaping the ability to think logically in mathematics lessons in elementary school students. The methodology of using effective methodologies is also highlighted in mathematics lessons.

**Keywords:** mathematical issues, creativity, logical issue, educational system, skills.

### Introduction.

The upbringing of the younger generation as a perfect person, which is responsible for the future of the new Uzbekistan, is one of the important tasks of today. Currently, the president of the Republic of Uzbekistan Shavkat Mirziyoyev pays special attention to the education of the younger generation as a perfect person<sup>1</sup>.

In recent years, systematic work has been carried out on improving the quality and efficiency of the educational system in the country, the formation of modern knowledge and skills in the student and student youth, ensuring close cooperation and integration between educational systems and the field of science, continuity and continuity of Education.

Currently, one of the main tasks of teaching mathematics in elementary grades in schools is to educate students as mature people in every possible way. In this, it is important to provide them with knowledge in mathematics, as well as to ensure that the knowledge being learned is justified and thorough, and to form skills and qualifications that can be applied to them. The development of thinking skills, especially in mathematics lessons, as well as the formation of the necessary skills and qualifications for their successful application of the knowledge gained in the future in conscious life activities should become the main tasks of elementary mathematical education. From this point of view, teaching methods and applications of solving mathematical issues in the educational process, including life-meaningful, based on their accumulated experience, has its own characteristics, their use in revealing the essence of the content of education and the concepts under study, interaction and teaching with the experience of practical activities of students are considered topical issues. The development and practical application of these methods serves to improve the quality and efficiency of training<sup>2</sup>.

One of the main goals of teaching mathematics in primary education is also the development of students' abilities and interests on the basis of the formation of students' intellectual thinking. Therefore, the development of the methodology for conveying the essence and

<sup>1</sup> Mirziyoyev SH.M "We will build our great future together with our brave and noble people" – Tashkent "Uzbekistan". 2017.

<sup>2</sup> N.U.Bikbayeva, R.I.Sidelnikova G.A.Adambekova. Methodology of teaching mathematics in elementary grades. (Methodical guide for high school elementary school teachers.) T.: "Teacher" 1996.

methods of calculation of the concept of arithmetic operations in elementary grades involves the development of skills and competencies in students, in which Elementary Mathematics in general can form basic concepts and put them into practice. The reason for this is the following:

1. Teaching mathematics in elementary education through the disclosure of the essence of arithmetic operations and concepts, the widespread use of vital meaningful exercises and examples and, on this basis, the derivation of logically interconnected concepts, definitions, rules and conclusions serves to develop students' mathematical abilities.
2. In the study of mathematics in elementary education, textual exercises that embody the peculiarities of each action and invite them in connection with the life experience of students have continuity, which provides the basis for the development of thinking skills while increasing students' interest in science. Also affects the development of common ways of thinking and skills.

The subject of the methodology of elementary education in mathematics consists of the following.	From teaching mathematics to clearly substantiate the intended goal (why mathematics is taught, taught)
	Scientific development of the content of teaching mathematics (what to teach) one how the level of knowledge brought into the system is distributed in accordance with the age characteristics of its students, consistency is ensured in the study of the basics of Science, the load that gives training to educational work is eliminated, the content of Education corresponds to the opportunities of students to obtain accurate knowledge.
	Scientific development of teaching methods (how to teach) that is, what should be the methodology of educational work so that students acquire the economic knowledge, qualifications, skills and abilities of mental activity that are currently needed?
	Teaching tools - textbooks, didactic materials, visual aids and the use of educational and technical tools (what to teach using)
	Scientific development of the organization of education (how to organize the lesson and extracurricular forms of Education).

Mathematical issues are an important component of teaching yechish mathematics. It is impossible to imagine mastering mathematics without solving problems. In mathematics, issues are an important way to bring yechish's theory into practice. An important role in the process of mastering one or another theoretical material, which is studied in the elementary grades of solving problems, and cultivates the thinking abilities of students plays an important role.

Issues are drawn up on the basis of the system of practical affairs. The term this means that the content of each new concept is always achieved by solving one or another issue that requires its application, which helps to explain the importance of this concept. Suitable simple issues are used when revealing the content of arithmetic operations between actions and the links between the action components and the results, when familiarizing yourself with the links between different amounts. Simple issues are needed in students to solve complex issues, the knowledge that will be will serve as the basis for the content of qualifications and skills.



Issues are a useful tool for the development of children's thinking skills that usually include some knowledge. The search for this knowledge requires the problem solver to independently refer to analysis and synthesis-compare facts, generalize, etc. Teaching these ways of knowing is one of the important goals of teaching mathematics. When solving issues, interest in the subject develops, independence in general develops freedom, exactingness, hard work, striving for the goal. Even when educating students, life issues help to expand thought circles. While working on issues leads to the improvement of private qualifications of students systematically and on a planned basis. Work on the issue begins with mastering its content. At the initial time, when students do not yet have a reading qualification, it is necessary to learn to sound out important elements of the condition to listen to the text of the issue read by the teacher, after which, in order to better master the condition of the issue, it is necessary for each student to listen to the text of the

To do this, they must be offered to read the matter without making a sound before, and then read it expressively by making a sound. In the elementary grades, the study of issues is carried out using the formation of new concepts, the transition from solving simple issues to solving complex ones. In this addition, subtraction, multiplication and division are different simple issues i.e. the problems of multiplying and diminishing a number several times to find the sum of the same complements and equal divisors compare numbers simple issues of finding unknown components of steps as well as various complex issues including problems to be quoted, issues to find the sum of two multiples and

If the issue given is appropriate or similar in its complexity to the issues solved in the classroom, then students should be taught to independently find the way to solve the proposed issue. To this end, students must master the simplest general methods of approaching the solution of issues. Students, under the guidance of the teacher, should be able to write down the condition of the issue briefly and vividly, and describe the condition with a drawing or painting in order to make it easier to find ways to solve it. Readers should learn to clearly and clearly explain in what order the answer to the question of the issue can be found with the help of arithmetic operations, what is known about what is unknown in the issue being solved. Students should be able to understand why they have chosen each action by drawing up an expression or equation on the issue, be able to overcome it, answer the question and check the correctness of the solution.

#### ***Staged issues.***

Much attention is paid to staged issues. These issues reflect the actions observed by children, often directly performed by themselves. Here it is not the answer to the question that can be seen from the visual basis of these given numbers. First-class children often do not know how to solve the issue, because they do not understand the meaning of words that represent (spent, shared, gifted and others) this or that action. Therefore, at school, in a preparatory group, special attention should be paid to revealing the content of the words that represent this or that action. To this end, it is necessary to take into account what practical actions need to be included in the basis of the issue. In this, it is advisable to compare the opposite action: came - went, came close-moved away, took-gave, raised-lowered, brought-took, flew away from the intended gathering and the issues related to finding the residue.

#### ***Visual issues.***

Initially, children are told about the content of the topic, and pictures are shown depicting the given numbers. The first issue on the picture is drawn up by the teacher himself. He teaches

children to look at pictures, to distinguish between given numbers and life actions that led to changes in quantitative relationships. For example, the painting depicts a child holding 5 balls, giving 1 ball to a girl.

*Looking at the picture, the teacher says: what is depicted here?*

*What is the child holding?*

*How many balls are in it?*

*What is he doing?*

*What do we know?*

*Draw up the condition of the issue. What can you ask about?* he asks.

The teacher changes the issues given, encouraging children to come up with issues of varying content on the same topic and find a balance, to draw up an issue based on a picture of the content they want to use in teaching storytelling. Mathematical problems are separated into simple and complex ones. Issues that can be solved with one action are called simple issues. Issues compiled from several simple issues and therefore solved using two or more actions are called complex issues.

The conditions of simple issues should be understandable to children, and issues related to residual finding fall into such a set of issues. With the help of solving simple problems, one of the main concepts of the elementary course of mathematics is the concept of arithmetic operations, and a number of other concepts are formed. They learn to solve complex problems after they have mastered the simple problem. Because complex issues will be structured from several simple issues.

#### ***The "mental attack" method.***

This method serves to ensure the activity of students in the process of training, to encourage them to think freely and to free them from the inertia of the same thinking, to collect colorful ideas from a particular topic, as well as to learn to overcome the thoughts that arise at the initial stage of the process of solving creative tasks. The "mental attack" method A.F. Recommended by Osborn, its main principle and condition is to completely ban criticism of the thought being shared by each participant in the training, to encourage any kind of bite and humor.

The aim of this is to ensure the free participation of students in the training process. The use of this method in the educational process will depend on the pedagogical skill of the teacher and the breadth of the scope of thinking. During the use of the "positive attack" method, it is desirable that the number of students does not exceed 15 people. Training based on this method can be organized up to one hour<sup>3</sup>.

#### ***The "gross mental attack" method.***

This method is called J. Designed by Donald Phillips, it can be used in classes of several dozen (20-60) students. The method serves to create conditions for new ideas to be thrown in the middle by students. When the different tasks or creative tasks, which should be positively solved within 15 minutes, are positively solved to groups containing each 5 or 6 students, it is about one of the members of the group akhdorot. The information given by the group (assignment or creative task solution) is discussed and evaluated by the teacher and members of other groups. At the end of the training, the teacher announces the answers that are considered the best and most specific among the solutions of the assigned task or creative

<sup>3</sup> L.P.Stoylova, A.M.Basics of the Pishkalo Elementary Mathematics course. - T.: Teacher 1991.

tasks. During the training process, the activities of the members of the groups are evaluated according to the level of their participation.

### **Conclusions.**

We got acquainted with the instructions, methods, rules for the use of interactive methods in the cultivation of the logical thinking of elementary school students.

### **As a result, we came to the following conclusions:**

- ❖ The use of interactive, game techniques in order to make lessons more interesting, effective and meaningful, will help to achieve significantly higher results;
- ❖ Search for a new method, technology, measures to effectively use methods that will help further develop the creative and mental abilities of students;

To provide competent, qualified personnel to improve the quality and efficiency of education in schools;

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