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# Developing Creative Thinking through Primary School Students Solving Problems

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**Annotation:** The following ideas are intended to develop students' creative thinking and thinking skills. In carrying out this process, special attention is paid to the process of solving problems with students, working with the analysis of the given problems.

**Keywords:** problem, logical thinking, broadening the worldview, speech and thinking, creative thinking.

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Implementation of the "Target program to improve the quality of education in mathematics in the Republic of Uzbekistan in 2020-2023, increase the efficiency and practical significance of scientific research", approved by the President of the Republic of Uzbekistan on May 7, 2020 No PP-4708 We would like to share the following views, taking into account the unique role of mathematics in the worldview, thinking skills, socialization of students admitted to the higher education system after completing general secondary education.

Problem solving is an important part of teaching mathematics. It is impossible to imagine mastering mathematics without solving a problem. Solving problems in different ways allows students to develop creative thinking, thereby cultivating perseverance and resilience to overcome the difficulties encountered in solving various life problems.

Given that solving a problem in several different ways helps to develop students' creative thinking, the ability of the student to independently find ways that are abstract for the student also allows him to show his hidden abilities. Some students find one way to solve a problem, some students find two ways, and some students find a number of ways to solve it. As K. Marx said - "it is better to solve 1 problem in 20 different ways than to solve 20 problems in the same way". These ideas are not in vain. In our research, it is no exaggeration to teach small school-age students how to solve a problem in a number of different ways. At present, students are not happy about the problems and their desire to find solutions).

It is known from the course of psychology that the development of thinking is determined by the creative activity of the individual. In particular, the organization of independent problem-solving allows students to use the reserves of mental abilities, which is an important factor in the development of creative thinking.

The "Explanatory Letter" section of the Mathematics Curriculum for Elementary Schools emphasizes the importance of teaching students how to solve problems in a variety of ways. The program emphasizes the need to teach children to use the properties of arithmetic operations that they have already learned in solving problems and to choose the most appropriate method known to them. Problems can be solved in the following ways:

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1. Arithmetic method;
2. Algebraic method;
3. Practical method;
4. Graphic method.

These methods differ in their name and content. For example, consider such issues. "10 pears were cut into 2 pieces on several plates. How many plates do you need? " In Grade 1, students can only solve this problem in a practical way. To answer the question, they put 10 pears on a plate and so on until all the pears are done. Then, as a result of counting the plates, he gets an answer to the question. In the 1st grade math textbook, he gives instructions on such issues as follows: "Oral solution" means, in other words, "Solve it in practice". In Grade 2, students are introduced to the practice of being and how to do it, so it is possible to write a solution to this problem. In solving the problem, they think as follows. "2 pears were placed on each plate. How many times are there 2 pears out of 10 pears? " To do this, divide by 10:  $2 = 5$  (plate).

This problem can also be solved by the algebraic method: Since the number of plates is unknown, we denote it by the letter X. Since there are 2 pears on each plate,  $2 * x = 10$ . We solve this:  $2 * x = 10$   $x = 10 : 2$   $x = 5$  After the equation is formed, its solution is also different in solving the problem by arithmetic. This problem can be easily solved graphically by describing each point with a cross section.

This solution is reminiscent of a practical solution, although it has a more obstinate character.

In primary school, this problem is solved arithmetically, and practical and graphical methods are used as ways to help students understand the content of the division operation.

In the Uzbek language, the words method, way, style are very close in content. That is why he can replace one of them with another. However, for the sake of clarity, it is better not to talk about solving the problem by arithmetic, algebraic, practical and graphical methods, but about different ways of solving it or different attempts to solve it. In this case, different methods of problem solving are understood in the same way, and the solution of problems is based on the ability to easily distinguish between the given and what needs to be found, which is the main feature of solving the problem in different ways.

Indeed, when we talk about the algebraic and arithmetic solution of a problem, we work with different approaches to the solution. We make sure that the connection between what is given in this or that case and what needs to be found is the same in terms of its content. The child develops such qualities as thinking, reasoning.

In particular, in the 1st grade, mainly pictorial tables were used to develop students' creative thinking. Because the pictures are interesting for children.

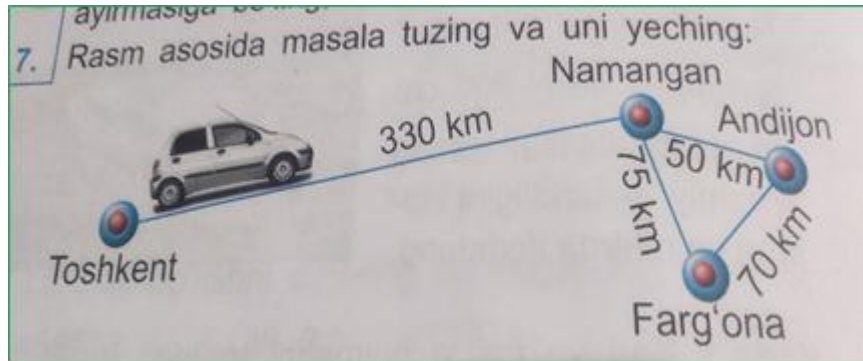
Grade 2 math classes cover more than 80 different types of problems, and consist mainly of pictorial, graphic, and textual problems.

In Grade 3, there are more than 340 problems, which are also solved in different ways, and logical problems are given for each lesson. At the same time

- create a problem based on the picture and solve it;
- Create and solve a problem on a short note;
- create a problem on the basis of the table and solve it;

We can also see the issues raised by the terms. Of course, assignments such as Create and

Solve This Problem encourage students to think creatively and develop their creative thinking. However, the tasks in the textbook we are using now are the same as the ones mentioned above.



In particular, it would encourage students to develop their creative thinking by slightly changing the context of the problem above that is, replacing the phrase “create a problem” in the problem statement in the picture with “create a problem”.

1. Find the distance from Tashkent to Andijan.
2. Find the shortest distance from Tashkent to Fergana.

It is possible to continue in this way.

There are more than 240 questions in the 4th grade math textbook, which means that they also serve to develop students' creative thinking, and we can say that this is enough.

From teaching simple problems in Grade 1 and their computational methods, the level of problems in Grades 2–4 has gradually become more complex. So, we can see that the role of issues is very important in each homework or homework assignment. Our greater use of issues in math lessons is an important tool for broadening students' horizons and developing their creative thinking. Now, let's also take a look at the definitions given to the problem before considering a number of issues to develop students' creative thinking by solving problems.

What is a "math problem"?

A mathematical problem is a related concise story in which the values of some quantities are included and the values of other quantities connected with them by a certain relationship are sought in the context of the problem. can also be given: a problem is a verbal question that can be answered using arithmetic operations. Note that this definition only applies to arithmetic problems. Mathematical problems are divided into simple and complex problems. Problems that can be solved with a single operation are included in the list of simple problems. problems that can be solved are called complex problems.

In Grade 1-2 textbooks, mostly simple questions are given.

#### A simple matter:

"The seamstress sewed clothes from 12 meters of 54 meters of fabric. How many meters of fabric are left?" This problem is on page 13 of the new 2nd grade math textbook.

#### Complex issues:

"The handicraft workshop had 84 musical instruments. He sold 32 of them and made 32 more musical instruments with his students. How many musical instruments were there?" It is done in 2 steps. [New 2nd Grade Math Textbook p. 49]

Problem-solving first of all forms mathematical concepts in students. It creates new knowledge and strengthens it in the process of applying existing knowledge. At the same time, creative thinking develops. allows you to connect. In elementary mathematics, in particular, in the classroom, working on problems plays a key role. Here you can add and subtract, multiply and divide, find the sum of the same additions, divide into equal parts, multiply the number several times, find the unknown component of the operation. issues are given. There are also various complex issues.

The work on the development of skills in solving simple and complex problems, which began in the first and second grades, will continue in the third and fourth grades.

When we look at the new math textbook for grades 1-2, we find that there are more picture and line tables. There are less text tables. In our opinion, more pictures give more creative thinking. .

In grades 3-4, first of all, the skills and abilities to solve simple and complex problems included in the courses of grades 1-2 will be further strengthened.

In solving simple and complex problems, it is necessary to pay attention directly to the correct structure of its conditions. In addition to building some concepts, relationships, and calculation skills, problem-solving allows students to expand their knowledge and explain in depth some of the quantities and relationships between them.

Students should be able to incorporate these skills into problem-solving.

Learn to listen to the problem and read it independently.

Working on an issue starts with mastering its content. Students should be taught to listen to the text of the problem being read by the teacher and to distinguish the important elements of the condition aloud in the early stages of their development. Then, in order to better understand the context of the problem, each student should not only listen to the text of the problem, but also read the problem independently;

The text of the problem is read once or twice by the teacher or students, but it is necessary to gradually teach children to understand the content of the problem once they read it. Through this, thinking abilities are formed.

It is important to note that in the process of working on a mathematical problem, we must strive to make each problem a real source of knowledge for children. To do this, the student's attention should be drawn to the problem situation to the extent that it develops thinking and cognitive skills. Problems and their solutions play an important role in the education of students, both in terms of time and the impact on the mental development of the child. In the process of solving each problem, students have several educational and practical goals. elements of competence are formed in students.

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