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Methods of Teaching Mathematical Text Problems in Primary School

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Abstract

The article discusses the methodology of teaching mathematical text problems in primary schools. Approaches, stages, methods and methods of training are analyzed. Special attention is paid to identifying the main difficulties that students face when solving problems, and possible ways to overcome them. Psychological and pedagogical aspects of problem-solving skills formation are also considered. The importance of integrating various methods to increase students ' motivation is shown. The paper highlights the features of using visual materials and practical exercises. The role of the teacher in the formation of mathematical thinking of younger schoolchildren is considered. Prospects for improving methods for improving the quality of mathematical education are noted.

Keywords: Teaching methods, mathematical text problems, primary school, approaches to learning, stages of learning, methods and methods, difficulties of students, mathematical education.

Introduction

Solving text problems is central to the process of teaching mathematics in primary school. This type of activity contributes to the formation of analytical thinking, logical reasoning skills and the ability to apply mathematical knowledge in practical situations in younger schoolchildren. However, the success of learning depends on the teaching methodology, which should take into account the age characteristics of children, their cognitive abilities and motivation.

The importance of the topic is due to the need to develop effective approaches and methods aimed at eliminating the difficulties faced by students. These difficulties include understanding the problem conditions, identifying master data, building a solution plan, and verifying the result.

The purpose of this paper is to analyze existing methods of teaching text problems in primary school, identify their strengths and weaknesses, and offer recommendations for improving pedagogical practice.

The importance of text problems in teaching math

Text problems are an important tool for developing mathematical literacy in younger students. They contribute to the development of logical thinking, the ability to analyze information, identify dependencies and apply mathematical knowledge in life situations. Solving such problems helps students realize the practical value of mathematics and develops their cognitive activity.

The textbooks "Mathematics 3rd grade" edited by L. U. Urinbaeva (2022) and N. U. Bikbaeva (2020) demonstrate a different approach to the formation of children's skills in solving text problems. Urinbaeva's textbook focuses on integrating tasks with other activities, such as working with visual aids and models [1]. Bikbayeva's textbook focuses on consistently increasing the complexity of tasks and developing the ability to analyze text [2]. Both approaches are aimed at the comprehensive development of mathematical

competencies, but require the active participation of the teacher in adapting the methods to the level of a particular class.

Approaches and stages of learning text problems

Training approaches

1. Practice-oriented approach: focus on the relationship of tasks with real life. Students learn to apply mathematical knowledge to solve everyday problems.

2. Game approach: includes the use of role-playing games and game exercises to increase interest in solving problems.

3. Activity-based approach: Students master tasks through active participation in group work, modeling, or project activities.

4. Integrated approach: combines elements of all the above-mentioned approaches to create a more effective educational process.

Training stages

1. **Introduction to text problems:** training in understanding the task condition, highlighting the main information.

2. **Condition analysis:** parsing the text, identifying key data and the issue issue.

3. **Decision planning**: choosing a strategy, drawing up a plan and sequence of actions.

4. **Problem solving:** performing calculations, using algorithms.

5. **Verification of the solution:** analysis of the correctness of the result obtained and compliance with the conditions of the problem.

Each of the stages requires the use of methods that help to consolidate the material and overcome typical errors.

Methods and methods of working with text-based tasks

Training methods

1. Explanatory and illustrative method

The essence of the method: The teacher explains the solution of the problem using visual aids, such as diagrams, tables, drawings or graphs.

Application:

When studying tasks related to distribution or comparison, it is useful to use tables to organize data.

For traffic issues-diagrams with the route, time, and speed.

Advantages: This method helps students understand the problem structure, establish relationships between data, and learn how to visualize it.

2. Practical method

The essence of the method: Students solve problems independently or in groups, using the studied algorithms and approaches.

Application:

The teacher offers children individual tasks that correspond to their level.

For example, students solve problems, write down their solutions, and then discuss mistakes.

Advantages: practical experience of working with task texts is formed, skills of independent analysis and execution are developed.

3. Modeling method

The essence of the method: Building models that reflect the conditions of the problem, using visual or virtual tools.

Application:

In division or multiplication problems, groups of objects are clearly represented (for example, "apples

in baskets").

To work with proportions, it is useful to create graphical models (comparison charts, ribbons, etc.).

Advantages: This method makes problems more understandable, helps you understand the conditions, and simplifies the search for solutions.

4. Problem method

The essence of the method: Setting tasks for students with complicated conditions or insufficient data for the development of critical thinking.

Application:

The teacher suggests non-standard tasks: for example “ " What part of the journey did the train cover, if it is known that its speed is 50 km / h, and the trip took 3 hours?".

Advantages: develop creative thinking and the ability to apply non-standard approaches.

5. Game-based learning methods

The essence of the method: Including tasks in game situations or using game methods to solve them.

Examples:

"Math lottery", where problems are hidden in cards, and children take turns solving them.

"Team Competitions": the team that solves the problem faster and correctly gets points.

Advantages: The game form increases interest in the subject, develops teamwork skills and reduces the level of anxiety.

6. Working with visual materials

The essence of the method: Using tools such as task cards, drawings, diagrams, or interactive presentations.

Application:

In motion tasks, you can use animations that show the path of objects.

When teaching fractions-visual aids depicting the division of the whole into parts.

Advantages: It makes it easier to understand tasks by visualizing conditions.

7. Integration with other subjects

The essence of the method: Linking tasks to topics from other disciplines, such as the world around you, literature, or work training.

Examples:

Task: "12 apple trees and 8 cherries were planted in the garden. How many trees were planted?” - related to environmental issues.

Advantages: cross-subject communication is formed, which allows you to show children the practical significance of mathematics.

8. Working in pairs and groups

The essence of the method: Students solve problems together, discuss the plan and results.

Examples:

The teacher divides the class into groups, each of which solves a problem, and then presents its solution.

Advantages: develop communication, teamwork and mutual assistance skills.

9. Use of digital technologies

The essence of the method: The use of interactive platforms, mobile applications, and other digital tools.

Examples:

Programs for plotting graphs or virtual models of tasks.

Using online quests with tasks.

Advantages: increased interest in learning, tasks become more interactive and visual.

These methods and methods complement each other, allowing you to create effective conditions for

the successful development of text tasks by primary school students.

Difficulties of primary school students and ways to overcome them

Main difficulties:

1. Problems in understanding the task condition: it is difficult for students to distinguish the main thing from the text, they are lost in redundant information.

2. Inability to build a solution plan: children do not always see the sequence of actions necessary to solve the problem.

3. Errors in calculations: insufficient verbal and written counting skills make it more difficult to complete tasks.

4. Weak logical thinking: difficulties in establishing causal relationships and analyzing the problem.

5. Low motivation: children may lose interest due to repetitive tasks or lack of success.

Ways to overcome the difficulties of primary school students

1. Use of visual materials

* You can use figures, tables, diagrams, and graphs to improve your understanding of the task conditions and highlight the main data.

• For example, when solving the problem of distributing apples among children, it is useful to use drawings of apple baskets or schematic images.

2. Step-by-step training

• The method involves dividing the task into stages: reading text, analyzing data, drawing up a plan, performing calculations, and checking.

* The teacher can work through each stage separately, providing students with templates for writing conditions, tables, or hints.

3. Learning through simulation

* Using physical models, such as dice, chips, or coins, helps primary school students visualize the problem and simplify the solution.

* For the task of determining the number of candies in boxes, students can use chips by placing them in "boxes".

4. Regular consolidation of knowledge

* The teacher organizes systematic exercises, including repetition tasks and variable formulations.

* It helps children develop confidence in problem solving by applying the learned algorithms in different contexts.

5. Game elements in training

* Enabling games increases students ' motivation and engagement. For example, "Math Quest", where each correct solution opens a new hint.

* Such tasks develop interest in mathematics and relieve tension when working with tasks.

6. Individual approach

* The teacher analyzes the level of preparation of each student and suggests tasks that correspond to their capabilities.

* The weaker children are given easy tasks with a step — by-step explanation, and the stronger ones are given tasks of increased complexity.

7. Development of speech skills

• Speaking the problem condition out loud helps children better understand the text and logically justify their solution plan.

* For example, students can explain their way of solving a problem to each other in pairs.

8. Learning to check results

* The teacher forms the habit of children to check the correctness of calculations and whether the answer meets the conditions of the problem.

• You can use simple techniques such as reverse calculations, comparison of results, or control questions.

9. Integration of digital technologies

* The use of interactive educational platforms and applications helps to increase interest in problem solving.

* Tasks presented in the form of animations or interactive simulations contribute to deeper understanding and engagement.

10. Strengthening intersubject relations

* Text problems can be integrated with other subjects ' content. For example, tasks about driving speed can accompany lessons about the world around you.

* It allows children to see the practical significance of mathematics in other disciplines.

These combined approaches reduce the level of difficulties faced by students and contribute to improving the quality of their mathematical education.

Tasks from textbooks

Problem 1. Difference problem (3rd grade)

Condition: There are apple and pear trees in the garden. There are 18 apple trees and 6 more pears. How many trees are there in the garden?

Solution:

1. Determine the number of pears: 18 + 6 = 24.
2. Count the total number of trees: 18 + 24 = 42.

Explanation method:

* Ask children to read the condition carefully and highlight key numbers: 18 (apple trees) and 6 (difference).

* Create a short task entry or diagram to visualize the data.

* Ask students to formulate a problem question “ " How many trees are there in total?".

* Divide the problem into two stages: find the number of pears, then the total number of trees.

Task 2. Magnification task (3rd grade)

Condition: One worker made 8 parts, and the other 3 parts more. How many parts did they make together?

Solution:

1. Determine the number of parts made by the second worker: 8 + 3 = 11.
2. Count the total number of parts: 8 + 11 = 19.

Explanation method:

* Ask children to highlight who made more details and who made less.

* Apply the concept of “more on... " so that children understand the principle of adding a difference.

* Accompany the explanation with visual examples (for example, show details schematically).

Task 3. Speed finding task (4th grade)

Condition: The car drove 240 km in 4 hours. What is the speed of the car?

Solution:

1. Use the velocity formula: V = S ÷ t.
2. Calculation: 240÷4 = 60 km/h.

Explanation method:

* Teach children about the relationship of values: distance, time, speed.

* Explain what the formula S = V × t is and how to convert it to find the speed.
* Ask students to find the speed of other objects with different distance and time values.

Task 4. Multiplicity problem (4th grade)

Condition: The farmer has 12 chickens and 4 times fewer cows. How many animals are there on the farm?

Solution:

1. Determine the number of cows: 12 ÷ 4 = 3.
2. Count the total number of animals: 12 + 3 = 15.

Explanation method:

* Introduce the concept of " several times less" through real-world examples.
* Ask children to present the ratio of chickens to cows visually (diagrams or pictures).
* Formulate several similar tasks for anchoring (for example, with a different number of animals).

Problem 5. Finding the remainder problem (3rd grade)

Condition: Lola had 24 pencils. She handed out 18 pencils to her friends. How many pencils did she have left?

Solution:

1. Determine the remainder: 24-18 = 6.

Explanation method:

* Ask children to retell the task in their own words.
* Explain the concept of remainder through real-world examples (for example, if you have 24 apples and give away 18, how much is left?).
* Create a diagram or table:
* There were: 24 pencils
* Distributed: 18 pencils
* Left: ?

Task 6. Division problem (4th grade)

Condition: 42 books were purchased for the school library. They need to be distributed equally between 7 shelves. How many books will be on each shelf?

Solution:

1. Use the division: 42 ÷ 7 = 6.

Explanation method:

* Ask children to explain why division is necessary here.
* Discuss what "equally" means and find examples in everyday life.
* Create a table of the distribution of books or visually show shelves and books in the drawing.

Task 7. The task of finding the total number (4th grade)

Condition: The first bed grew 35 carrots, the second-15 carrots less. How many carrots grew in both beds?

Solution:

1. Determine the number of carrots on the second bed: 35 - 15 = 20.
2. Count the total number: 35 + 20 = 55.

Explanation method:

* Ask children what they need to learn in the task " " How much is there in total?"
* Offer to divide the task into stages: find the number of carrots in the second bed, and then the total number.
* Explain the "less by..." principle and its use in similar tasks.

Problem 8. There were 36 cows and 24 goats on the farm. How many animals are there on the farm? How many animals are bigger: cows or goats?

* Stages of work:

1. Reading the task condition and analyzing the data.

2. Solution:

* Find the total number of animals: 36 + 24 = 60.

* Determine the difference: 36-24 = 12.

3. Answer: there are 60 animals in total, 12 more cows.

Task 9. There were 120 books in the library. 75 books were distributed to students, the rest were left in the library. How many books are left in the library?

* Stages of work:

1. Clarify the issue question: how many books are left.

2. Solution: 120-75 = 45.

3. Response: There are 45 books left in the library.

Task 10. My mother bought 3 kg of apples and 2 kg of pears. The price of apples is 6 000 soums per kilogram, pears-7 000 soums per kilogram. How much money did my mother spend?

* Solution:

* Cost of apples: 3*6.000 = 18.000.

* Cost of pears: 2*7.000 = 14.000.

• Total cost: 18.000 + 14.000 = 32.000.

* Answer: My mother spent 32,000 soums.

Task 11. Vanya had 5 identical boxes, each containing 8 candies. He gave a friend 2 boxes. How many candies does Vanya have left?

* Solution:

* Total candies: 5 * 8 = 40.

* Candies given to a friend: 2 * 8 = 16.

* Remaining candies: 40 - 16 = 24.

• Response: Vanya has 24 candies left.

These examples demonstrate the diversity of tasks and the gradual increase in their complexity. They serve as a basis for developing students ' analytical thinking and practical skills.

Conclusion

The method of teaching text problems in primary school is one of the key aspects of the formation of mathematical literacy in younger students. Text problems are not only a means of teaching mathematics, but also a tool for developing logical thinking, the ability to analyze, form algorithms for actions, and make decisions.

The study found that successful mastery of text problem solving skills depends on a number of factors: a competent choice of approaches to learning that correspond to the age and cognitive characteristics of children, the use of effective teaching methods and methods, as well as taking into account the difficulties faced by students.

Problems understanding the problem text, insufficient computing skills, poor logical thinking, and low motivation remain significant barriers to success. However, the use of an integrated approach, including the use of visual materials, modeling, step-by-step training and game elements, can overcome these difficulties. An important role in this process is played by the teacher, who not only helps the child master the material, but also creates interest in the subject, self-confidence and a desire to learn.

The analysis of textbooks has shown that modern manuals offer a rich selection of tasks adapted to the age characteristics of students. Nevertheless, the teacher's methodical work on integrating different approaches, individualizing training and using additional materials remains a crucial success factor.

In the future, the improvement of teaching methods should be based on the introduction of modern

digital technologies, the creation of interactive educational resources, the strengthening of inter-subject relations and the active involvement of parents in the learning process. These measures will not only increase the effectiveness of the learning process, but also help students master the necessary competencies that will be useful to them in later life.

Thus, the development of methods of teaching text problems in primary school is a necessary condition for improving the quality of mathematical education and forming a harmoniously developed personality of the younger student.

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1st author - 40%, this author wrote the text of the article;

2nd author - 12%, this author helped to gather relevant resources and references for the article;

3rd author - 12%, this author helped to analyse the resources and yielded information;

4th author - 10%, this author worked on the translation of the text of the article;

5th author - 12%, this author also helped to investigate the resources and useful information;

6th author - 14%, this author helped to write the main part of the article.

References

[1] Urinbaeva L. U. Matematika 3 klass: uchebnik [Mathematics of the 3rd grade: textbook]. Tashkent: Republican Center of Education, 2022. - 192 p.

[2] Bikbaeva N. U. Matematika 4 klass: uchebnik [Mathematics of the 4th grade: textbook]. - Tashkent: Publishing and printing creative House "O'qituvchi", 2020. - 208 p.

[3] Mardonov E. M., Ostanov K., Imomkulova O. Teoriya i metodika formirovaniya matematicheskikh predstavleniy: uchebnoe posobie [Theory and methodology of forming mathematical representations: a textbook].

[4] Mardonov, E. M. Organization of mathematical games in preschool education: a methodological guide / E. M. Mardonov, K. Ostanov, Sh. Fayzullaev, 2019. - 109 p.

[5] Poya, D. How to solve a problem: a guide to mathematical thinking / D. Poya; translated from English- Moscow: Prosveshchenie, 1991. - 240 p.

[6] Marda'anov, E. M. Matematika (Matematika dlya studentov gumanitarnogo obrazovaniya): textbook / E. M. Mardanov, Zh. Sultanov, K. Ostanov, 2019. - 179 p.

[7] Markova T. A. Formirovanie skilkov resheniya tekstovykh zadach: uchebnoe posobie [Formation of skills for solving text problems: a textbook]. Moscow: Akademiya Publ., 2010, 192 p. (in Russ.)

[8] Bogdanovich M. V. Metodika obucheniya matematike v nachal'nykh klassakh [Methods of teaching mathematics in primary classes]: textbook / M. V. Bogdanovich. Kiev: Vischa shkola Publ., 1991, 328 p. (in Russian)

[9] Chesnokov A. S., Nechaeva A. P. Metodika prepodavaniya matematiki v nachal'noi shkole: uchebnik [Methods of teaching mathematics in primary schools: a textbook]. Moscow: Prosveshchenie Publ., 1987, 272 p.

[10] Kubyshkina E. V. Razvitie logicheskogo myshleniya mladshih shkolnikov: uchebnoe posobie [Development of logical thinking of junior schoolchildren: a textbook].