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DIDACTIC PRINCIPLES OF MATHEMATICS TEACHING METHODS IN PRIMARY SCHOOL

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ABSTRACT

This article describes the didactic basis of mathematics teaching methods in the process of teaching mathematics in primary education and explains how to apply it in the classroom. new pedagogical technologies have been used to make their teachings brilliant. Such independent work prepares students for new material. In the first part of the lesson, if the homework is related to the new material in terms of content, it is possible to check it. Once all of these questions have been covered, it is important to clearly define the main didactic purpose of the lesson and its typical features.

KEYWORDS: *Mathematics, Teacher, Education System, Pedagogical Skills, Lessons.*

INTRODUCTION

Nowadays, the purpose of each individual lesson is to define the purpose of the lesson system and use it to explain the content of the topic being taught to the students. In this case, it is to introduce students to new concepts, in the second case to expand and deepen the introduced concept, in the third to develop a skill and abilities, in the fourth to test knowledge, skills and abilities, and so on. is done. In each lesson, several of the above can be covered. Repetition involves the systematization of previously learned knowledge, and thus the verification of knowledge. The narration of new material is always followed by an exercise.

The experience of school practice has created a certain structure of the lesson that most teachers follow this structure and achieve certain good results. Usually at the beginning of the lesson homework is checked or the previous topic is repeated, and then a question and answer session is held on the previous topic. The new material is then described and students are given examples and problems or control questions to reinforce it. At the end of the lesson, homework and recommendations for homework will be given. **[3,4]**

Sometimes, it can be dedicated to one of these goals. This one goal is called the main didactic goal of the lesson and others follow it.

Every listener should know:

1. The principle of consciousness;

2. The principle of demonstration;

3. The principle of science;

4. The principle of sequence;

5. The principle of careful mastering, etc;

6. Algorithms and methods of teaching algorithms in primary school.

The following types of math lessons are available in elementary school:

1) Introduce students to new concepts, generate new knowledge and skills. In such lessons, knowledge of calculation, graphics or problem solving is formed.

2) Strengthen new knowledge, skills and abilities through various exercises.

3) Review and summarize lessons.

4) Lessons to test knowledge, skills and abilities in order to work on the mistakes made by the student.

Each math lesson can accomplish a variety of didactic goals: preparing students to learn new material by reviewing homework, stating the purpose of the lesson and topic, reviewing previous ones, or recalling children's life experiences; special exercises for intellectual calculation, learning new material (the main part of the lesson), strengthening the 1st acquired knowledge and skills of children as a team work, calculating the acquired knowledge, applying exercises, knowledge and skills (the main part of the lesson), students' independent work and checking it, reviewing previously mastered materials, homework, summarizing the lesson.

The main structural parts of the lesson can be combined in different ways and with different methods.

What parts the lesson should consist of, how to place them in sequence, how to distribute the learning material between them, how these parts are connected to each other, whether they can help to achieve the main didactic purpose of the lesson, etc. In elementary school, each part of the math lesson should focus on general didactic tasks. The parts of the lesson should be interrelated according to the main didactic purpose. Let's take a look at some of the different types of math classes for elementary school students.

For example: lessons to introduce students to new concepts, to create new knowledge and skills. **[1,4]**

The course. The lesson should begin in a purposeful way that immediately engages all students in work and active learning. For this purpose, small independent works should be written on cards, which require students to write only the results of calculations without writing the conditions of the problem. Such independent work prepares students for new material. In the first part of the lesson, if the homework is related to the new material in terms of content, it is possible to check it. If the homework is not related to a new topic and students do not use it to move on to a new topic, then it is not necessary to check the homework in the new knowledge statement lesson. Thus, the first part of the lesson should focus on the activity and attention of the students, without spending too much time on this stage.

Another way to get students' attention is to clearly state the topic and purpose of the lesson. At the same time, it is important to arouse the interest of students and create a problematic situation. For example, if students are only familiar with the verbal method of counting, they will use their extra knowledge and skills if they are asked to add two three-digit numbers. Students face certain challenges. Thus, they make sure that this example is not difficult to perform with pre-learned computational processes. Students should be able to use verbal arithmetic. This is how the lesson will be taught.

In the second case, the lesson can be a short conversation with the students. This lesson can be used to explain to students how to multiply one-digit numbers.

In order to prepare students for the active learning of new material, previously learned materials are repeated, and repetitive materials are often done orally. It is also possible to solve examples and problems independently to learn new material.

In the second part of the lesson, a new mathematical concept is given or a new type of arithmetic examples is solved. This is done through a student statement or interview. Sometimes a teacher will suggest that you make your own choice. For example, if the goal is to solve a problem or example related to a previous topic, then students can improve their knowledge and skills by reinforcing examples and solving them independently.

Reinforcement of new material. At this stage, students should be given a task to summarize, discuss, and then reinforce. By doing this, the new knowledge gained will be consolidated and put into practice for the first time. The first tasks are usually performed collectively.

Sometimes, after the examples have been completed independently, one of the students goes to the board and demonstrates the correctness of the rule by solving the example.Depending on the complexity of the study material, the most effective approach should be taken at each stage.

When preparing for a math lesson, the first topic should be the location of the lessons in the system. Then students need to determine how well they are prepared for the new lesson material and what needs to be repeated.

To prepare for the lesson, the teacher begins preparing for the next lesson after preparing the math program, work plan, textbooks and manuals, methodical literature, and instructional materials. First of all, the next lesson will determine where in the math program, what topics are related, and what the concept needs to be explained. Once all of these questions have been covered, it is important to clearly define the main didactic purpose of the lesson and its typical features. This will help determine the content of the lesson. For the didactic purpose of the lesson, it follows from this content that the structure of the lesson depends on them, i.e. the merging of the individual sections of the lesson, their organic unity complements and connects the parts of the lesson. When planning a lesson, start by thinking of the main parts that meet the didactic purpose of the topic. If the lesson consists of explaining new knowledge, for example: if it is a topic about adding three-digit numbers in writing, the teacher should first tell the students how to write a written addition algorithm, and then o ' think about what to repeat from the lesson, whether it is possible to master a new topic on this basis, that is, whether it is necessary to check homework before the topic, what task to recommend students to master a new topic need The teacher then considers which teaching materials should be used to complete the structure of each

section of the lesson, which teaching methods and techniques, and which exhibitions can be prepared and used.

Determine how long it will take to complete each section of the lesson. Of course, most of the lesson should be focused on the part that solves the main didactic purpose of the lesson.

In preparation for the lesson, it is useful for the teacher to show the students how to do the task in the lesson, that is, to solve examples and problems, to prepare schematic and graphic works. The lesson plan is developed only after the purpose of the lesson, its structure and content are determined.

The lesson plan outlines its topic and main didactic purpose, the visual aids used, and its equipment. The structured name of the syllabus and its content, as well as the approximate division of time as possible, are also indicated.

The technology map will be covered as fully as possible in the course development. Students will be asked questions to help them conduct the interview, and the methods and techniques of the study will be described for the answers they expect from the students.

Examples and recommendations for problem solving. So the teacher has to do the following: **[2,3]**

1. Determine the place of the lesson in the curriculum and syllabus.

2. Define the main didactic purpose of the lesson.

3. Determining the content of the lesson.

4. Designing lesson stages.

5. Creating a lesson plan.

6. Creating a syllabus.

7. Identify teaching methods.

8. Determine the time spent on each phase.

9. Solve examples and problems given in class and at home.

10. Manufacture of exhibition weapons, etc.

The plan or syllabus of the structured mathematics lesson shows the teacher the general direction and sequence of the type of work to be done with students, examples, examples of algebraic expressions.

The teacher is free to use the lesson plan or syllabus. Sometimes, it is necessary to deviate from the plan, for example, if students do not master the teacher's statement, give additional explanations, if students are difficult, provide the necessary assistance, if the exercises performed are sufficient to reinforce the knowledge, some can be omitted, i.e., the knowledge can be asked in order to find out how the students understood it, and the assignments can be checked.

The most important feature of an elementary mathematics course is that it is practical. If some of the issues in the math program in the upper grades are of a theoretical nature, in elementary school each new concept, property, law is introduced as a result of practical activity and for

practical activity. Students will be able to understand the concept of a right rectangle, they will now know the definition of a right rectangle, the logical derivation of its signs and the proof of some of its properties. can use their symptoms and properties to solve practical problems. In elementary school, students determine the equality of the opposite sides of a right rectangle and learn to make a right rectangle, measure its perimeter and face, and calculate.

Many of the practical skills that students form in elementary school are fundamental to an entire high school math course, for example, perceptions of numbers that 1st and 5th graders have are radically different. However, they are used in both the middle and upper grades, while mastering the skills of performing both written and oral arithmetic operations in the lower grades.

Thus, the formation of thorough practical training and skills in students is one of the main tasks of an elementary school teacher. In doing so, it must address two interrelated methodological issues: 1) detailing and concretizing the content of the process of performing certain practical work; 2) to develop a methodology for students to master these works and effective control over their mastering. **[3]**

Suppose a process can be described as a finite, rigid sequence of elementary work (an elementary work is a work whose execution is known). An algorithm is a command that specifies which elementary operations must be performed and in which sequence to perform a given process.

If an algorithm for doing a task is known, then the formation of the ability to do it can be, in general, to convey it to the child being taught. Thus, the development of algorithms is of great methodological importance, and the algorithms themselves will be the subject of instruction.

In addition to the basic requirements outlined above, a number of didactic conditions need to be considered when designing algorithms as a teaching topic. Different algorithms can be created for the same class of jobs, which differ from each other in the number of elementary jobs and their need. Therefore, the algorithm under study must be presented rationally, that is, it must consist of a minimum number of sufficiently simple elementary operations.

Let's look at some of the algorithms that are relevant to the elementary school curriculum.

Let's look at an algorithm for determining the perimeter of a rectangle.

A1: 1. Measure each side of a rectangle. 2. Find the sum of the values obtained.

A2: 1. Make a section equal to the sum of the lengths of the sides of a rectangle. 2. Measure the resulting cross section.

It is not possible to create an algorithm for all classes. For example, it is not possible to develop an algorithm for constructing expressions (equations) on the terms of arithmetic problems, for giving numerical data, for constructing textual problems on expressions (equations), for summarizing the conditions of textual problems.

On the other hand, most schemes, instructions, and commands look like algorithms on the outside, but they are not really algorithms. This is especially true for reminding students to work on issues. Here are the most important classes of processes that can be algorithmized in elementary school: 1) establishing the relationship "big", "small", "equal"; 2) oral and written calculations; 3) solving equations; 4) creation of geometric shapes; 5) determine the fraction of a number, the fraction of a number, the fraction of a number itself.

Now let's look at the second methodological problem, which was to reveal the general laws of teaching algorithms to students.

As mentioned above, the teaching of certain practical activities that can be algorithmic is divided into the following stages according to the principle: the teacher develops the algorithm; the teacher introduces students to the content of the algorithm; students use this algorithm many times and master it. **[4]**

An analysis of mathematics programs for high school shows that the role of elementary school in relation to the classes of algorithmic problems mentioned above is very different. For example, students need to master verbal and written computational algorithms at the level of automation. This is also true of "big", "small", and "equal" relationship algorithms. The study of solving equations, making geometric shapes, and operations on fractions and fractions will continue at a higher level in the middle grades. Elementary students learn the relationship between solving components of equations and the components and results of arithmetic operations, the definition and description of geometric shapes by making geometric shapes, some of their properties, fractions and fractions of a number. they assimilate the nose.

There are two possible approaches to introducing students to algorithms.

1. It is shown to students in concrete examples that the performance of previously studied elementary work in a certain sequence, in a system, allows you to solve a completely new problem. students repeat the algorithm under the guidance of a teacher.This experience is summarized in the form of a diagram, and it is recorded either on individual (personal) cards, or in a special table. When using this scheme, students initially say out loud the name of each elementary work and its content. Then some students sometimes interpret the elementary work aloud, and the rest of the students do it inside. As the use of the algorithm progresses, students will be able to do the work regardless of the scheme. In this approach to algorithm formation, the elementary tasks that make up the algorithm and the order in which they are performed are now given to students in a ready-made form. **[5]**

2. The formation of the algorithm is gradual and goal-oriented, with the active participation of students, elementary tasks are selected in an understandable way, the sequence of their execution is determined. To do this, the structure algorithm uses previously known definitions and properties of the objects being developed, and examines the possibility of using, in whole or in part, the algorithms already known for "similar" objects. In this approach, the proportion of students involved in the development of the algorithm may be large enough that the design process itself is close to the research work in terms of content.

The acquisition of some practical skills by students in the form of algorithms allows to organize effective control of the learning process, the systematic errors of the student in performing algorithmic work allow him to draw the following conclusions: improperly performs any elementary work (or works) entered, or violates the order of execution of elementary work. In addition, the incorrect answer in certain cases indicates what exactly the student is doing incorrectly.

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