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МЕТОДЫ РЕШЕНИЯ ЗАДАЧ КОМБИНАТОРИКИ С МЕТОДОМ ВЫБОРА

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Аннотация: *В данной статье указывается, что мышление школьника должно быть быстрым, а область воображения обширной для решения задач по разделу комбинаторика. Перед прохождением темы «решение комбинаторных задач методом выбора» в 8 классе необходимо проинформировать учащихся о ее значении и роли в жизни. На уроках использовался метод «Музёрар», уроки «Заковать». Дана информация о методах, которые можно использовать для повышения эффективности урока при обучении математике в общеобразовательной школе. При этом речь шла об использовании игры «Заковать» в ходе урока для повышения активности учащихся на уроке и повышения их таких качеств, как работа в команде и пунктуальность. Освещены такие понятия, как оценка знаний учащихся с помощью интерактивных методов, используемых в ходе урока.*

Ключевые слова: *Метод выбора, интерактивные методы, методы научного исследования, педагогическое мастерство, рефлексия*

COMBINATORICS WITH SELECTION METHOD PROBLEM SOLVING METHODOLOGY

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Annotation: *this article indicates that the student's thinking should be fast, and the scope of imagination should be extensive for solving problems in the combinatorics section. Before passing the topic «solving combinatorial problems by the method of choice» in the 8th grade, it is necessary to inform students about its meaning and role in life. The lessons used the «Icebreaker» method, the lessons of «Zakovat». Information is given on the methods that can be used to improve the effectiveness of the lesson when teaching mathematics in a secondary school. At the same time, it was about using the game «Zakovat» during the lesson to increase the activity of students in the lesson and improve their qualities such as teamwork and punctuality. Such concepts as assessment of students' knowledge with the help of interactive methods used during the lesson are highlighted.*

Key words: *Choice method, interactive methods, methods of scientific research, pedagogical skills, reflection.*

In today's era of rapid informatization, every person in any field of activity has to turn to innovative technologies and innovative tools that keep up with the times. Mathematics is no exception to this trend. In the development of the Republic of Uzbekistan, the most important thing is the creation of an excellent education system based on the rich spiritual potential of the people and universal values, as well as the latest achievements of modern culture, economics, science, engineering and technology. As is known, the national program for training personnel repeatedly emphasizes the need to introduce and master advanced pedagogical technologies, provides for the acceleration of student learning using new pedagogical and information technologies.

The following are the goals of studying mathematics:

1. Understanding the role and importance of mathematics in modern development;

2. Students' interest in the use of mathematical tools;

3. Teaching mathematical tools based on current software;

4. Being able to build mathematical models of certain problems and analyze them;

5. Mathematical thinking and drawing conclusions;

To deepen mathematical knowledge and apply this knowledge in their activities;

It is advisable to use various innovative tools to organize modern education. Examples of innovative tools include a screen projector, a whiteboard stand, a whiteboard-notebook, an overhead projector, an electronic textbook, and video tutorials. In addition, it is advisable to use teamwork methods to further increase student activity in the lesson.

The branch of mathematics called combinatorial analysis, combinatorial mathematics, set theory, or, in short, combinatorics, studies the division of a finite or, in a certain sense, finite set (it does not matter what the elements of this set are: letters, numbers, events, some objects, etc.), their arrangement and mutual arrangement, that is, combinations, combinatorial structures.

Currently, knowledge of combinatorics is used in various fields of human activity. In particular, specialists working in mathematics, chemistry, physics, biology, linguistics, information technology and other fields encounter various combinatorics issues. For example, let's just look at examples from our own lives.

A farmer can divide different jobs among his workers, choose the best one from a series of different moves in a chess game, choose leaders from a large team, etc. These and many other questions are directly related to combinatorics and cannot be solved without it. As it turns out, mathematics in our lives is almost always present, and often we do not notice it.

As we know, in methodological manuals up to the 19th century, the concept of "method" was used as a description of the topic describing the main content of the mathematics course. For example, "Method for studying trigonometric theorems", "Method for studying vector quantities". In modern didactics, including teaching

mathematics, the concept of method is one of the main concepts. The word "method" is a Greek word and means "to show the way." The concept of "educational method" is also one of the main concepts in modern methodological and didactic disciplines.

To work on problems related to the combinatorics section, the student's thinking ability must be fast and the world of imagination must be broad. Before going through the topic "Solving combinatorial problems by the selection method" in the 8th grade, it is necessary to inform students about its importance and role in life. Solving combinatorial problems

* Developing thinking;

*Preparing to solve problems that arise in everyday life;

*Improving long-term memory;

*Especially important in developing the ability to reason, generalize, and draw conclusions. After that, it would be appropriate to present a new topic statement to the students.

Many life problems can have several solutions. It is natural for us to choose the most suitable one from among the solutions. When calculating the number of solutions, the selection (enumeration) method is used so that none of the options (methods, possibilities) is left out or lost. The essence of this method is revealed in the process of solving examples. The advantages of this interactive method are presented. Problem 1. How many two-digit numbers can be formed using the numbers 2,3,5?

In order not to omit any of the answers or write them down again, we will write the numbers in ascending order. First, from the numbers starting with the number 2, then with the number 3, then with the number 5, we will choose and write the one that corresponds to the problem.

22, 23, 25, 32,33, 35, 52, 53, 55.

Answer: 9 two-digit numbers can be formed.

This can be done in several ways. For example, using riddles. To reinforce the new topic, we divide the students into 3 groups and conduct intelligence games. Group 1 chooses one of the numbers from 1 to 15. They are presented with a problem written behind this number. They are given 1 minute to think. The game continues in this way. The winning team is encouraged.

After the intelligence game, we give a historical problem, This is a mathematical riddle. Question. The Sultan wanted to test which of his two ministers could think logically faster. He showed the ministers two white and two black caps. Then he blindfolded them, put black caps on each of them, and put on the white cap himself: “What color is the cap on your head,

Find it?”. After a while, the right-hand minister said: “I have a black cap on my head.” How did he think?

Answer. The right-hand minister assumed the opposite:

"The cap on my head is not black. Let me assume that it is actually white. In that case, the left-handed minister, seeing the white cap on both the sultan's head and

mine, would immediately say that his cap was black. But he is still thinking. So, my assumption was wrong.

The cap on my head is black." At the end of the lesson, students are asked questions they did not understand and given homework.

No matter what name or form the teaching method takes, it should first of all serve to provide knowledge to the student.

The comparison method, in turn, is a method that helps the student gain knowledge.

This requires a strong scientific level, pedagogical skills, organization, and the ability to attract students.

Only when the teacher has these qualities is the lesson considered appropriate. The lesson is the basis of the educational process conducted in schools.

Therefore, the topic covered in the lesson is a process that can positively affect students in terms of education and upbringing.

Along with receiving education, a school student also receives qualities such as upbringing and human qualities from the school.

Interactive methods in teaching the complex subject of mathematics help the student to acquire perfect, complete knowledge and skills.

When teaching schoolchildren the topic "Solving combinatorial problems using the selection method," the lesson can be made more interesting and effective by using the information in the article and interactive methods.

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