

METHODOLOGY OF USING DIDACTIC GAMES AND DIFFERENT METHODS TO IMPROVE THE QUALITY OF MATHEMATICS EDUCATION

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Abstract:

This article describes the use of didactic games and various non-traditional methods in mathematics lessons, as well as their importance and effectiveness passed. In the teaching of mathematics, teachers should have the skills to organize the lesson process in non-traditional ways, to achieve the design of the educational process based on a perfect model, and to use these projects wisely. It can be a guarantee of the formation of practical skills and qualifications in them. It is thought that the interest in science will increase and it will lead to an increase in the quality of education.

Keyword: "Ingenious wit", "Who am I?" , "Restore and solve the equation" methods, didactic games: "Chain", "Continue", "Word game", "Don't make a mistake", independent work, a moment of rest, "Great we are proud of our ancestors" crossword, theatrical lesson, education, teacher, student, lesson, non-traditional, skill and competence.

Introduction

Quality education in the world means that a person finds his place in society is one of the important features. Including acceptance until 2030 In the "Concept of universal education" - throughout life the idea of students to create an opportunity to get quality education quality education in modern conditions, of learners

acquisition of life skills, creative thinking special attention is paid to development.

While the Republic of Uzbekistan is on the way to build a democratic, legal and civil society, the main goal and driving force of the reforms in the field of education is to educate a well-rounded, well-rounded person. At the same time, the use of different methods in the lessons has a good effect.

Today's laws and decisions adopted in the field of education - the great goals set in our "National Program" encourage today's teachers to work harder and search. The achievement of these goals is primarily related to the thorough teaching of the basics of scientific knowledge to the young generation, the formation of a broad outlook and scope of thinking, and the effective organization of educational activities.

The educational process makes it possible to express a set of theoretical and practical knowledge on a specific topic that serves to illuminate the content of the educational material. In the content of education, it is also necessary to be able to express the concept, skills and qualifications that should be mastered by students. After all, the ideological perfection of the educational content is determined by the level of acquisition of certain knowledge, skills and abilities by students. The effect of this is manifested in the development of conditions that ensure the mastery of certain concepts, the formation of skills and qualifications by students. It is the form, methods and tools of the lesson that lead to the successful provision of the educational process. Only with their help, theoretical

knowledge about the subject of the study subject is transferred to the students, and this knowledge is accepted by the students. Determining the most appropriate form, method and tools for the lesson guarantees about 90 percent success of the educational process. Creative research, activity, free thinking of students The correct selection of the educational form, method, tool and didactic games that guide the conduct of the lesson will make the lesson process effective, interesting, full of debates, and stimulate the emergence of creative debates. Only in this case, the students take the initiative, and the teacher is responsible for directing their activities in a certain direction, being able to control the general activity, providing guidance in difficult situations, tasks such as giving advice and evaluating their activities remain. One of the important requirements for the organization of modern high-quality education is to achieve high results in a short time without spending too much mental and physical effort. It is the responsibility of the teacher to deliver certain theoretical knowledge to students in a short period of time, to create skills and competences in certain activities, as well as to control the activities of students, to assess the level of knowledge, skills and competences acquired by them. requires high pedagogical skills and a new approach to the educational process. Based on or by experienced pedagogues

along with appropriate use of the used method, visual aids and didactic games, it is appropriate to develop them creatively.

Every pedagogue prepares for the teaching process

purpose, in the process of conducting an educational process with students

effective knowledge transfer, in this regard, the student's mastery ability, educational efficiency, correct preparation of the technological map of the lesson,

wise of the various methods that can be used in the lesson. Every lesson is a new experience and testing ground for pedagogues and teachers, to use methods of communication with students and their psychology, ways to explain topics well and how to achieve efficiency. in the process of imparting knowledge to students, new qualifications and skills are achieved. Let's look at the essence of some of the methods used in mathematics classes and how to use them.

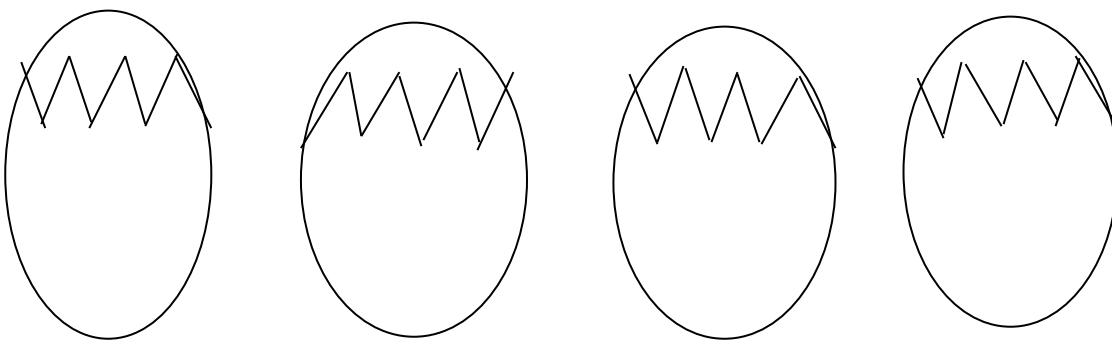
"Ingenious clever" method. Thorough assimilation of existing knowledge

It is important for students to have the ability to think and think. – "Ingenious and ingenious" method helps to form quick thinking skills in students, as well as to determine their thinking speed. The method creates a convenient opportunity for students who want to test their knowledge. They need to be able to answer the questions asked by the teacher correctly and accurately in a short period of time. According to the level of complexity of the questions, points are determined for the correct answer returned to each question. The method can be used in individual, group and mass work with students.

"Restore and solve the equation" method: on the topic of creating and solving a quadratic equation. The class is divided into three groups. Quadratic equations with squares instead of coefficients are displayed on the board. One student from each group selects the roots of a quadratic equation by heart, finds the corresponding coefficients and writes them in the empty squares. Then

three members of each group solve these equations. The rest of the students solve these equations in notebooks and confirm the correctness of the roots with signal cards.

Method "Repair a cracked egg". It is convenient to use this method in solving examples and repeating the chapter. The whole class is divided into 4 groups and at least 10 to 40 egg models are prepared. Prepared eggs are divided into two halves, as if they were broken, a question should be written on one half, and an answer should be on the other half. There will be not only questions, but also geometric shapes and formulas, in which the students will have to quickly turn the eggs into their own shape. calls for work, mutual respect, friendship, solidarity. (photo is attached)



For example: Egg on the top and on the bottom

The face of a rectangle is $S=ab$

$C=2\pi R$ Circumferential length

The face of the triangle is $S=0.5ah$

$c^2=a^2+b^2$ Pythagorean formula.

"Who I am?" method, in which the student is blindfolded, a cone-shaped hat made of paper with formula or geometric shapes is put on his head and described by another student. The student should say the name of a geometric shape (circle, circle, pyramid, prism, cube...) or formula. Through this method, the student's intelligence, level of knowledge, memory, and responsiveness are tested.

The method of "Idle sitting and brainstorming" can be given at the beginning of the lesson, in the middle of the lesson, or at the end of the lesson. Most of the time, interesting questions and issues related to the science that develop the student's logical thinking and mental abilities are given. For example, there are 2 sticks on the cot, how to make a rectangle. How can 6 be enlarged by one and a half times. How many ends are there in three and a half sticks?

Didactic game technologies. Didactics comes from the Greek word didaktikos, which means teaching, learning. The game is the most natural situation for the student, he can feel free during the game, forget about fear and shyness. activates students' psychological states and increases interest in the educational process. Didactic game is a type of game that is used for the purpose of imparting knowledge to students, and the educational purpose is realized through the form of the game. The main essence of a didactic game is that if the solution of a task is given to children as a game, it interests children, involuntarily attracts their attention, as a result, they perform this task in a cheerful

and active process. Didactic games have existed since ancient times. , they can be called mathematical pastimes. Mathematical pastimes - solving interesting problems, geometric constructions, numerical and mechanical puzzles, mathematical games and tricks. They develop mathematical ability, perception, logical reasoning, strengthen memory. Mathematical pastimes combine education with play, work with leisure. We can see the use of didactic games in mathematics lessons in the example of some games:

"Think and replace" game. It is convenient to use this method mainly in geometry classes. Here, the questions that activate the students are reflected. The given table consists of three columns, the properties and definitions of the figures are written in the first column, the description or formula of these figures is given in the second column. In the third column, the student finds a rule that matches the form and formula and puts the letter.

"Chain" game. Students are divided into three groups and three cards with questions are given to the three groups. The execution process is as follows: after the first student completes the task, he passes it to the student sitting behind him, this process continues until the student at the last desk solves it. The fastest and least error-filled row is the winner.

"Continue" game. One student says a mathematical term, the second student says another mathematical term for its last letter. The game continues until the number of students ends. Or continue until the number of students ends without repeating the terms of the previous topic.

"Don't make a mistake" game. The teacher takes one student from each group to the blackboard. Instead of a square, write such a number or letter that the result is a correct equality. After writing everything, it is necessary to carefully check the formulas.

"Word game" This game increases agility, teaches quick thinking, and strengthens memory. (1 girl and 1 boy are placed next to the board) For girlschak, ay..., bir..., ...vchi,siya,bola, ...bat, para...,aj,like (pentagon, circle, divergent, reducing, proportion, hyperbola, positive, parallelogram,, denominator, plane, etc.) For boys ...rat,chak, ...fiy, med.... , ay..., ..iz,lik, many....., para....., chiz.....,do.... (square, triangle, negative, median, circle, difference, polygon, parallelepiped, circle, infinity, root, line)

"Applause" game

The game is built like this: students, for example (4 students), at the same time from numbers from 1 to 100. For example, prime numbers: 2, 3, 5, 7, 11, 13, 17, 19,.... instead they "Clap". This game helps to purposefully form the mechanisms of speed and attention.

"Try to trick me" debate-game: In this, students who rarely attend the lesson are selected and 3 facts from geometry or algebra, either true or false, are told to the opponent. says whether the information is true or not. This debate is conducted with 2 students (with 4 opponents). For example:

One and only one straight line can be passed through two points. The open angle is equal to 900. A triangle has two opposite angles. The sum of adjacent angles is equal to 1800 and so on.

The use of games in the lesson turns the lesson into a holiday. Games are the closest activity to the student's nature. Therefore, using them at certain times makes the lessons interesting. So, the benefits of didactic games are great for making teaching more effective and increasing students' activity in class. Such methods make it possible to attract every student to the lesson, to teach them to express their opinion, to exchange opinions with their friends, to react to the opinions of others.

Independent work . Improving the quality and efficiency of the educational process largely depends on how well it is provided with educational tools.

One of the educational tools is handouts with students

work using In this, each student works independently, faster

For example, he is interested in solving problems and getting grades. Handouts should be appropriate to the topic and should be prepared taking into account the level of knowledge of each student. Because if the student fulfills the assignment positively, his interest in science will not fade.

"Number Puzzle"

1. What number should be put instead of the question mark?

100; 99; 97; 93; 85; ?

$100-1=99$ $99-2=97$ $97-4=93$ $93-8=85$ $85-16=69$ Answer: 69

2. Jawahir is confused about which number to put instead of the question mark. Help him.

a) 9, 6, 7, 4, 5 ? ? $9-3=6$ $6+1=7$ $7-3=4$ $4+1=5$ $5-3=2$ $2+1=3$ b) 27, 9, 18, 6, 12, ? $27:3=9$ $18:3=6$ $12:3=4$ Javob: 4

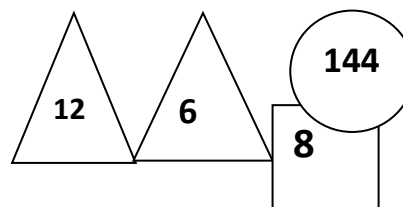
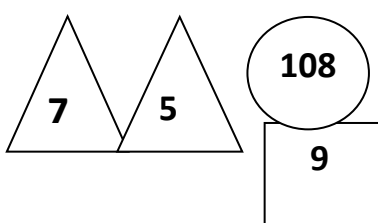
"Word Groups"

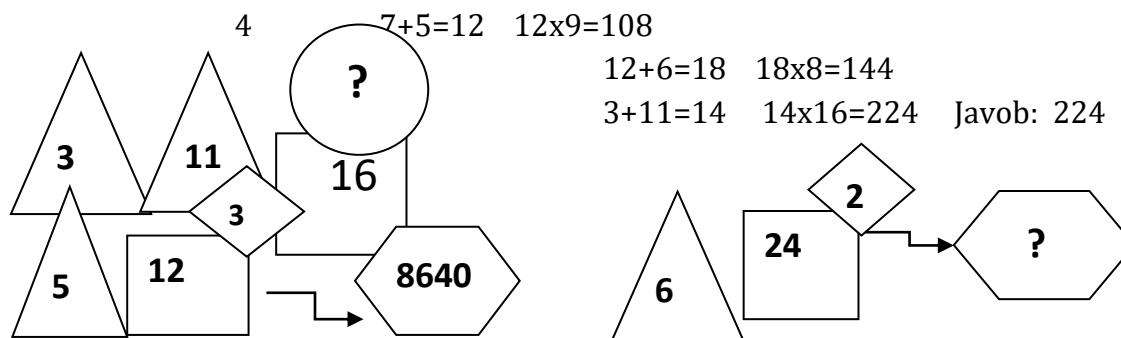
Each word group has one foreign word. Find them

<p>Vatar</p> <p>Diametr</p> <p>mediana</p>	<p>Pifagor</p> <p>Evklid</p> <p>A.Navoiy</p>
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"Digital Shapes"

Carefully study why the numbers are placed in such order in the following forms. Then find which number should be placed in the empty circle below.





$$5 \times 12^3 = 8640$$

$$6 \times 24^2 = 3456 \quad \text{Javob: } 3456$$

To students with high mastery at the end of the quarter using the "**Imkoniyat**" method. Tests will be prepared and the answers will be written based on the studied topics. At the end of the quarter, students who have performed this task perfectly will be encouraged. The following skills are formed in the students who took the test compared to the student who solved the test:

- being able to express one's opinion in writing in a consistent, clear and understandable way;
- such as answering questions based on the topic and being able to ask questions logically.

"Paravoz" method. It is recommended to use this method in mathematics lessons. In this case, examples and problems related to the topic are written in numbers from 0 to 10, and the students choose the paravoz and perform the examples in a row.

"Mathematical" method. The condition of the method is explained to the students. They are told to write these numbers in words and find the names of places, animals and foods.

Uchtepa district - number 3 and a picture of a hill.

Tortkoz - number 4 and eye picture.

Five fingers - the number 5 and a picture of a finger.

Altariq district - number 6 and a picture of a ditch.

Octopus - figure 8 and pictures of feet

"Try Yourself"

I will make cards with any numbers written on them, for example 304768, 75020, 347963, and students will have to confirm (5) using the method "**Divisible-indivisible**". If the number is divisible by 5 without a remainder, the students applaud. It is appropriate if it is held during the repetition of the topic learned at the beginning of the lesson or in the reinforcement of the topic learned at the end of the lesson.

The "magic of numbers" method. For example, students are given examples of prime and complex numbers. One letter is written next to the numbers with answers to the examples. As students solve the examples, a new topic name will emerge. "Signs of number division"

I think that it is permissible to ask students interesting logical questions, riddles related to science, and quick statements during the "Minute of rest". At least the student gets cultural entertainment. At the beginning of the lesson, under the column "We are proud of our great ancestors", the life and work of great scientists who contributed to the science of mathematics: for example, Musa al-Khorazmi, Abu Rayhan Beruni, Ibn Sina; Umar Khayyam), Nasriddin al-Tusi, Ulug'bek, Ghiyazidin al-Koshi, Ali Kushchi, by giving brief information about our national heritage, is to educate the feeling of being a worthy successor to our ancestors.

Summary.

In conclusion, it is worth saying that if the lesson is organized using various methods, didactic games, and visual aids, the student's interest in science will increase, and it will lead to an increase in the quality of education. For this purpose, the teacher should prepare each lesson, paying attention to its non-traditional form. It is desirable for him to be aware of the daily news. A teacher should always be searching and creative.

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