

A SYSTEM OF EXERCISES PROMOTING THE DEVELOPMENT OF CREATIVE ABILITIES OF JUNIOR SCHOOLCHILDREN IN MATHEMATICS CLASSES

Djurakulova Adolat
Termez State University
UZBEKISTAN
adolatdjurakulova@gmail.com

ABSTRACT

The system of tasks and exercises allow solving problems of complex development of various kinds of memory, attention, observation, imagination, speed of reaction, formation of non-standard "critical thinking". The most suitable form of creativity development is the presentation of a special lesson once a week. The advantage of this form is, first of all, sufficient volume, regularity, as well as systematicity and purposefulness. Such lessons differ in the fact that the child is offered a task of a noneducational nature, the lessons take the form of play activities, where the student himself assesses his success, which creates a positive background: relaxedness, interest, desire to learn to perform the proposed tasks. Must be frequent switching from one activity to another. The system of exercises must solve all three aspects of the goal: cognitive, developmental and educational. It is very important to start classes, lessons with a warm-up, to conduct "Brainstorming" oral count, where the main task is to create a positive background for the guys, preparing the child for active learning and cognitive activity. Exercise for brain activity is an important part of the lesson, lessons on the development of creative abilities. Creativity is always amateur, although it needs the sensitive help of a tactful, all understanding teacher.

Keywords: Creative, oral count, relaxedness, task.

INTRODUCTION

The exercises used should deepen the children's knowledge. The whole lesson should be held in the emotional and intellectual growth, which gives the way out of the creative energy of students and teachers, to rein the atmosphere of cooperation, the creativity of the teacher and students infect each other with creative energy. The lesson creates an opportunity for each student to express themselves depending on the ability and desire to learn, as all students are involved in different types and forms of learning activities: (individual, group, front, game, art, communication, etc.)

- Thinking and searching activity of students is stimulated by various means and methods;
- Methods of research, heuristic character, and creative tasks are used;
- The teacher stimulates, organizes and leads the students to independent search and solution of the educational problem;
- Students react adequately to creative and non-standard situations;
- The teacher's speech is distinguished by the richness and expressiveness of the language means;
- In monologues, the teacher creates problematic situations, emotional culminations, enriching students with information and creative field of study;
- teaches to take care of the ethics of relationships, of the aesthetics of interior design;
- As a result, everybody has a desire and a new creative moment.

Children's creativity is inexhaustible. Its nourishing environment is a sense of mystery that one so desires to unravel. "Mystery excites creativity," Einstein said.

The main incentive for creativity is the great joy he gives to both the pupil and the teacher. An important role in the development of creative abilities plays educational tasks that act as thinking activities and determine its character. For this purpose, it is important to include tasks aimed at the development of creative abilities, such as target education, planning, unconventional analysis, comparison and generalization.

METHODOLOGY

Targeting requires the student to form a goal independently. It is to put a question to the condition of the task, to ask an additional question to the student. It is better to use the tasks of target education in the form of a game, as the development of creative abilities is promoted by a game motive.

It is useful for students to develop their planning skills, to discuss how they represent future activities in the classroom. More often, include tasks that require a problem-solving plan. The ability to analyze, compare, and generalize is required in math lessons. Students with unconventional analysis are encouraged to solve problems with missing or redundant data, and to solve non-standard problems. By analyzing, comparing, and generalizing students master various forms of reasoning, evidence, and the ability to use their knowledge, which is an important aspect of independent development of creative abilities of the student.

For the development of creative abilities, the tasks that guide students to the new product are of great importance. These are drawing tasks, subjects in the classroom, imaginary things, jokes, which allows students to be included in the creative activity.

The creative works of students are individual, each one showing the nature of the child and his or her attitude towards the world. An individual approach is important for each child to learn and develop normally. Disclosure of a child's individuality creates favorable conditions (opportunities) for the formation of talent. Learning that corresponds to the child's individuality, his or her potential for learning will be developing. The main task of the teacher is to reveal the individuality, to help it to develop, will be settled, to manifest itself.

The famous French mathematician, physicist, philosopher Jules Henri Poincare noted that when choosing methods of teaching, the history of science should be the main guide, because all learning becomes brighter, richer from each contact with the history of the subject under study. In order to encourage students to take an interest in mathematics, it is advisable to include elements of the history of mathematics in the educational process, which will help to reveal the content of the subject more fully and deeply. This broadens the students' horizons and raises the level of culture.

In my work I try not to give the children ready, but rather to find more options for analysis. In the lesson I systematically use the material that promotes the development of thinking, creativity and interest in the subject.

Decide freely by inequalities. I often use a game form, quizzes. I consider the method of alternation of tasks solved by different methods productive, comparison of tasks, different transformations leading to simplification and complication, creation of a problem situation,

orienting students to search. As a result, the student acts as a researcher, discovering new knowledge. Children are happy to invent puzzles, puzzles, puzzles, and interesting tasks for oral counting and magic squares.

The joy of creativity is great. This is a trip to the unknown. To successfully carry it out, you need imagination and ingenuity, solid knowledge, perseverance and hard work. Research, even if it is still small, can become a road to discovery. Despite the great importance of natural inclinations, and human abilities, character features, cognitive abilities, habits, inclinations and interests are formed not spontaneously, but in the process of specially organized activities. Mathematics classes contribute to the formation of children's basic principles of scientific outlook; help to develop creative abilities and education of many valuable features and qualities of personality.

RESULTS

Pupils in primary school are most actively involved in research activities to identify mathematical patterns and connections of objects in the process of working on the task.

A task is an object of human thinking activity or a goal given in certain conditions. Research activity in the work on the task is to identify the method of solution, the general principles that can be transferred to other similar tasks, to identify possible differences in the tasks to which the method is applied. Additional work consists in finding different ways of solving the problems, drawing up the reverse tasks. It is true that there are still few opportunities in primary school, but everything is done: the reception of substantive and deep analogies when spreading the solution to other problems, the formulation of similar problems, and the reception of generalizations.

Junior schoolchildren also have a great craving for technical creativity and modeling. Because they feel like creators, and in mathematics, children should be allowed to explore the material available to them on their own. These are tasks of movement, calculation of perimeter and area, mathematical squares, comparison of expressions.

One of the forms of extracurricular activities is the Olympiad. It contributes to the upbringing of cognitive interest, the development of creative abilities, teaches to independently acquire knowledge, logically and unconventionally think.

The Olympics is a competition and a celebration.

Olympiad 4th grade

I variant.

1. Three horses running at 12 km/h. How fast did each horse run? Circle the correct answer: 12 km/hour 24 km/hour 4 km/hour 36 km/hour

2. It is necessary to saw 5 logs into 6 parts each. How long will it take if one saw takes 4 minutes to cut? Circle the correct answer: 20 min 1 hour 120 min 1 hour 40 min

3. Is the record correct? Circle the correct answer: $78249 \times 342 \times (22 - 11 \times 2) > 1$ yes no

4. How many pears and how many apples did your mother buy, if there are 25 pears and apples in total, and the pears make up one fifth of them? Write your answers. Pear - _____ apples - _____

5. Laziza and Asila had evenly cut flowers out of paper. Laziza made another dean flower, and then as much as it turned out. And Asila - as much as she was, and then another flower. Which of the girls had more paper flowers? Write the name of the girl.

6. Fozilbek put his eight cars in the column. How long did the column turn out to be, if the length of each machine is 10 cm, and the distance between the machines is 2 cm? Write the answer.

7. One donkey carried 10 kg of sugar and the other donkey 10 kg of popcorn. Who had heavier luggage? Write the answer

8. There were 13 employees in Pop's farm. Each worker ate a loaf of bread a day. Pop hired Balda.

Balda lives in a pop house,
Sleeping on straw,
He eats for four,
Works for seven.

Pop drove away the extra workers. How many caravans of bread did Pop start saving every day? Write a reply.

9. In the first row the guys put 6 soldiers at a distance of 5 cm from each other and in the second row of soldiers at a distance of 3 cm from each other. Which row is longer?

10. Playing, each of the three friends: Elbek, Asila and Muhammadyusuf put one of their toys into a magic bag: a bear, a bunny and an elephant. It is known that Elbek did not hide the bunny. Muhammadyusuf did not hide the bunny and the teddy bear. Who hid what toy? Write down the answers.

Elbek -

Asila -

Muhammadyusuf -

Logical exercises are one of the means by which correct judgments are made, mathematical objects are compared, and simple types of analysis and synthesis are performed on the basis of life experience.

II class

1. Which one of these figures is superfluous? Why?

2. What do we do with these rows? How do they differ? (Answer: they are similar in the number of figures. The difference is that the upper row has circles, the lower row has squares.)

3. Indicate two signs of difference in these examples:

$$8 + 2 =$$

$$8 - 2 =$$

Creative ability Math lesson

4. If Laziza sits to the left of Fozilbek, how does Fozilbek sit with Laziza?

5. How many different quadrilaterals are there on the drawing?

6. In one week 9 new films were shown in the cinema. Was there such a day this week when 2 or 3 new films were shown at once?

"Quiz" - came from the Latin word "Victoria" - a victory, one of the forms of extracurricular work in mathematics. A system of task questions and examples available to this group is offered. Organization of the quiz does not require much time. Quizzes are held to increase students' interest in mathematics.

III class

1. How many times more is a number expressed in four units of the 5th digit than a number expressed in four units of the digit? (2 points.)

2. How many units is the smallest six-digit number larger than the largest five-digit number? (1 point.)
3. How will the difference between the two numbers change if you subtract 5 units from the subtracted number and add the same number of units to the reduced number? (2 points.)
4. Problem (solve the problem by compiling the equation). At the school site there were 30 currant bushes, arranged in rows of 6 bushes each. When schoolchildren picked berries from several bushes, it remains to pick berries from 12 last rows of bushes. How many rows of currant bushes were harvested? (3 points.)
5. Draw a circle with a radius of 2 cm, and then draw a square so that the circle is inside it and touches the sides. Calculate the perimeter of the square and its area. (2 points.)
6. Find all the digits missed in the example:
 $3 * 5 - * 3 * = 137$ (2 points)
7. At which values of the letter x are inequalities true: $x : 6 < 4$? (2 points)
8. At what values of letters does the expression $c - b$ have the greatest value and at what values of letters does it have the smallest value? (2 points).

Puzzles.

They have been and are fascinating material for reflection. Puzzles are a kind of logical tasks to identify an object in some subjects.

Puzzles.

1. One foot in a hat, but no head. What is this? (Answer: mushroom.)
2. A one-handle thing, a steel nose, and a linen tail. What is it? (Answer: needle.)
3. Two apples with circles under two arcs. What is this? (Answer: eyebrows and eyes.)
4. When dry is a wedge,
When it's wet, man.
One leg and one without a boot. What is this? (Answer: An umbrella.)
5. Two of them are maple; the soles are two meters high.
You will put two legs on them - on - big snows run. (Answer: skis.)
6. Near the trees

Needles.

On a summer's day.

The house is built.

It is not visible behind the grass,

And there are a million tenants in it. (Answer: anthill.)

7. There are four legs under the roof and soup and spoons on the roof.

What is this? (Answer: table.)

8. Two abdomen, four ears. What is it? (Answer: pillow)

9. Six-legged on the ceiling and eight-legged waiting for her in the corner. Who is it?

(Answer: a fly and a spider.)

Rebuses - a riddle in which the desired word or phrase is depicted by a combination of figures, letters, signs.

DISCUSSION

Entertaining math can be used at the beginning of the lesson, at the end of the lesson, in the moments of rest. Skillfully, the selected tasks increase the interest of children in mathematics, the level of learning process.

To excite and support the interest of the task should meet the following conditions:

- be different from the usual mathematical tasks offered in the lessons;
- The meaning of the exercises should be clear to children;
- The solution of the task should be available to each of the children present;

- Answers should be obtained quickly; calculations should be made only orally. Minutes of entertaining mathematics should be conducted systematically, planned by the teacher in connection with the purpose of the lesson.
- Currently, there is a new understanding of the main purpose of education in the society. The teacher should first of all take care of the development of the student's ability to develop himself/herself, which will ensure the integration of the individual into the national and world culture and the cornerstone of mathematics teaching:
- (a) Activity training - the ability to set goals, to organize one's own activities and to evaluate the results of one's work;
 - b) Formation of personal qualities: mind, will, feelings and emotions, creative abilities, cognitive motives of activity;
 - c) Formation of a picture of the world.

CONCLUSIONS

Basic principles, modern educational tasks taking into account the needs of the future:

1. The principle of activity includes the child in educational and cognitive activity. Self-study is called the activity approach.
2. The principle of a holistic view of the world in the activity approach is closely related to the didactic principle of science, but deeper in relation to the traditional system. It also concerns the personal attitude of students to the acquired knowledge and the ability to apply it in their practical activities.
3. The principle of continuity means continuity between all levels of learning at the level of methodology, content and methodology.
4. The minimum principle is that the teacher should offer the pupil the content of the education at the highest level and the pupil should learn the content at the lowest level.
5. The principle of psychological comfort implies that all stressors in the learning process should be removed as far as possible, and that the classroom and classroom should be provided with an atmosphere that encourages students and makes them feel "at home". Students should have no fear of the teacher, no suppression of the child's personality.
6. The principle of variability implies that children should develop a creative thinking, i.e., an understanding of the possibility of different options for solving the problem and the ability to carry out a systematic selection of options. This principle removes the fear of error, teaches to perceive failure not as a tragedy, but as a signal to correct it.
7. The principle of creativity assumes the maximum orientation on a creative beginning in educational activity of the pupil, acquisition by them of own experience of creative activity.

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At the present stage of development of school mathematical education the transition from extensive training to intensive training is characteristic. The problems of development of intuition, imaginative thinking, as well as the ability to think creatively and not standard become relevant again.

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