

DEVELOPMENT OF MATHEMATICAL ABILITIES IN PRESCHOOL CHILDREN BY THE METHOD OF DESIGN ACTIVITY

Makhmudov Khairulla Murtazaevich

Deputy Director for Academic Affairs at School No. 52
Narpaysky district of Samarkand region
UZBEKISTAN

ABSTRACT

This article explains the basics of information about types of activities, blocks, and stages of project implementation, as well as acquiring mathematical ideas, developing logical thinking and cognitive abilities in preschoolers to develop mathematical abilities.

Keywords: Computer revolution, preschool education, mathematical imagination, ability, logical thinking, project activity method.

INTRODUCTION

The formation of elementary mathematical representations of mental education and development plays a huge role in the intelligence of a preschooler. The problem of teaching children mathematics in modern life is of great importance. This is primarily due to the rapid development of information and communication technologies and their penetration into various fields of knowledge.

At present, in the era of the computer revolution, the meeting point of view expressed by the words: "Not everyone will be a mathematician" is hopelessly outdated.

Material and methods. In mathematics there are enormous opportunities for the development of children's thinking, in the process of learning from a very young age. The formation of initial mathematical knowledge and skills in preschool children should be carried out in such a way that training gives not only an immediate practical result, but also a broad developmental effect. Perhaps by introducing new, more effective methods and various forms of teaching children math.

One of the promising methods that contribute to solving this problem, we believe, is the method of project activity.

The project method is relevant and effective, it develops cognitive activity, research and logical thinking, communicative and practical skills of a preschool child, contributes to a successful transition to the next stage of education.

Based on the foregoing, we have developed and successfully implemented the project: "Mathematics around us", the purpose of which is: to create conditions for the development of cognitive activity of the child through joint project activities of teachers, children and parents.

Results and discussion. Each preschooler by nature is an inquisitive how-man, a little researcher. Therefore, the motto of the project was the words of L. S. Vygotsky: "The best

discovery is that which the child makes himself. Know, feel, create! ”Having determined the relevance of the chosen topic of the project, we identified the following tasks:

1. To create conditions for the assimilation of mathematical representations by preschoolers, to ensure the successful development of cognitive abilities and logical thinking in children of older preschool age;
2. Develop imaginative and logical thinking, the ability to perceive and display, compare and generalize, classify and modify;
3. To form the prerequisites for search and experimental activities, the intellectual initiative of preschoolers;
4. Develop the ability to determine possible methods for solving logical problems and puzzles with the help of an adult, and then independently;
5. Make children want to participate in math quizzes, games, research and experimental activities;
6. Involve parents in creative work on project implementation.

The implementation of the project went through various types of activities in areas and blocks with subsequent stages:

Stage 1: Indicative.

At this stage, an analytical review of the literature on the problems of the development of cognitive activity in preschool children was carried out; The equipment of the subject-developing spatial environment in each group is analyzed.

Stage 2: Modeling.

At the second modeling stage, a creative group of parents and teachers was created, which was acquainted with the idea of the project and the creation of a joint plan for the implementation of the project.

Stage 3: Active.

At this stage, the implementation of the mathematical project was going on: "Mathematics around us."

Duration of the project: short-term (1 month).

The project was divided into 4 weekly blocks:

- 1 (week) block: "Magic Figures"
- 2 (week) block: "Man and time"
- 3 (week) block: "Geometric figures"
- 4 (week) block: Summarizing block

The main direction in the field: "Cognition", was cognitive development.

1. Direction: cognitive development.

This direction was mainly aimed at direct educational activities, which took place in non-traditional forms, such as: "Mathematical KVN", the quiz "I want to know everything", the club "Fun and resourceful". On open doors for parents, senior classes "Fidgets" and "Luchiki" held open classes on the theme: "Time Travel", "Travel to the country of geometric shapes".

2. Direction: speech development in the field of "Communication".

Reading fiction: on the first block: the work of S. Kataev "Flower-Semitsvetik", V. Suteev "Three kittens", folk and author's tales, in which there are numbers (Russian folk tales "The Wolf and the Seven Little Kids", "Three Bears" other).

In the second block: literary gatherings and quizzes: poems, riddles, proverbs and sayings - all about temporary representations. This includes the works of S. Y. Marshak "Twelve Months", V. Bianchi "Sinichkin Calendar", S. Mikhalkov "My Week", Y. N. Bzhekhva "The Fly and Days of the Week", and Usacheva "Seven Days of the Week", a fairy tale about lost time.

We want to note that in this direction we were helped by a laptop made in the co-creation of parents and children:

"Entertaining mathematics"

The laptop is a relatively new educational information tool. A laptop is a clamshell book with pockets, doors, windows, tabs and moving parts, which contains materials on the same topic. Here are the funny poems of Mark Schwartz about numbers; "The numbers in the names of fairy tales" - a find that allowed us and the children to remember, re-read, and simply review the illustrations of these works. We adults practically do not use proverbs and sayings in everyday life, naturally, and our children do not hear them either; therefore, thanks to the laptop, we were able to fill this gap a little. A great way to consolidate a certain topic with preschoolers, comprehend its content, conduct research work, during which the child participates in the search, analysis and sorting of information.

3. Direction: game activity.

Here it is impossible not to say that during the project, the subject-developing spatial environment in groups has replenished and has become more diverse. Firstly: the corner of mathematics was replenished with didactic, desktop-printed games and manuals: "Shape, color, size": sets with planar geometric figures and numbers "Learning to Count", Gyenes Blocks, manuals with clothespins, material for outdoor games and physical education, a file of mathematical games was developed: "A kaleidoscope of mathematical didactic games", as well as puzzles and labyrinths, puzzles and crosswords".

4. Direction: visual activity.

How to combine mathematics and visual activity? The Japanese paper origami technique came to our aid. Firstly: all the figures in origami are made of geometric figures, one of the points of contact with mathematics. Origami crafts are performed with a demonstration and verbal explanation, thereby securing concepts such as: angle, side, long, short, vertex, diagonal, etc. - and this, as we know mathematical concepts. And the third, which is also quite important, is the development of sensory-motor skills in children, which contributes to the formation of writing skills.

5. Direction: "Together with family".

In the senior group "Rays", children, in collaboration with their parents, prepared a mathematical manual: "Arrows run in a circle", the purpose of which is to form elementary ideas about time: its fluidity, periodicity, irreversibility, the sequence of all days of the week, months, and seasons.

In the senior group "Fidgets", children in collaboration with parents produced a didactic manual on the formation of elementary mathematical representations "Color Paths", the purpose of which is to develop mathematical representations in children through methods of comparison, generalization, systematization and semantic correlation.

In the middle group "Zvezdochki", children, in collaboration with their parents, produced material for directly educational activities.

Synopsis of direct educational activities on the formation of elementary mathematical representations in the middle group of the kindergarten on the theme: Traveling along the tale "Masha and the Bear."

Program Tasks:

1. To form the ability to compare objects in length and height in an increasing order;
2. Develop the ability to navigate in space, to distinguish and name a triangle, circle, square, cylinder, ball, cube;
3. To consolidate the skills of ordinal and quantitative counting (within 5);
4. Raise interest in a lesson in mathematics.

Material for the lesson:

1. Handout - strips of different lengths, Christmas trees of different heights, cards for a quantitative account;

2. Didactic material - geometric figures (triangle, square, circle), geometric bodies (ball, cube, cylinder), pictures of "part of the day", illustrations for the fairy tale "Masha and the Bear."

Preliminary work: reading the Russian folk tale "Masha and the Bear."

The course of direct educational activity:

Educator:

- Today we will go on a journey together with the heroes of the fairy tale "Masha and the Bear", along the way we will carry out tasks. Let's hit the road!

- With grandfather and grandmother, granddaughter lived,

- Once she went,

- In the forest with my girlfriends alone.

- They go along the path to the forest, together they sing songs,

- Butterflies fly, flutter their wings,

- They want to sit on a flower.

Didactic exercise "Lay out the flowers."

Educator:

- Butterflies are drawn on the card, you need to find out if all the butterflies have enough flowers? Lay out flowers under each butterfly on the card and check.

Children:

"There will be enough flowers for all the butterflies." Butterflies and flowers equally.

Educator:

- Masha goes on,

- Here the mushrooms grow here.

Didactic exercise "Count the mushrooms."

Educator:

- Look at the picture and count how many mushrooms Masha has collected in the basket?

Children:

"Only five mushrooms."

Educator:

- Suddenly hit the dark forest,

- Fir trees grow around there,

- And they are not at all like that

- Mashenka needs help,

- Put the trees in a row,

- So that they all stood in height,

From the lowest to the highest.

Didactic exercise "Spread the Christmas trees in height."

Educator:

- How did you arrange the Christmas trees?

Children:

- Fir-trees arranged, from the lowest to the highest.

Physical education "We will go to the forest" Children - cars, each has its own number (geometric shapes - circle, square, triangle). Garages are also located in different places, also indicated by geometric shapes, cars return from travel and find their own garage, corresponding to their car number.

Educator:

- In which garage did your cars come?

Children:

- Our cars arrived in garages, which are indicated by geometric shapes.

Educator:

- Here's a little hut, Mashenka came in,
- There the owner Mishka was, invited to live.
- Mashenka agreed, but for the matter immediately,
- She boldly began, and Misha quickly put things in order.

Didactic exercise "Name the geometric bodies."

Educator:

- Name the geometric bodies that stand on the table and find similar ones in the group.

Children:

- Cylinder, ball, cube.

Educator:

- A lot of pies to the bear, Masha baked,
- I began to think, how would she escape?
- She put it in the box and hid herself,
- Bear toed in the woods,
- Sings songs, Mashenka carries.
- All the tracks are different, slightly long.
- A lot of short ones, put it in for now.

Didactic exercise "Lay out strips".

Educator:

"Spread the stripes in length, from the shortest to the longest."

Children perform the task.

Educator:

- Our tired bear is walking through the forest.
- The mouse is on the track, and behind it is the bunny,
- A hedgehog on the path, a red fox, followed by a wolf. (Pictures of animals are displayed on the board).

Didactic exercise "Tell me who is behind whom?".

Children perform an assignment.

Educator:

- To the village Mishka, darling came.
 - That evening he thought, maybe a day?
- (On the table in children are pictures of "part of the day").

Didactic exercise "Name the parts of the day."

Children perform the task.

Educator:

- At home, a grandmother, with grandfather, sitting next to him,
- They are waiting for their granddaughter, and they look out the window.
- They saw Mashenka, began to kiss,
- Clever, a handy, they began to call.

Educator:

- What fairy tale did we travel today?

Answers children.

Educator:

- Today you are all well done, you have completed all the tasks. Well done!

CONCLUSIONS

The originality of our project: "Mathematics around us" is ensured by the implementation of the following ideas in the practice of educational work:

1. The corners for the formation of elementary mathematical representations have been replenished with more diverse manuals and didactic games;

2. In the educational process, the principle of integration was implemented, which is aimed at developing the personality of the child, his cognitive and creative abilities. For example: one of the series of classes was united by one theme: "Man and Time", where, along with the tasks of developing temporary ideas, research problems were solved by experimenting. The children were only acquainted with temporary ideas, but they were experimentally determined: "How does day change night?", "How does the change of seasons take place?"

3. Children have become more actively involved in mathematical games to develop logic and speed of thinking; participate in transformative activities, independently use the methods of cognition and experimentation, have learned to outline successive steps in game situations.

Thus, we believe that the joint work on the project helped stimulate the cognitive activity of children, unite the parents of groups, activate their creative abilities, and develop interest in a new form of work - design.

REFERENCES

1. Anikeeva N. B. The upbringing of the game. - M.: Education, 2001.
2. Volina V.V. Holiday number. Entertaining mathematics for children- M : Knowledge, 2000.
3. Mikhailova Z. A. Mathematics from three to seven St. Petersburg: "Childhood Press", 2010.
4. Sorokina A. I. Didactic games in kindergarten - M.: Education, 2003.
5. Kiseleva L. S. Ch., Danilina T. A. The design method in the activities of the kindergarten. - M.: Education, 2004.
6. Kolesnikova E. V. Mathematics for preschoolers 4–5 years old. Scenarios of training and game classes. - M.: Publishing House of GNOM and D, 2000.
7. Novikova V. P. Mathematics in kindergarten. Middle preschool age. - 2nd ed., And add. - M.: Mosaic Synthesis, 2006.
8. Shevelev K. V. Preschool mathematics in games. The formation of elementary mathematical representations in children 5-7 years old. - M.: Mosaic-Synthesis, 2005.