



## THE CHARACTERISTICS OF FORMING ALGORITHMIC SKILLS THROUGH EDUCATIONAL GAME ACTIVITY IN PRE-SCHOOL CHILDREN

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### Abstract

This article focuses on the methods, problems and solutions of developing methods of developing algorithmic skills and increasing knowledge of children of preschool age through educational game activities. It is aimed to pay attention to the characteristics of changes in the properties of the algorithm, taking into account the age periods, and to achieve children's activities based on algorithmic skills in their lifestyle and during training.

**Keywords:** Educational game concepts, algorithm, thinking, comprehensibility, accuracy, mass, result.

It is expedient to develop concepts through the simplest subjects through educational game activities in children of preschool age. According to Z.I. Kalmakova, the most reliable indicator of the formation of mathematical concepts in a child is his educational level, that is, in the general rules of the child's acquisition of knowledge. The basis of education, its main organizer is the generalization of intellectual activity, which determines other parameters of education at a high level.

The depth of thinking is expressed in the accuracy of forming algorithmic skills through educational game activities and the ability to penetrate into the essence of the matter, distinguishing the main from the secondary.

Flexibility is expressed in the ability to easily switch from one method of activity to another, to change the method of activity according to the purpose.

The activity of thinking is the persistence of diligence aimed at solving a problem.

The criticality of thinking is expressed in the ability to assess the right way to solve the problem, the efficiency of the activity method, the correctness of the result, and the ability to always keep the activity in the norm.

Rational thinking is expressed in the ability to compare methods of activity, setting different parameters, to find methods that spend less time in solving the problem.

Originality of thinking is solving a given problem or a submitted matters in a wonderful, different way from other methods. It is often manifested as a result of depth and depth of thinking.



The independence of thinking is expressed in the ability to find a solution to the problem independently, without help, in the ability to see the intermediate and final results of the activity, in the independent, free and justified opinions.

Intuition is important in the formation of algorithmic concepts through educational game activities. Here, intuition appears as a sudden thought, a successful idea.

Algorithm in its broadest sense is not only a computer term, but also anything that can carry out the instructions given to it. Algorithm - a specific rule, program, about the execution of actions in a certain order, used in solving problems of a certain type.

Algorithmic concepts develop from simplicity to complexity through educational game activities in children of preschool age. For the pupils of this period, trainings are organized in which simple, clear parts of algorithmic concepts are expressed through educational game activities. When explaining the concept of algorithm to children, the use of environmental objects, events and actions is an effective type of activity and solution to achieve the expected result in the training.

You can rely on the properties of the algorithm to perform certain tasks.

The main properties of the algorithm. The algorithm has 5 main properties:

Discretion (Finiteness). The meaning of this property is that algorithms can always be divided into finite steps.

This feature ensures proper organization of not only a certain task, but also any part of children's lifestyle.

Understandability.

The instructions recommended to the student must be understandable for him, otherwise the child simply cannot perform the action. In addition, the child may not be able to perform any action.

There is a set of instructions or commands that each child can follow, it is called a system of instructions (system) of the student. Therefore, every instruction given to a child should belong to the instructional system of the pupil.

It is important to be able to express the instructions in such a way that they belong to the instruction system of the student. For example, a student of a small group can distinguish simple geometric shapes, but cannot perform arithmetic operations on complex numbers. Therefore, it is necessary to pay special attention to the comprehensibility of the task given by the teacher. In order for the child to complete the assigned task, he must first consciously analyze it and make sure that it is mature according to his age characteristics. Educators rely on a sophisticated psychological approach in every process. First of all, they should be convinced to achieve the set goal and task. Children perform the given tasks during the training based on the comprehensibility property of the algorithm.

Accuracy. The instructions given to the student should be clear. Because the inaccuracies in the instructions do not lead to the achievement of the intended goal. Thoughts and opinions that seem easy for adults are difficult for young children, and unclear instructions put children in a difficult situation. In addition, the order in which the instructions are executed is also important. Therefore, the instructions must be clearly given and executed only in the order specified in the algorithm.



Each type of training organized in pre-school education organizations should provide an opportunity to acquire different knowledge, even if it is aimed at one task. Giving children tasks based on an algorithm first of all develops children to work in an orderly manner. In the formation of a child as a person, it creates the ability to systematically plan each goal.

**Popularity.** According to the content of each algorithm, it should be suitable for all types of problems. That is, regardless of the initial data of the problem, the algorithm should be able to solve any such problem. For example, in the exercise of algorithmic knowledge development through educational game activity, the method of the sequence of performing arithmetic operations in large groups is required to be proportional to the sequence of training of children of a large group. It is in this case that algorithmic knowledge develops from simplicity to complexity, making the property of mass invisible.

**Effectiveness.** Every algorithm must give a result after a finite number of steps. Even if there are many actions, it should still lead to a result. Finding that the problem has no solution after a finite step is also a result. If the considered process continues indefinitely and does not produce results, we cannot call it an algorithm. Algorithmic processes have their own results in any case.

Algorithmic skills are developed in children of preschool age and are formed in the simplest form under the supervision of the educator during the process of preparation for school education, from the simplest activities to the period of the preparatory group for school.

In conclusion, we can say that the simplest variants of algorithmic concepts are demonstrated and introduced to the children of preschool educational organizations. In the development of algorithmic skills, the teacher's control in small groups is taken into account first of all. It is advisable to rely on the properties of the algorithm during each exercise. During algorithmic knowledge, children are clearly directed to the goal. They can choose the right way in a certain type of activity and analyze the result of achieving the goal in advance. It is possible to easily develop algorithmic skills in other types of training besides educational training.

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