

Construction Components of Algorithmic Skills that Need to Be Formed in Preschool Educational Institutions

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Abstract: Based on the modern goals of upbringing in a preschool organization, it serves to form the conditions for the educational activities and personal qualities of the child, which are necessary for the adaptation of pupils in school.

Keywords: activity, communicative, component, goal, communication, integration, skill, success, results.

Algorithmic skills encompass both the ability to implement and compile algorithms as well as the ability to arrange a preschooler's learning activities and arbitrary behavior, i.e., good schooling.

Therefore, the following algorithmic skills for preschoolers required knowledge of the components:

Cognitive component of algorithmic skills:

- ability to work on algorithms and follow adult directions in solving issues;
- ability to do the studied motion algorithms: calculation, measurement, line building, and so on;
- ability to use the studied algorithms in solving problems
- ability to use visual models that reflect the sequence of steps in the implementation of the algorithm.

Communicative component:

- ✓ ability to construct algorithms in the performance of tasks, as well as interact and work with adults and peers during the execution process;
- ✓ ability to convey algorithmic actions in an intelligible language through speech;
- ✓ ability to debate in the development of algorithms and actions
- ✓ Normative component:
- ✓ ability to set goals for future activities to solve tasks;
- ✓ the ability to find an error in the created algorithm and correct it independently or with the help of adults;
- ✓ ability to relate the result to the goal;
- ✓ the ability to manage, self-manage, and correct one's actions to create and execute algorithms in the process of solving tasks.

It is vital to clearly define the objective of future actions, the trustworthiness of the outcomes, and the correctness of the goal achievement when developing algorithmic skills and completing tasks. The development of logical processes of analysis, comparison, and generalization, which are required for the development of algorithmic activity, is complemented by the study of task execution algorithms.

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Activity is "an active interaction with the real world around us to know and change the child's needs" [112, p. 5]. By algorithmic activity, we mean the activity of creating or modifying an algorithm to achieve a specific goal, that is, to solve a problem, perform a task, and so on.

The formation of basic scientific concepts in the preschool education organization is done in line with the state educational program "First Step," which must be followed by the preschool education organization.

After being assessed by specialists, the Ministry of Preschool Education has recommended the "First Step" preschool education program. One of the challenges of knowledge realization is the establishment of elementary scientific notions in youngsters [13].

Each preschool kid should give special attention to their health, emotional well-being, and timely and comprehensive development, according to the "First Step" program [13]. It is vital to integrate children's activities: play, communication, work, learning, music, and so on, in order to attain educational goals.

The "First Step" program is broken into sections that are divided into components. Each section's primary purpose is to recognize and improve the child's abilities [13].

The program does not give targeted activities to help youngsters build computational abilities, which are essential in today's high-tech society.

"The First Step" program also focuses on maintaining and strengthening children's health, their development, and the formation of a holistic view of the world in preschool children [13]. It gives children the opportunity to participate in a variety of activities, connect with his family in order to ensure that each child's development follows a unique path, and integrates all areas of education at different stages. In this program, a system-activity approach is used, which means that children must independently analyze, compare, and identify important features in order to successfully teach at all stages of continuing education and self-study. In the afterlife, self-awareness provides the nurturing of personal qualities such as self-discipline.

In children, the idea of algorithms is not purposefully formed, and algorithmic skills are not developed [112]. The main goal of this program is to shape the citizens of a democratic society. The program is aimed at the formation of a common culture, the full development of the child.

"The first step" is to develop the basic concepts that preschoolers need to learn in the field of education. The main goal of the program is to develop the skills of each child, to be in touch with the world, to create opportunities for creative self-awareness in various activities. [13].

The First Step program takes a lot of insights from elementary school, which significantly complicates the content of the program. The sequence of actions is noted as one of the topics in the implementation of algorithmic operations in the formation of elementary scientific concepts. In the children's educational play activities, the program uses didactic and developmental games, educational games with ready-made content and rules. It involves learning to follow a certain sequence of actions and following the rules of an educational game. These types of games occur in the fourth year of a child's life, in the second smallest group. At the same time, in the context of the linear arrangement of objects, children learn to follow traditional symbols that indicate the order of placement of objects and objects for the development of educational play activities, and with the help of adults name game movements, directions of movement. In the process of developing these skills, the child's vocabulary is enriched with words such as "first", "next", "forward", "backward" and so on.

In the middle group, preschoolers master the date, understand and comprehend the sequence of practical actions, use the words "first", "next", "before", "later" to reflect the order of its implementation in their speeches. They take practical steps to pour liquid from one container to another, move things, etc., analyze what has changed or remained unchanged in the process of changing conditions, and explain what is happening in the following words: "if ... then ...". Thus, the formation of the following algorithmic skills takes place: execution of an algorithm defined by an adult, analysis of changes in it in different conditions of its implementation, description of their actions in a language and meaning understandable to other people.

In the older group, with adults or independently, preschoolers engage in attention by observing a sequence of research actions. Children predict the outcome of future actions, analyze the relationship between the stages of their implementation, describe their activities in the following words: "what comes first", "what happens next", "why" . At this age, children develop the following algorithmic skills: execution, correction, algorithm development, evaluation of results and goals, verbal description of their actions.

In the pre-school group, preschoolers explain the sequence of actions when performing a cognitive task, which is a sequence of actions suggested by adults, emphasizing the goal, the order and steps of the task, and the outcome of the solution. explains. Preschoolers independently determine the sequence of problem-solving steps, explain and prove the sequence of selected exercises using a "simple, ordinary" scheme.

Analyzing the content of the "First Step" program, it can be noted that preschool children develop many algorithmic skills in the process of educational games with ready-made content and rules: emphasizing the purpose of future activities; execution, modification, algorithm development; predicting and evaluating results and goal achievement; describe their actions orally; understand and read the proposed algorithm scheme to solve the problem.

However, the formation of algorithmic skills in preschool children occurs mainly in the process of studying only one section, in which only linear algorithms are considered. The networking in this program has almost no effect on the periodic algorithms.

Unlike previous programs, this program is aimed at developing algorithmic skills.

Analyzing the "First Step" programs, we can conclude that the program is working on the development of algorithmic skills in preschool children. The first step program can also be used as a basic program for the formation of elementary scientific ideas.

Thus, an analysis of the current core curriculum of preschool education has shown that research on its development with sufficient focus on the formation of algorithmic skills in preschool children will undoubtedly yield good results. The development of these skills in students will help them to develop the necessary conditions for primary education in the future.

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