

USING SOFTWARE TOOLS IN TEACHING CHILDREN OF PRESCHOOL  
EDUCATIONAL INSTITUTIONS

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**Abstract:** The article is about using methods to develop basic mathematical skills, to provide pre-school students with basic mathematical concepts.

**Keywords:** preschool, elementary mathematics, training, competence, program, interactive, analogy, lessons, logical tasks, iSpring program, knowledge, skills and abilities.

The state educational program of the preschool educational institution “Ilk qadam” (First step) is a regulatory legal document developed in accordance with the State requirements for the development of early and preschool children of the Republic of Uzbekistan, which outlines the goals and objectives of the preschool educational institution, the main ideas of educational and upbringing activities, and defines the main competencies of the child in transitioning to the next stage of education.

The general important competencies of a preschool child (6-7 years old): communicative competence, game competence, social competence, and cognitive competence are also defined.

Also, in the educational program “Ilk qadam” (First step) of the Competence in the field of “Development of cognitive process” 3.2.4. after the completion of educational activities in the field of development of cognitive process 6-7 year old child:

- shows active interest in acquiring knowledge;
- independently finds and uses information for educational and life activities;
- understands simple connections between objects, events, and phenomena and perceives them as a whole;
- knows numbers, calculations, and applies them in life;
- act in accordance with space, form, and time;
- performs elementary mathematical calculations;
- observes and studies events and phenomena in the environment;
- shows a cautious and caring attitude towards the environment [1.8].

The goal of developing simple mathematical skills in preschool children includes the following areas:

Formation of ideas about geometric shapes and the shape of objects.

2. Developing targeting skills in space.

3. Formation of an understanding of time.

4. Formation of concepts about quantity.

5. Formation of concepts about numbers [4,5].

A number of renowned mathematicians have created a system of scientifically sound methods for forming elementary mathematical concepts in preschoolers. Specifically, I.A. Markushevich provides a methodological program for developing learners’ skills, while S.I. Schwarzburd, when forming mathematical concepts, divides them into several components. In his work, B.V. Gnedenko distinguishes two levels of mathematical abilities: “simple, average abilities” and “above average abilities,” and also introduces a number of factors of educational measures in teaching mathematics [3, 3].

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A number of scientists and methodologists from our republic have contributed to the formation of elementary mathematical concepts in preschool educational institutions, and methodological manuals have been published. N.U. Bikbayeva and others, in their manuals "Development of Mathematical Representations in Preschool Children," M.E. Jumaev, "Theory and Methodology of Developing Mathematical Concepts in Children," illuminated the issues of forming mathematical knowledge in children.

Based on the requirements and competencies of the "Ilk qadam" (First step) educational program, a complex called "Dastlepki qadem" (First Step) was developed for the formation of mathematical concepts using software. The interactive software tool we developed provides analogical examples that allow for the interactive execution of elementary mathematical concepts based on multimedia technologies.

The use of the analogy method (Greek analogia - correspondence, accuracy, similarity) in elementary mathematical education of pupils based on multimedia technologies in preschool educational institutions yields effective results. [2.38]. It can be used to study numbers, objects, objects, the size



of a

distance, the height of a distance, the length of a distance, and the number of objects. Let's give examples of how to solve several examples of analogy on a computer. For example, 1 chicken and 1 banana are displayed on the monitor screen. The educator asks the children what they see on the screen. The children answer chicken and bananas. The teacher asks another question. They ask how many chickens and how many bananas. The children answer with 1 chicken and 1 banana. The educator describes the number 1 between the chicken and the banana through animation and explains the number 1 with things. Here, because there are 1 chicken and 1 banana, the educator says that the number 1 is = and draws the sign =. Thus, it also explains the numbers 2, 3, 4... 10.

After studying the numbers, the educator gives assignments for children to complete independently. Here, you can also prepare tasks in PowerPoint, iSpring, or other convenient computer programs. If the iSpring program uses 11 different tests in the test creation section, it will be as shown in the figure below. When completing this task, the child holds the number above (pressing the left mouse button) and connects it to the corresponding image.

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The



educator touches “Send”

button. Here, if the child performs the task correctly, they are encouraged and receive a gift with a picture. Incentives can also be made audible. After receiving such encouragement, children also try to correctly complete the next task. If the child does the task incorrectly, he warns that he has done it incorrectly.

One of the main concepts in the formation of mathematical representations is the category of time. When forming the concept of time, it is necessary to rely on algorithmic theory. Because these categories are strictly sequential processes. For example, the days of the week are Monday, Tuesday, Wednesday, Thursday, January, February, hours 1, 2, 3, and so on. To quickly remember and accurately represent these time categories, the software provides a set of exercises that also focus on self-assessment and self-assessment. Here's an example of this learning content: For example, exercises on the names of months, seasons, and time scales.

In this section, when studying the concepts of time, the materials are presented with graphic, visual, and sound multimedia effects.



After mastering the concepts, there is a self-test with the help of a test. Therefore, children begin to learn with interest from such a programmed and multimedia learning tool. They reinforce their knowledge.

Today, visual materials, video clips, and films are used in preschool educational institutions to develop mathematical concepts. However, they are given separately in the context of topics. This creates difficulties in the use of technical means by educators, and the organization of feedback with children is passive. The software we propose combines topics into one place and requires active

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student activity in completing exercises. The reason is that mathematical concepts are given in the form of a specific task, and its completion requires the learner's participation. Both the educator and the student are active in this process. The most important thing is that learning is carried out on the basis of strong emotions. For example, the teacher determines children's perceptions of the parts of the day by connecting the names of the parts of the day with what children and adults do in the morning, during the day, in the evening, and at night.

When we tested this software in preschool educational institution No. 16 in Nukus and preschool educational institution No. 3 in Nukus district, it was found that the formation of the initial stage of theoretical knowledge of time orientation in children, the formation of the unity of emotional and logical reflection of time, and the formation of symptoms of seasonal discrimination skills are at a high level.

When using software tools, which are tools of computer science and information technology, in the process of providing elementary mathematical knowledge to preschoolers, children's activity and interests are formed, and their effectiveness increases compared to traditional forms of learning.

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