

ON THE METHODOLOGY OF FORMING QUANTITATIVE REPRESENTATIONS IN PRESCHOOL CHILDREN

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ABSTRACT

The article analyzes various approaches to the content and methods of forming quantitative representations in preschool children, as well as technologies for the formation of the ability to group objects (2-6 years old), the formation of ideas about the plurality and singularity of objects (from 3 to 5 years), the formation of the ability to distinguish 1 and many objects in the environment (from 3 to 4 years old), the formation of the ability to compare 2 groups of objects in quantity, by establishing a one-to-one correspondence (from 3 to 6 years old), the content of the teaching methodology for counting objects (4-6 years), methods of teaching ordinal account (4 - 6 years) and provides recommendations for their implementation in practice.

Keywords: Technology, quantity, ideas, skills, objects, multiplicity and singularity, counting, ordinal counting.

INTRODUCTION

In order to correct the errors encountered (in some programs and manuals for parents and educators), the following should be taken into account: at preschool age, one cannot start with oral tasks, but it is necessary - with dramatization tasks, and then illustration tasks. As a second term or subtracted, it should be at first only important that children and educators do not forget to raise the question in the tasks. It is also important to make sure that children calculate, and not lead a simple counting. It must be remembered that the result of an operation on numbers is a number, and the result of an operation on sets is a set.

THE MAIN FINDINGS AND RESULTS

At the first stage, the formation of the ability to group objects (2-6 years old) is first taught to group according to one criterion, while all other signs should be absent or insignificant for children. The attribute according to which the grouping of objects is proposed becomes more complicated with age (color – name – size – form – quantity – characteristic functions). For example: put all the cars on the bottom shelf and the dolls on the top (by name): children have geometric shapes of the same color, but different shapes, you need to build turrets from cubes (or cylinders) [4-13].

At the second stage, children are taught to group according to two - three or more signs. In this case, objects should differ only in these signs or other signs should be insignificant. For example: take big red cubes for construction (and the figures differ in shape, color, size); build a chain so that the shape differs in size and shape.

When teaching the grouping of objects according to the model, the signs are not verbally indicated, the objects must differ in several signs, the children themselves must find common signs and carry out the grouping. For example: bring these toys to the table.

At the last stage, children are taught grouping according to a given criterion. The items differ in several ways, but only one is indicated. The lightest signs are color and name. The most complex are the functions of the subject. For example: name objects in the form of a circle; collect and place washable toys in a bowl.

Formation of ideas about the plurality and singularity of objects (from 3 to 5 years). Exercises or games are conducted with children, in which it is shown that the set consists of separate elements. Children are shown how a set is formed and how a set is broken down into separate elements [1, p. 159], [2, 2005].

To begin with, a lot of homogeneous objects are taken. Attention is focused on the words: "How much?", "Many", "One", "None". For example: children collect leaves, the teacher selects uniform leaves according to the number of children and says: I have a lot of leaves. - How many leaves do I have? (A lot.) I give out one at a time. You have one, you have one, and you have one. The leaves are getting smaller and smaller. I have none left. How many leaves do you have? (One) How many do I have? (No one). I collect leaves: one for you, one for you, one for you. I have more and more leaves. I have many leaves again. How many leaves do I have? How much do you have left? [3, 2015]

This exercise is carried out with different types of objects several times. Later, this problem is solved with inhomogeneous sets. At 5 - 6 years old, children are shown that objects can be grouped according to different criteria, without taking into account insignificant signs. For example: objects of different colors and shapes. Children must count objects of the named shape. Usually children count separately items of each color. The educator teaches to take into account only a given sign, not paying attention to others. For example: count how many blue shapes (you have to count both circles and squares).

In the process of developing skills to select 1 and many objects in the environment (from 3 to 4 years old), at the first stage, one and many objects are located on different planes (2 different tables, 2 hoops). Questions and tasks: show me where there is one and where there are many; how many items are on the red strip and how many are on the blue?

One or many objects are mixed on the same plane (bunnies and 1 squirrel). Questions: what items are there, and which one, how many bunnies, how many squirrels?

At the third stage, an exercise is proposed, where in one object many objects are enclosed (one tree, and there are many leaves on it; one aquarium - many fish) [4, p. 5].

At the fourth stage, one and many objects are not limited to either planes or a single object. Children should mentally combine them into a group. For example: one doll at a time on a chair, carpet, cabinet, and in total there are many dolls. Games at all stages (the only difference

is in the location of visual material): for example, “Travel” or “Train with stops” (The teacher finds out how many objects are at the station. If the children answered all the questions, then they go to the next station).

When forming the ability to compare 2 groups of objects by quantity, by establishing a one-to-one correspondence (from 3 to 6 years old), there are 6 methods for establishing a one-to-one correspondence: overlay (younger age), application younger age); pairing (younger and middle age); connection by arrows (middle age); use of an intermediary set (older age); account (middle-senior age)

Before teaching children to count (4-6 years old), it is necessary to create situations in which children are faced with the need to be able to count.

Learning to count is based on a comparison of two groups of subjects in terms of quantity. First, the teacher himself leads the counting process, and the children repeat the final number after him. The independence of the number of objects from other attributes of objects is shown. Then the teacher teaches the children the counting process and introduces the formation of each number, teaches them to compare adjacent numbers. First, children are taught to count within 3, and then within 5, then - 10 [5, 1988].

When teaching counting to three, at the first stage, the teacher offers the children two groups of objects, arranged in two parallel rows, one under one (bunnies and squirrels). Questions: how many bunnies (squirrels)? Will bunnies and squirrels be equally divided? Then one item is added to one of these sets (a bunny galloped). Will squirrels and bunnies be equal now? How many bunnies were there?

The teacher himself conducts the counting process (“One, two, and three”. He goes around the whole set. “Only three bunnies”). Children follow the counting process and repeat the final number – “three”. Another squirrel is added. Will bunnies and squirrels be equal now? How many squirrels are there?

The teacher counts squirrels (one, two, three; only three squirrels). Aligns nouns and numbers in gender and number. Children see that the number "three" is a common indicator of the number for bunnies and squirrels.

At the second stage, teaching children the counting process, the teacher encourages them to adhere to the following rules: to coordinate each numeral with one object and one movement; to reconcile the numeral and noun in gender, number, case”; do not repeat the noun after each numeral (so that the counting process is abstract); after naming the last number, it is necessary to circle the entire group of objects in a circular gesture and name the final number”; when naming the final number, pronounce the corresponding noun; the account must be kept with the right hand from left to right (so that the children have a stereotype); you cannot say the word “times” instead of the numeral “one” to answer the question “how much?”.

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