











concerning measures of the objects, a child studies to choose and to use himself optional, relative measures for measuring the length, masses of free-flowing and liquid substances. A child studies to compare the masses using different measures: to measure off “the same”, “more”, “less”. A child studies to use natural measures (a step, a hand) while comparison of the objects, that prepares him for understanding of dual nature of natural number (a number, as a characteristic of quantity of the elements of discrete multitude, and a number as a measure).

While introduction to natural number: In the age of 3-5 years, a child studies to compare the objects by different features with gradual separation of quantitative characteristics; to compare the majority of objects using the method of establishment of mutually-monosemantic correspondence. A child becomes acquainted with relations: bigger, smaller, equal; fulfilling different actions with totalities. Учится выделять один, два, три предмета из группы по принципу числовой фигуры. A child studies to correlate the numerals with the corresponding groups of objects (one, two, three...). A child studies to separate one, two, or three objects from the whole group of objects according to the given qualities. A child becomes acquainted with the conceptions: more – less, equal, few, and so on. A child becomes acquainted with the quantitative and ordinal counts (till 5). A child becomes acquainted with the symbol of the number – a digit.

In the age of 5-6 years continues the studying of the qualities of natural numbers: a child studies to use the quantitative characteristics: more – less, equal; while the comparison of the objects using the method of establishment of bijection. A child studies different ways of equalization of multitudes.

A child studies to build the subjectial model of natural number. A child studies to count the objects in different directions and spatial locations. At the same time the understanding, that the final numeral concerns the whole group of objects, but not only the last of them is formed, and the understanding, that the general quantity of the objects in the group doesn't depend on its size, colour, form, and the distances between the objects.

A child studies to correlate a digit, a number and a quantity. He receives the first knowledge in regulating of multitude by numerating its elements (the rules of counting). A child gets acquainted with the subjectial model of segment of natural numbers and studies to build it from different materials. Gets acquainted with digit “0”, and with its place in the sequence. Gets the first knowledge about the principle of building of natural numbers. Studies to get numbers by addition or subtraction by 1. Gets acquainted with conception of the next and the previous numbers. Studies to compare the numbers in different ways. Gets acquainted with the symbol of comparison. Gets the first understanding of unlimited natural numbers. Such building of the programme of developing education in mathematics of a child of a pre-school age corresponds with the modern conceptions of the nature and ways of building of of developing programme of subjectial education.

The principle, realized in this programme also correlates with modern points of view of developing education. According to these points of view, the methodical system in its beginning is built like an undeveloped or weakly developed structure, which later differentiates in different directions and becomes more complicated and multi-leveled. While such building of programme and education, the cognitive structures of personality, that fulfill the process of analysis of material, become more partitioned, more able to single out the details of material from the context much better; the whole slighter and slighter dominates on its parts, and a child isolates the different parts (qualities, connections) from the whole, and operates with them independently from the whole and from each other.

Such method of building of system of education of a little child will lead to the system of knowledge, that will be differentiated during the educational process, and will become in a child's mind more developed, divided, and well-ordered cognitive structure, that will mean the achieving of the goals and receiving of the results of developing education on the basis of mathematical content.

#### 4. Conclusion

Consequently, we may state that reasons for “mathematical abilities” being a rare case lie in educational system as such. System of introduction into the world of mathematics does not coincide with children's way of understanding it.

It is well known that not all abilities of children are seen on the surface, so a teacher needs to find, reveal them. Unfortunately, this pedagogical axiom does not work if we speak about methods of teaching mathematics. Teaching the subject is aimed at content but diminishes the key objective of any kind of education – personal development of a pupils resulting in abilities creation, mathematical abilities including.