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Elementary Mathematical Imagination of Mentally Retarded Students and The Specific Features of The Skills Application in Daily Life

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Abstract: The article discusses the unique characteristics of elementary mathematical concepts and practical application skills in daily life for students with intellectual disabilities. It explores specific methods and pedagogical approaches aimed at developing mathematical ideas and practical abilities, as well as opportunities to apply them in daily activities. The research findings provide teachers with recommendations for effectively shaping mathematical concepts and skills for students with intellectual disabilities.

Keywords: Students with intellectual disabilities, elementary mathematical concepts, everyday life, mathematical skills, pedagogical approach, teachers, intellectual disability, educational methods.

Introduction: The ability to visualize mathematical representations and to see these representations in everyday life in the education of mentally retarded students is greatly developed. The process of receiving and producing knowledge in such students often produces original products. At the same time, this can be observed using pedagogical approaches and

methods suitable for mentally retarded students. Scientists who have dealt with the physical problems of visualizing elementary mathematical worlds and applying them in everyday life in mentally retarded students: L. Baryaeva, E.S. Bein, V.I. Lubovsky, A.R. Luria, M.N. Perova, B.P. Puzanov, T.B. Epifantseva. L.B. Baryaeva "The mental activity of children with mental retardation is characterized by its own peculiarities, this process is accompanied by various inconsistencies in their current ideas, level of knowledge and "near programming zone". According to her, low cognitive activity, if they are unusually set or they need to be identified in objects or found in the environment, students identify familiar geometric figures. There is a great dependence on the forms of their spatial location. According to N.F. Kuzmina-Syromyatnikova, the stress of students with moderate mental retardation is caused by the inertia and rigidity of the object processes of thinking, which is associated with the inertia of nervous processes. Inertia and rigidity of thinking are manifested in "getting stuck" in the accepted method of solving examples, problems, practical actions, in difficulty in passing one mental operation, in stereotyped answers, in "taking literally" without considering existing knowledge (for example, $5\text{cm}+3\text{mm}=8\text{cm}$)

Also, the ability of mentally retarded students to generalize decreases. This is manifested in difficulties in forming mathematical concepts, mastering laws and rules. It is difficult to form the concepts of numbers and counting, to master the laws of the decimal number system. Mentally retarded children usually have difficulty counting unusual or unusually located objects. M.N. Perova notes that mentally retarded children, due to the lack of the ability to think in reverse, have great difficulty in connecting concepts with each other and, having mastered one of them, may not have an idea of the other, the opposite (more - less, above - below, etc.). When studying segments of the natural number series, they have difficulty connecting them in pairs, perceiving them separately, comparing numbers, establishing equivalence relations and order. Spatial-temporal images are not formed. The difficulty in developing spatial concepts in students with intellectual disabilities is manifested, first of all, in their lack of sufficient knowledge of verbal signs of spatial location when visually navigating a diagram of their own body. They do not know the parts of the body that prevent the formation of other types of spatial orientation. Violations of sequential processes are manifested in following sequential instructions, performing sequences of actions, laying out lines, mosaics, geometric figures with a certain alternation of elements, memorizing and multiplying

rows, pressing rhythms, multiplying and establishing a series of numbers. Their relationships in the number series are disrupted. Students with intellectual disabilities usually have problems understanding and applying mathematical concepts in practice. Their learning process should be based on more visual and tactile methods. For example, connecting numbers and mathematical operations with real-life situations will be easier for students to understand. It is important for students with intellectual disabilities to apply mathematical ideas and skills in their daily lives. For them, mathematical knowledge can be reinforced through everyday activities such as simple shopping processes, measuring time, and making calculations. For example, applying mathematical skills in situations such as pricing, discounts, or time management is of practical importance.

L.B. Baryaeva moderately mentally retarded students have great difficulties in mastering mathematical concepts due to their deep impairment and focus on cognitive activity. It turns out that the requirements of the program do not reach them, they cannot immediately learn new material after the first explanation from the teacher. Several explanations are required from the teacher. To master a new method of calculation or a new type of problem, such children need to perform a large number of practical exercises, and the speed of work of such children is usually slower. With long-term, targeted, specially organized corrective work, the formation of mathematical concepts occurs very slowly, with great difficulty.

The process of forming elementary mathematical concepts in mentally retarded students is inextricably linked with solving the most important corrective task - the social and everyday adaptation of this category of students. In this regard, the teaching of elementary mathematical concepts should, first of all, be clearly practically oriented. The peculiarities of the mental activity of mentally retarded students and the shortcomings in the verbal-logical form of thinking create difficulties in the process of forming abstract mathematical concepts and laws in students. At the same time, studies have shown that mathematics contains the necessary conditions for correcting the mind and personality of mentally retarded students, developing their cognitive abilities. In teaching mentally retarded students to develop multi-digit numbering, the principle from general to specific is implemented, as a result of which:

- children acquire a logically defined generalization of knowledge about the first three digits (units, tens, hundreds) in the concept of "class";
- students understand the clear similarities and

differences in numbers, are able to distinguish the same digits of the class of units and the class of thousands;

-similarities are determined in the numbering of three-digit and six-digit numbers;

This section of the course of mathematics is used to establish analogies, analyze, compare and generalize existing knowledge. The numbering of numbers of the first category in the numbering system for multi-digit numbers is the basis. The use of modeling allows students to form a visual generalized image, a spatial diagram of the structure of six-digit numbers.

T.B.Epifantseva emphasizes that the basis for the successful development of a mathematics program for students with moderate mental retardation is the teacher's knowledge of the capabilities of students, their work speed and personal development characteristics. Pedagogy recommends that the teacher calmly create situations in which the student feels like he is in control of the cognitive process. In the lessons, using the usual methods for obtaining knowledge, one should try to make sure that this knowledge is obtained as a result of independent observation, experimentation, comparison of objects, phenomena, and practical work. This serves as the main thing at any stage of the lesson. All this includes a creative element. Thus, mentally retarded students often do not know how to meaningfully approach the assimilation of what is read, said, and explained in the classroom. The reason for this lies in the absence of a process of purposeful formation and development of the student's thinking, in the spontaneity and unconsciousness of the emergence of mental actions. The process of spontaneous formation of thinking is long, imperfect, and ineffective. In this case, the mental actions and skills that arise are often flawed, the set of mental abilities is incomplete, and the range of problems that can be used is limited. To improve the process of mental development of a child, it is necessary to purposefully train him in thinking skills. In order to teach a mentally retarded student more effectively, it is important to use a teaching tool such as a didactic game in lessons. The topic of educational activities, goals and objectives, expected results, necessary equipment, and the course of educational activities are fully written. During educational activities, topics are explained to children in a simple way and reinforced with the help of practical work and various interactive games. At the end of each educational activity, questions are asked to determine and consolidate children's knowledge. During educational activities, children learn new mathematical concepts and strengthen their knowledge and skills by completing independent

practical tasks, solving tasks using various interactive methods, playing games, and being creative.

Pedagogical approaches play an important role in developing elementary mathematical concepts and application skills in everyday life in students with intellectual disabilities. It has been found that a combination of visual, tactile and practical methods is effective in teaching students mathematical concepts. Applying mathematical skills in their daily lives increases their self-confidence and helps them to successfully integrate into society. Such approaches contribute significantly not only to mathematical knowledge, but also to the overall development of students.

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