

The role of interdisciplinary connections in teaching mathematics to students of a supported school

Nazira Yusupova

Associate Professor, Alfraganus University, Uzbekistan

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Abstract: The article discusses the role of interdisciplinary connections in teaching mathematics to students with mental retardation. The mechanism of corrective work with students with mental retardation, teaching mathematics in interdisciplinary connections, teaching methods using interdisciplinary connections, and approaches based on age characteristics are given.

Keywords: Corrective work, interdisciplinary connections, teaching methods, differentiated approach, classification.

Introduction: Mathematics is the most abstract of all the subjects included in the curriculum of a special school. At the same time, it is the most logically strictly constructed subject. All this makes mathematics one of the most difficult subjects to study.

In the main areas of the reform of general and vocational schools, great attention is paid to improving the quality of the educational process. It is known that its main link in school is the lesson.

The problem of the lesson is constantly in the center of attention of teachers at all stages of school development. But special attention is paid to this problem in connection with the restructuring of the content and methods of teaching.

For a full study of mathematical material, a large stock of specific ideas about the shapes of objects in the surrounding world, repeated targeted use of these shapes and their properties in practical activities are necessary. Growing up, the child accumulates a stock of such ideas in the process of manual subject-practical activity. In communication with adults, the child learns geometric shapes, learns to call the same shapes of different objects with one word /masters sensory standards/, use objects depending on their shape, make and depict objects of different shapes, i.e. imperceptibly acquires the stock of ideas and skills necessary for studying a systematic course in mathematics. However, many years of experience in teaching mathematics to students in a special school

has shown that independent acquisition of information about mathematics by preschool and primary school children is very difficult. In the lesson, it is necessary to provide material of varying degrees of difficulty in order to take into account the different intellectual and physical abilities of schoolchildren, the degree of expression of the defect. One of such ways is to organize a differentiated approach to different groups of students, taking into account their potential capabilities and the nature of the difficulties. A differentiated approach in mathematics lessons is carried out at all stages and is expressed in varying complexity of mathematical tasks, varying degrees of assistance to students from the teacher, the use of additional visual aids, as well as an unequal volume of tasks.

The developmental lag of mentally retarded children, a significantly smaller stock of ideas about the surrounding world compared to normally developing peers, deficiencies in visual-effective and undeveloped verbal-logical thinking, and motor defects determine the need to accumulate a stock of mathematical ideas in the process of school education, in various types of educational and extracurricular activities.

The peculiarities of mathematical knowledge and the specific composition of students in a special school make the problem of the wide targeted use of interdisciplinary connections in the education of mentally retarded schoolchildren especially urgent.

Interdisciplinary connections are of great importance during the period of accumulation of initial ideas about the shape of objects. The ability to see a familiar object and highlight its shape is given to mentally retarded children with great difficulty.

Increasing the quality of teaching mentally retarded schoolchildren the elements of mathematics is facilitated by increasing the attention of teachers to this section, constant monitoring of the correctness and accuracy of their own speech and statements of students.

The wide use of interdisciplinary connections is of great importance. Interdisciplinary connections are the study and application of knowledge and skills on any problems in courses of several academic disciplines. For example, students' ideas about the shapes of objects are formed and used in mathematics, labor, fine arts, Russian language, speech development, drawing, etc.

In the correction of the deficiencies of mentally retarded schoolchildren, interdisciplinary connections are of particular importance, since they help to implement a multi-aspect perception of the surrounding world, create a variety of situations in which the perception of specific properties of objects occurs. At the same time, there is a repetition and consolidation of knowledge about objects of the surrounding world, their properties and the conditions under which it is necessary to take these properties into account.

In the teaching of primary school students, interdisciplinary connections are the richest and most diverse. During this period, students become familiar with geometric shapes, learn to compare, correlate various objects by shape with subsequent classification.

The labor training program provides for work with templates in the 1st grade - tracing squares and rectangles. In the process of labor training, the correction of cognitive deficiencies is carried out - this is observation, imagination, speech, spatial orientation, development of independent skills. Labor lessons should be closely linked with lessons in reading, drawing, speech development, mathematics. The manufacture of products dedicated to the study of the program material of general education subjects can contribute to a more solid assimilation of this knowledge.

The program for the first grade includes the following sections: "practical work", "technical information", "work techniques", "skills", "interdisciplinary connections", where the connection with mathematics is indicated, specifically with the topic "Counting within 10", as well as "Concepts of a triangle, circle, square,

rectangle".

Let's consider what can be used in labor lessons, keeping in mind the above tasks /clarification, formation, concept of number/.

As can be seen from the listed types of work and tasks that are formulated in the program, a first-grader, sculpting, bending, folding, cutting, gluing, will necessarily be engaged in determining the set of objects. Thus, analyzing the program, we will find a sufficient number of opportunities embedded in the program for the implementation of interdisciplinary connections between labor and mathematics, which can ensure a stronger assimilation of mathematical concepts about a natural number, about the properties of numbers of a natural series, about arithmetic operations. The development of a system of interdisciplinary connections by joint efforts of teachers of different disciplines, primarily mathematics, labor, Russian language, will help to increase the effectiveness of teaching and correction of mentally retarded schoolchildren.

The features of mathematics lessons in a special school are determined by the features of the subject, the goals of education and the capabilities of students. Mathematics lessons form mathematical concepts and ideas that are accessible and vital for students of a special school.

The structure of the lesson is always based on the logic of the cognitive activity of students, depending on the pedagogical goal of the lesson.

M.N. Perova suggests giving the concept of number and digit in the first lesson.

The goal is to acquaint students with the formation of a number, with the name of a number, designation by a digit, teach how to write a digit, show the place of a number in a number series, acquaint with the relationship between the number of elements of a subject set, number, digit, consider the quantitative and ordinal relations of a segment of a natural series known to students.

In the second lesson, they consolidate the place of a given number in a numerical series, gain an understanding of the second method of obtaining the preceding number /by counting one unit from a given number/, and practice counting in forward and backward order. Scientific ideas about a modern lesson in a special school are based on the idea of the unity of teaching, education, development and correction of cognitive activity and the emotional-volitional sphere of mentally retarded schoolchildren. Consequently, in order for a lesson to meet modern requirements and be effective, it is necessary to think through and

comprehend its purpose: educational, upbringing and correctional-developmental.

REFERENCES

Перова М.П. «Методика преподавания математики во вспомогательной школе» М.: 1999

Павлова Н.П. «Трудовое обучение в 1-3 классах вспомогательной школы» М.:1988 стр.18-20

Баряева Л.Б. «Формирование элементарных математических представлений у дошкольников с проблемами в развитии» - М.: Изд-во «Союз», 2002

Каттаева А.А., Стребелева Е.А.- Дошкольная олигофренопедагогика- М.: Изд-во «АКАДЕМ», 2005

Юсупова, Н. (2023). Преподавание дисциплин искусства мультимедиа как синкретичного вида творчества. *Innovations in Technology and Science Education*, 2(9), 1552-1562.

Ilesalieva, L. M., & Yusupova, N. Y. (2023). Methodology for the study of coherent dialogical speech in primary school children with intellectual disabilities. *Science and Education*, 4(4), 680-683.

Yusupova, N. (2021). PECULIARITIES OF LEARNING ACTIVITIES OF STUDENTS WITH INTELLECTUAL DISABILITIES. *CURRENT RESEARCH JOURNAL OF PEDAGOGICS*, 2(11), 138-142.