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GOALS AND OBJECTIVES OF IMPROVING METHODS FOR DEVELOPING THE COGNITIVE SKILLS OF PRIMARY STUDENTS THROUGH HAND-MOTOR EXERCISES

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Abstract: This article analyzes the theoretical part of the methods for developing the cognitive abilities of primary school students, and discusses the goals and objectives of the methods developed for primary school students in accordance with their age, along with the improvement of these methods.

Keywords: cognitive abilities, content, manual motility, thinking, memory, attention, sensorimotor development.

Introduction

It is extremely important to develop the cognitive abilities of young children from the first school years. In this, the role of the sensory function is invaluable, and it is appropriate to include hand movements among them. This is because the child learns important components of education such as writing, drawing, counting, and making through hand movements. Although the active use of hand movements in primary education has long been known in folk pedagogy, its introduction into pedagogy as a separate means of cognition dates back to the late 19th and early 20th centuries.

In the early stages of human development, the hand developed as a tool of labor, a means of perception, and a form of communication. Ancient people improved fine motor skills and developed brain activity by making various tools from stone, wood, and bone. F. Engels's "Labor creates man" [Engels F. The role of labor in the process of transforming a monkey into a man. – 1876.], according to the idea that manual labor and movement were a decisive factor in the mental development of a person.

From the point of view of pedagogy and psychology, manual motor exercises have a positive effect on the emotional, psychological and cognitive development of children. These processes help to increase the ability of students to work independently, strengthen self-control and self-confidence. At the same time, combining manual motor exercises with various pedagogical methods for primary school students helps to effectively develop their cognitive abilities. Methods aimed at the effective development of cognitive abilities play an important role in ensuring the comprehensive development of students, allowing students to learn through movement, which increases their interest in learning. Students test themselves more in practice, and this further activates the educational process.

Literature rewiew

Manual motor skills exercises encourage students to concentrate, to perform their work more accurately and carefully. These processes help develop students' memory and imagination,

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as they activate the brain to perform each movement correctly, so primary school students have the opportunity to develop manual motor skills and cognitive abilities at the same time. Such exercises include skills such as mathematical tasks and written work, problem solving, drawing, placing shapes, distinguishing colors and shapes, and writing words and letters. The simultaneous - parallel use of attention, memory, and imagination by students when using their hands and performing various exercises encourages them to think consciously and actively. Therefore, improving the methods of developing cognitive abilities of students, especially primary school students, through manual motor skills exercises is of particular relevance. On this basis, the purpose of this methodological manual is to develop methodological recommendations for improving the methods for developing cognitive skills of primary school students through manual motor exercises based on innovative approaches.

The tasks of improving the methods for developing cognitive skills of primary school students through manual motor exercises are as follows:

1. to analyze the scientific literature, psychological and pedagogical theories on the relationship between manual motor exercises and cognitive development during the study of theoretical foundations;

2. to develop manual motor exercises aimed at developing students' concentration, memory, and other cognitive skills used in the research;

3. to develop recommendations for the educational process based on the methods and exercises that had a positive effect on the overall development of students within the framework of the analysis of the results.

Discussion

Manual motor skills are a complex of movements that play an important role in the physical and mental development of children and have a long history in pedagogical processes. They play an important role in the processes of a person's study of his environment, thinking, creativity and socialization. Manual motor skills are an integral part of a lifestyle that is used very often in everyday life, and their use as a means of acquiring new knowledge in the educational process creates innovative pedagogical environments and technologies.

It also creates the basis for making life easier by quickly mastering motor movements that are relevant to a person's lifestyle. Today, the development of manual motor skills is being analyzed at the intersection of cognitive, neuropsychological, defectological and pedagogical directions.

In particular, finger exercises, coordination games performed with two hands, and motor-graphic tasks are widely used in primary education. Research confirms that such exercises:

increase the speed of thinking,
form writing and speech,
strengthen logical connections,
have a positive effect on the general cognitive development of the student.

Manual motor skills are an important factor in the general development of children in the pedagogical process, and their historical development has expanded from ancient times to modern and innovative methods. The correct development of manual movements in the process of development is a key tool in developing the psychophysical and social capabilities of children.

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Integrating manual motor skills exercises into the lesson process, inextricably linked with the child's everyday movements, can increase their flexibility, save and speed up learning and teaching time, and be an important factor in the child's acceptance of the lesson process. Especially in the first school days, students' exposure to familiar and unfamiliar subjects and objects increases their interest in reading and learning. There are opinions of psychologists and educators that manual motor exercises can be used in connection with each subject at the stages of didactic games, rest periods, repetitions, and presentation of a new topic [Montessori M. The Montessori Method (1909) Bruner J. Toward a Theory of Instruction (1966)].

From this perspective, integrating manual motor exercises into various stages of the learning process not only activates the student's attention and memory, but also serves the development of cognitive processes such as perception, thinking, speech, and creativity. While M. Montessori defined the activation of mental activity through manual activity as the main principle in her methodology, J. Bruner explained this process as "the process of knowing through the student's active experience" [Bruner J., Toward a Theory of Instruction, 1966]. In their opinion, the activation of mental activity through manual activity is an important factor in the development of the cognitive processes of the student's personality - perception, thinking, memory, attention and speech.

Based on this, modern pedagogical concepts evaluate manual motor exercises not only as a means of physical development, but also as a pedagogical technology that activates cognitive processes. Such exercises help students to concentrate, activate logical thinking, consolidate learned knowledge through movement, and consciously assimilate new information. As a result, at all stages of the educational process - from the acquisition of new knowledge to consolidation and relaxation - manual motor activity acts as a moving model of cognitive activity.

Therefore, in modern education, the combination of manual motor exercises with the content of each subject is considered an important tool for the development of integrative, interactive forms of education. As a result, such exercises, regularly used in the learning process, help students develop active, conscious, and sustainable forms of cognitive activity, increase their motivation to learn, and improve their ability to exercise self-control and express their thoughts logically.

Results

Map of Using Manual Motor Skills Exercises in Lessons

№	Lesson Stage	Type of Exercises	Purpose of the Exercise	Time / Duration	Notes
1	Starting the lesson (organizational part)	Simple hand stretching, rubbing fingers together, “finger dance” exercises	Focusing students’ attention, warming up muscles, preparing for the lesson	2–3 minutes	Visual and kinesthetic stimuli that attract attention can be added
2	Explaining a new topic (activating cognitive activity)	Writing numbers, letters, and shapes in the air with a finger; making shapes with plasticine	Activating memory and imagination when understanding a new topic	5–7 minutes	Visual and kinesthetic learning through manual motor skills

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№	Lesson Stage	Type of Exercises	Purpose of the Exercise	Time / Duration	Notes
3	Exercise and repetition (reinforcement)	"Exchanging numbers with hands", finger games, building geometric shapes	Developing attention, memory, and logical thinking	5 minutes	Can be used in group or individual form
4	Break between lessons / Rest minutes	Finger gymnastics, raising hands, movements on the table	Activating muscles and the brain through short rest, increasing attention	2–3 minutes	Short and dynamic exercises increase students' energy
5	Independent work and tasks	Making letters or numbers with plasticine, working with visual cards	Problem-solving, strengthening memory and attention	7–10 minutes	Exercises can be performed individually or in groups
6	Ending the lesson (stimulation)	"Word expression" exercises using finger movements, short finger exchange exercises, or making shapes with hands	Summarizing students' cognitive activity, expressing emotions, encouraging low-achieving students to be active	2–3 minutes	Combined with short stimulating questions

Recommendations for the map are as follows:

1) Adapt exercises to different stages of the lesson: organizational, new topic statement, motivational part (adaptation is also necessary for lesson types such as mixed, reinforcement).

2) Organize the duration in the correct order - each exercise should not exceed 5-10 minutes.

3) Organize exercises in an interactive and game form.

4) The educational goal of each manual exercise should be clearly stated (concentration of attention, strengthening memory, expansion of thinking, interest in creativity, kinesthetic activity).

5) Exercises can be used individually and in groups.

6) Using exercises throughout the entire lesson can lead to distraction from the main topic and student disorganization.

Using manual exercises as a didactic tool during the lesson leads to significant positive results. That is, it serves as the best practical assistant for the teacher in terms of concentration,

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stimulating creativity, increasing dexterity and quick thinking, activating memory, and attracting students with low learning ability to the lesson. For a younger school-age student, this type of practical activity seems extremely interesting and creative, as a result of which they quickly master such exercises and enter into an interactive role.

Summery

In particular, manual motor exercises enhance the collaborative environment between the teacher and students, bringing them to almost the same level in practice, which causes psychological processes such as self-confidence, self-satisfaction, and self-assessment in students. As a result, students begin or continue the lesson in a cheerful and cheerful mood. This type of exercise is an important factor in the child's mental and intellectual development, creating a comfortable and interesting scientific atmosphere. In conclusion, the regular use of manual motor exercises in primary school students' lessons not only increases their interest in learning, but also serves to increase their positive self-esteem and their need for knowledge.

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