BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg
BG PULSE JOURNAL

SPECIFIC FEATURES OF SENSOR-MOTOR DEVELOPMENT IN PRESCHOOL CHILDREN (EXAMPLE OF 5–7 YEARS)

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Abstract. This article analyzes the specific features of sensorimotor development in preschool children aged 5–7 years, its inextricable link with physical, cognitive and mental development. The study highlights the level of development of sensory organ activity, coordination of movements, fine and gross motor skills, and balance skills at this age. It also reveals the criteria for assessing sensorimotor development and the importance of pedagogical approaches and developmental activities to improve it. The results of the study justify the need to improve the educational process in preschool educational organizations, increase children's readiness for school education, and use effective methods taking into account individual development characteristics.

Keywords: preschool children, sensorimotor development, sensory integration, fine motor skills, gross motor skills, coordination of movements, balance, cognitive processes, psychomotor development, preparation for school, pedagogical assessment, developmental activities.

Introduction.

The preschool age is one of the most important stages in the physical, mental and intellectual development of a child. In particular, the age range of 5–7 years is the period when children's readiness for school education is formed, and sensorimotor development is of particular importance in this process. Sensorimotor development represents the ability to process information received through the sensory organs and perform goal-directed actions accordingly. This process is inextricably linked with the development of a child's coordination of movements, balance, spatial imagination, fine and gross motor skills, attention, memory and thinking.

In recent years, the number of scientific studies aimed at improving the preschool education system, supporting the early development of children and increasing the level of school readiness has been increasing worldwide. Modern neuropsychological and pedagogical research shows that the harmonious development of sensory and motor systems in childhood is one of the important factors in the successful course of subsequent educational activities. Insufficiently developed sensorimotor activity can lead to various difficulties in writing, reading, mastering mathematical concepts, speech development, and social adaptation.

At the age of 5–7, the functional maturation of the central nervous system accelerates, the mechanisms for planning and controlling movements improve, and the accuracy of hand and finger movements increases. At the same time, eye-hand coordination, balance, body position control, quick reaction and consistency of movements develop significantly. It is during this period that activities such as drawing, writing elements, working with constructors, and active participation in sports and active games are important tools for accelerating sensorimotor development.

Developing classes in preschool educational organizations can achieve high efficiency only if they are organized taking into account the individual development characteristics of children. Therefore, the development of pedagogical technologies aimed at assessing the level of sensorimotor development on a scientific basis, early identification of existing problems and their correction is one of the urgent tasks of today.

The purpose of this study is to scientifically analyze the specific features of sensorimotor development in preschool children aged 5–7 years, describe its main structural components, and identify effective pedagogical approaches to the development of sensorimotor skills in the preschool education process. The results of the study serve as the basis for developing scientific and practical recommendations for preschool educators, defectologists, psychologists, and parents to improve children's readiness for school.

The famous developmental psychologist Jean Piaget noted that a child's cognitive activity is formed in the process of his active movement and direct interaction with the environment. According to Piaget's theory, sensory experience and motor activity form the basis of the development of thinking. The child forms knowledge about the world around him by grasping, comparing, placing, and moving objects, as a result of which he moves to a new stage of cognitive development.

Lev Vygotsky closely linked the development of a child with the social environment and the educational process. According to the scientist, sensory and motor activities performed in collaboration with adults and peers play an important role in the development of a child's mental functions. According to Vygotsky's theory of the "zone of proximal development", purposeful developmental activities organized by a teacher further expand the sensorimotor capabilities of children.

American psychologist Arnold Gesell explained the development of preschool children in terms of the process of biological maturation and emphasized that the stages of motor development are formed based on a certain sequence. In his research, maintaining balance, running, jumping, grasping objects, and fine finger movements were evaluated as important indicators of readiness for school.

One of the scientists who made a significant contribution to the theory of sensorimotor development, A. Jean Ayres, developed the concept of sensorimotor integration. According to him, only when the central nervous system effectively processes information coming from the sensory organs can a child be able to plan movements correctly, maintain balance, and successfully perform complex practical tasks. Disturbances in the process of sensory integration can lead to impaired attention, coordination difficulties, and a decrease in the level of readiness for learning.

International studies conducted in recent years also confirm the importance of sensorimotor development in preschool education. Karen Adolph and her colleagues have scientifically substantiated that a child's movement experience accelerates not only physical development, but also the processes of perception, problem solving, speech and social adaptation. Also, Adele Diamond, in her research on executive functions, noted that movement games and coordination exercises have a significant positive effect on the development of attention, working memory and self-control skills.

Today, assessing the level of sensorimotor development of children, identifying individual characteristics and using developmental pedagogical technologies in the preschool education system remains one of the most urgent scientific and practical issues. Especially in the period of 5–7 years, the development of hand-eye coordination, spatial orientation, balance, fine motor skills and the ability to plan movements directly affects the child's mastery of writing, reading and mathematical imagination.

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