



PHYSIOLOGICAL FOUNDATIONS OF SPEECH ACTIVITY

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Abstract

This article provides information on the physiological basis of speech activity in the brain and articulation based on the emergence of speech movement skills, the importance of speech as a means of controlling human activity, memory and perception processes, and the implementation of various functions in a child's life.

Keywords. Speech, cognition, process, speech physiology, movement analyzer, lip and tongue activity, central nervous system, 12 pairs of nerves, periphery, articulation. Speech performs various functions in a child's life: communication, assimilation of experiences, management of activities. These functions are formed during preschool education.

Speech is a means of controlling human activity. It organizes the processes of memory and perception. Therefore, in the implementation of these tasks, it is important to eliminate the speech deficits of preschool children whose speech is not fully developed with the help of logopedic training. Because pre-school education aims to form a child's speech in a healthy and mature way, ready to study at school.

The researches of the great pataphysiologist I.V. Davidovsky made a great contribution to solving this problem. He writes: "Any original content begins with reasons, that is, with the concepts of causality and determinism. These two are related, but different concepts are interpreted in two ways. On the one hand, it is interpreted as causality, that is, as cause-and-effect relationships (in fact, this is what the meaning of the concept of "etiology" should be), on the other hand, it is interpreted as knowing the essence of events, that is, as knowing the underlying laws."

The following biological conditions are necessary for the formation of speech activity: the preservation of hearing, vision, kinesthetic analyzers and the level of maturity of the nervous system, the transfer of information from external objects and impulses from receptors in the body to the central nervous system through afferent pathways.





to be delivered at time z . The system of afferentization plays an important role in the emergence of speech, emotional and volitional functions in a child. Speech perception is carried out through the joint operation of auditory and kinesthetic analyzers based on the analysis and synthesis of heard sound elements. The process of pronunciation of sounds in speech is considered a complex coordinated articulator, a system of actions, which is formed primarily on the basis of individual skills and the cooperation of kinesthetic and auditory analyzers. A complex brain system stores information, processes it and develops a program of response actions. The speech functional system carries out the transmission of speech information. For this purpose, the effective motor system of the brain is used.

Damage to these systems causes dysarthria, which is a direct violation of the movement mechanism of speech. All organs involved in speech are innervated by 12 pairs of nerves in the brain (facial, tongue-pharyngeal, palatal, sublingual, etc.). The centers of movement in the large hemispheres are connected with the nuclei of the brain and cortical-nuclear pathways in the brain. Speech activity, like other activities, is a higher nervous activity and has a reflex character. Speech reflexes are related to the activity of all hemispheres and constitute the second signal system.

Lips are controlled by all the movements of the tongue, the work of movement analyzers. Its functions are the analysis and synthesis of the effects coming from the speech organs to the cerebral cortex, perception. In the field of speech movement, speech movement differentiation and organization of their sequence is carried out.

The subshell core of movement analytes is the sensor shell. It is morphologically differentiated, but they appear as a functional unit. The front folds of the cortex are the area of motor projections, and the back part is the area of sensory projections. These systems are closely related to each other. In order for the necessary actions to be produced, the impulses must be directed to the necessary group of muscles, these impulses should be located in these muscles in terms of direction and strength, and these muscles should begin to move, taking into account the necessary actions. For this, it is necessary to maintain the system of body parts and the afferent impulses that signal the condition at the same time. This function is performed by the back central area of the brain. The stability of movement tasks is controlled by the formation of the "kinesthetic tune" and the selection of automatisms in the forehead. The immaturity of these areas under the shell leads to the fact that the child's movements cannot receive the necessary afferent impulses and lose their accuracy. Kinesthetic impulses from the speech muscles to the cerebral cortex increase the control movements of the visual cortex of the brain body and activate the general and





selected (special) speech areas of the brain, which are of leading importance in speech activity, especially during the formation of children's speech.

According to the research of physiologists, on the basis of the emergence of speech movement skills, especially in articulation, dynamic stereotypes are formed by the steady processing of the system of conditioned reflexes, which is the effect of conditioned signals many times; it is formed as a result of repetition at a certain time and in a certain order.

The concept of mental development developed by L.S. Vygotsky serves as a methodological basis for studying the cause of speech development disorders in childhood. Explaining the connection of mental development with environmental influences, he introduced the concept of "social situation of development". This, in turn, reflects the internal processes of development and external conditions.

The development of a functional speech system is based on afferentation, that is, receiving signals from the outside world through various analyzers. First of all, the hearing analyzer receives various signals and primarily speech signals. It is the source of auditory afferentation and is the adult who communicates with the child. In this regard, the role of the speech environment and speech communication is very large, and their lack can be one of the main reasons for disrupting the formation of speech. Therefore, children of the first age who are brought up among people with speech defects or in a speech-limited environment lag behind in speech development (parents who are deaf-mute or parents with obvious speech defects, long-term hospitalization, social contact due to various serious diseases) limitation). For the normal development of a child's speech, communication should be of certain importance and take place in a positive-emotional tone. It is rare for him to hear sounds (radio recorder, television). Initially, it is necessary to communicate with adults on the basis of characteristics for a certain age period. A change in the form of communication between a child and an adult stimulates the development of speech. So, changing the emotional communication characteristic of the first year of his life to object-action at the age of 2-3 serves as a good impetus for his speech development. If such a change does not occur, there will be a delay in the development of speech.

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