SENSORIMOTOR TECHNOLOGIES IN THE DEVELOPMENT OF SPEECH ACTIVITY IN CHILDREN WITH MOTOR ALALIA

Ozoda Sirojiddinovna Ishmatova
Senior Lecturer, Department of Special Pedagogy
Chirchik State Pedagogical University
Doctor of Philosophy (PhD) in Pedagogical Sciences
ORCID: 0009-0009-2664-1424

Abstract

This article discusses the role of sensorimotor technologies in the development of speech activity in children with motor alalia. The paper is based on the methodological ideas of rhythm–movement–speech integration, kinesthetic influence, adaptive educational environment, and staged corrective work developed in the author's dissertation on phonetic rhythmics, and transfers them to the context of alalia. In the uploaded dissertation, phonetic rhythmics is interpreted as a corrective technology that develops pronunciation and prosodic aspects of speech through auditory, visual, and kinesthetic influence, while rhythmical exercises are graded according to voice, breathing, and diction components. In the logopedic literature available in the uploaded files, motor alalia is described as a complex medical, psychological, and pedagogical problem that requires long-term, systematic, and comprehensive intervention focused on the development of all speech functions. On this basis, the article argues that sensorimotor technologies may serve as an effective means of activating speech initiative, improving speech-motor coordination, strengthening kinesthetic feedback, and creating the prerequisites for lexical, phonetic, and communicative development in children with motor alalia.

Keywords: motor alalia, sensorimotor technologies, speech development, kinesthetic feedback, phonetic rhythmics, corrective pedagogy, adaptive environment, speech-motor coordination.

Annotatsiya

Mazkur maqolada motor alaliyali bolalarda nutqiy faoliyatni rivojlantirishda sensomotor texnologiyalarning o‘rni yoritilgan. Tadqiqotda ritm–harakat–nutq integratsiyasi, kinestetik ta’sir, adaptiv ta’lim muhiti va bosqichli korreksion ish tamoyillari asosida motor alaliyada nutqiy faollikni shakllantirish masalasi tahlil qilingan. Sensomotor texnologiyalar nutqiy tashabbusni faollashtirish, nutq-harakat koordinatsiyasini mustahkamlash, kinestetik qayta aloqani kuchaytirish hamda leksik, fonetik va kommunikativ rivojlanish uchun zarur shart-

sharoitlarni yaratishga xizmat qilishi asoslangan. Shuningdek, maqolada motor alaliyali bolalarda sensomotor yondashuv asosida olib boriladigan korreksion ishlarning bosqichlari va metodik imkoniyatlari yoritilgan.

Kalit so‘zlar: motor alaliya, sensomotor texnologiyalar, nutqiy faoliyat, kinestetik qayta aloqa, fonetik ritmika, korreksion pedagogika, adaptiv muhit, nutq-harakat koordinatsiyasi.

Аннотация

В статье раскрывается роль сенсомоторных технологий в развитии речевой деятельности у детей с моторной алалией. На основе принципов интеграции ритма, движения и речи, кинестетического воздействия, адаптивной образовательной среды и поэтапной коррекционной работы анализируется проблема формирования речевой активности при моторной алалии. Обосновано, что сенсомоторные технологии способствуют активизации речевой инициативы, укреплению координации речи и движения, усилению кинестетической обратной связи, а также созданию предпосылок для лексического, фонетического и коммуникативного развития. Также в статье освещаются этапы и методические возможности коррекционной работы на основе сенсомоторного подхода у детей с моторной алалией.

Ключевые слова: моторная алалия, сенсомоторные технологии, речевая деятельность, кинестетическая обратная связь, фонетическая ритмика, коррекционная педагогика, адаптивная среда, координация речи и движения.

Motor alalia is one of the most complex forms of speech underdevelopment in childhood. According to the uploaded logopedic source, motor alalia is characterized by deficiencies that affect all aspects of speech development, and corrective work must be systemic, long-term, comprehensive, and oriented not only toward speech itself but also toward the child’s personality and cognitive development. The same source emphasizes that intervention in alalia should be differentiated according to the specific form of the disorder and organized in accordance with the laws of speech ontogenesis.

In parallel, the uploaded dissertation demonstrates that speech development is closely connected with movement, kinesthetic influence, rhythmic components, and the integration of auditory, visual, and motor channels. It states that rhythmic exercises, kinesthetic stimulation, and the integration of rhythm into the speech rehabilitation process expand the corrective possibilities of speech training. It also proposes a model in which visual-phonetic and acoustic-phonetic tasks are adapted to an individually oriented physiological environment, and the unity of kinetics and kinesthetics is ensured within a rhythmic interval.

These ideas are highly relevant for motor alalia, where the problem is not limited to the absence or insufficiency of verbal production, but also includes weak speech initiative, unstable speech-motor programming, poor articulatory praxis, and insufficient integration of sensory and motor speech mechanisms. Therefore, the purpose of this article is to substantiate the methodological potential of sensorimotor technologies in the development of speech activity in children with motor alalia.

The methodological basis for using sensorimotor technologies in motor alalia lies in the understanding that speech is not formed in isolation. In the uploaded dissertation, it is explicitly stated that normal speech formation requires the close participation of auditory, visual, movement, and kinesthetic analyzers. The dissertation further defines phonetic rhythmics as a corrective technology directed at the formation and development of sound pronunciation and the prosodic side of speech by means of auditory, visual, and kinesthetic impact through movement exercises.

This approach can be expanded to motor alalia. If speech production is delayed or severely underdeveloped, corrective work should begin not only with direct lexical or grammatical teaching, but also with the activation of the sensorimotor foundations of speech. In this respect, rhythm, body movement, hand actions, articulatory exercises, visual cues, and breathing patterns become not auxiliary but central elements of intervention. The dissertation's conclusions support this view by showing that the pedagogical possibilities of rhythmic training are connected with movement, kinesthetic effect, and the integration of rhythmic components into speech rehabilitation, while speech exercises may be graded according to voice, breathing, and diction.

For children with motor alalia, sensorimotor technologies can perform at least four corrective functions. First, they activate speech initiative through movement-supported communicative situations. Second, they improve kinesthetic awareness, which is essential for the child's control of articulatory positions and transitions. Third, they strengthen the coordination between breathing, voice onset, and articulatory movement. Fourth, they create a structured and emotionally supportive adaptive environment in which speech attempts become more predictable and less effortful. The dissertation repeatedly stresses the importance of an individual environment, rhythmic intervals, and adaptive methodological organization, which can be directly transferred to alalia-oriented practice.

From a practical point of view, corrective work with motor alalia should be staged. The first stage is sensorimotor activation. At this stage, the speech therapist develops body rhythm, hand rhythm, imitation, visual attention, breathing coordination, and oral-motor readiness. The second stage is movement-supported sound and syllable production, where simple vocalizations,

syllables, and imitative verbal units are paired with rhythmic gestures, clapping, stepping, or tactile prompts. The third stage is the expansion of lexical and phrase-level speech through rhythmically organized communicative patterns. The fourth stage is gradual transition to more independent speech in natural communicative situations. This staged organization is consistent with the uploaded alalia source, which states that systemic work in alalia must fill developmental gaps and prepare the child for broader educational tasks, and with the dissertation's idea that methodological stages may be improved through the integrative use of phonetic-rhythmic technologies and pedagogical means in speech combinations.

An important advantage of sensorimotor technologies is that they do not isolate speech from the child's general activity. Instead, they embed speech into rhythm, movement, imitation, perception, and action. This is especially important for motor alalia, where passive repetition often produces weak results, whereas movement-supported and kinesthetically reinforced actions may stimulate more stable speech responses. The uploaded dissertation also notes that phonetic-rhythmic work can be conducted in different settings and that visual reception, self-monitoring of speech, and rhythmic organization remain underdeveloped when the speech parallel of movement is not methodically adapted. This observation is directly applicable to alalia correction: the efficiency of sensorimotor work depends on the methodical adaptation of movement and speech parallels to the child's actual developmental profile.

Sensorimotor technologies represent a promising corrective direction in the development of speech activity in children with motor alalia. Their value lies in the integration of rhythm, movement, kinesthetic feedback, breathing, and speech production into a single pedagogical system. The uploaded dissertation provides a strong methodological foundation for this approach through its emphasis on rhythm–movement–speech integration, adaptive individual environment, graded work on voice, breathing, and diction, and the corrective role of kinesthetic and rhythmic components in speech rehabilitation. The uploaded logopedic source on alalia confirms that motor alalia requires long-term, comprehensive, and systemic work directed at all speech functions. Taken together, these sources justify the use of sensorimotor technologies as a theoretically grounded and practically relevant approach in the correction of motor alalia.

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