Functionality of oral and articulatory praxis in older preschool children with logopathy

Abstract. Background. The purpose of this study is to identify the current state of neuromotor functionality of oral and articulatory praxis, which affects speech readiness for schooling, in older preschool children with logopathy. Materials and methods. Research methods are aimed at studying the kinesthetic and kinetic oral and articulatory praxis. Kinesthetic oral praxis is studied during the diagnosis of static articulatory motility. Kinetic praxis was evaluated when investigating dynamic articulatory switching from one movement to another. The study of kinetic articulatory praxis takes place during the diagnosis of sound speech. To evaluate the results of the task, all sounds are conditionally divided into groups: whistling, hissing, sonorous, iotated sound combinations and all other sounds. To study the kinetic articulatory praxis, we investigated the sound-syllabic structure of the word. Results. The results of the experimental study give a clear idea that there are significant differences in the formation of neuromotor functionality of oral and articulatory praxis between the groups of children with logopathy and those with normotypical psychophysical development. In older preschool children with speech disorders, low abilities were found when performing tasks of kinesthetic and kinetic praxis: oral (problematic switching of the articulators; long search for an articulatory posture, incomplete range of motion, deviation from configurations, presence of synkinesis, hyperkinesis), articulatory (defect of all sounds of groups; replacement, mixing, distortion or absence of individual sounds during their isolated pronunciation; distortion of the sound-syllabic structure of words). Children are passive during classes, they need constant support from the teacher. Conclusion. The revealed unformed state of neuromotor functionality of oral and articulatory praxis in older preschool children with speech disorders affects the development of their speech skills. This will lead to the difficulties during their mastery of educational material in institutions of general secondary education.

Keywords: children of older preschool age; kinesthetic, kinetic praxis; oral praxis; articulatory praxis; logopathy

Introduction
Neuromotor functionality includes various types of praxis, in particular, oral, articulatory, kinesthetic, and kinetic. Praxis (Greek for action) from a neurophysiological point of view reveals a system of voluntary, purposeful motor actions that provide practical skills of various types of activities [1, 2]. The frontal lobe of the premotor cortex of the cerebrum provides motor control. Under its influence, separate motor impulses are synthesized into a complete “kinetic combination”, which during training loads are automated and transformed into a dynamic process of complex movements [1, 3].

Practical actions are divided into kinesthetic and kinetic praxis. In particular, kinesthetic or afferent praxis provides sensitivity and perception of one’s own body [3]. In this case, the information transmitted from the sense organs (from sensory neurons) is transformed into nerve impulses and via afferent pathways reaches the central parts of the brain, in particular, the parietal lobe of the left hemisphere. Kinetic or efferent praxis carries out dynamic motor activity. From the premotor zone of the cortex of the frontal lobe, electrical impulses are spread, which activate the muscle, tendon, and joint systems [1, 4, 5].

The motor activity of the articulators is provided by oral praxis, their actions are more difficult than object and finger praxis, since it is formed on abstract concepts (puff out the cheeks, frown, sticking the tongue out, etc.). Differential articulatory movements of the facial muscles, lips, tongue...
and oral cavity are performed by oral kinesthetic praxis. Oral kinetic praxis activates the actions of the articulators (tongue — lips, jaws — tongue, jaws — lips). Qualitatively formed oral skills in a child are a prerequisite for correct phonetic speech (an act of articulatory praxis) [6, 7].

**Articulatory praxis** is the ability to pronounce sounds and form an articulatory setting in accordance with the sound of speech [1, 3, 8]. It should be emphasized that kinesthetic (afferent) articulatory praxis is responsible for the reproduction of isolated speech sounds and the creation of articulatory positions (kinesthesia, articulation). Combining sounds into syllables and words is provided by kinetic (efferent) articulatory praxis.

**The purpose** of this study is to identify the current state of neuromotor functionality of oral and articulatory praxis, which affects speech readiness for schooling, in older preschool children with logopathology.

To achieve the set goal, the following tasks are expected to be performed: to consider the issue of the neuromotor functionality impact on the speech readiness in older preschool children to study at school; outline the types of techniques for comprehensive diagnosis of neuromotor functionality of oral and articulatory praxis; to reveal the state of formation of neuromotor functionality of oral and articulatory praxis in older preschool children with normotypical psychophysical development and logopathology.

**Materials and methods**

**Design.** We consider the neuromotor functionality of speech readiness through the oral and articulatory praxis. The kinesthetic praxis of the studied components will determine the child’s ability to perform certain differentiated movements (of the articulators, or when pronouncing isolated speech sounds) and control them. Kinetic praxis indicates the preschooler’s ability to combine various movements into a coherent action (switching the organs of speech from one position to another; pronouncing sounds in syllables, words, and phrases). The results of the study of children with logopathology are compared with the indicators of their peers with normotypical psychophysical development.

**Participants.** The study included 607 older preschool children (5–6 years old), of which 250 had normotypical psychophysical development and 357 had logopathology (5–6 years old), of which 250 had normotypical psychophysical development and 357 had logopathology. Of these, 28 children had dysarthria (n = 28), 77 children had logopathy (n = 77), 200 children had dysarthria (n = 200), 120 children had logopathy (n = 120), and 150 children had normal speech (n = 150). The children were divided into two groups: children with logopathy and children with normal speech.

**Instruments.** We study the state of formation of neuromotor functionality using methods aimed at studying kinesthetic and kinetic oral praxis [9], kinesthetic and kinetic articulatory praxis [10, 11]. The content of the neuromotor component, methods, evaluation criteria and scoring system are outlined in Table 1.

**Procedure.** To study oral kinesthetic praxis, we use the task aimed at diagnosing articulatory motility. The experimenter demonstrates certain articulation positions of the lips and tongue and asks the child to repeat them, holding the articulators in the desired position for 3 to 5 seconds. In the process of performing the task, attention is paid to the pace, accuracy, symmetry, and presence of synkinesis (accompanying involuntary movements).

To study oral kinetic praxis, we take the task aimed at diagnosing articulatory switching from one movement to another. An adult demonstrates alternating switching from one articulation position to another and asks the child to repeat the movements. During the task, children keep the articulators in the right position and perform exercises from 4 to 5 times.

We evaluate the results of the task on a three-point scale. The maximum score for two tasks is 6 points. Research material, instructions for completing the task, and evaluation parameters are covered in the appendix.

Child’s kinesthetic articulatory praxis is studied during the task of diagnosing sound speech. Preschoolers are offered to independently name the objects on the pictures, where the sound is at the beginning, in the middle and end of the word. If the child does not cope with the task, he is asked to repeat the same words according to the speech therapist (in the reflected pronunciation). To evaluate the results of the task, all sounds are conditionally divided into groups: whistling, hissing, sonorous, iotated sound combinations and all other sounds. Each group is evaluated separately on a three-point scale.

To study the kinetic articulatory praxis, we use the task of diagnosing the sound-syllabic structure of the word. The experimenter reads to the child words that are complicated in terms of their constituent structure and asks to repeat them. We evaluate the results of the task on a three-point scale. The maximum score for the two methods is 27 points.

Experimental research includes variational-statistical (quantitative) and qualitative analysis of study materials [12–14], which allows understanding the structure of the studied phenomenon, its variability, dependence, relationships and principles of functioning. An important component of the psychological and pedagogical experiment is also the collection and processing of research materials. The implementation of this stage is ensured by the formed system of evaluation criteria (based on point measurement). Quantitative and

**Table 1. Methods for studying neuromotor functionality**

<table>
<thead>
<tr>
<th>The content of the neuromotor component</th>
<th>Methods</th>
<th>Evaluation criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral praxis</td>
<td>Konopliasta</td>
<td>— Kinesthetic praxis: articulatory movements; — kinetic praxis: dynamic articulatory switching from one movement to another</td>
<td>6</td>
</tr>
<tr>
<td>Articulatory praxis</td>
<td>Blinova, Maliarchuk</td>
<td>— Kinesthetic praxis: pronunciation of sounds; — kinetic praxis: pronunciation of the sound-syllabic structure of the word</td>
<td>21</td>
</tr>
<tr>
<td>Total score</td>
<td></td>
<td></td>
<td>27</td>
</tr>
</tbody>
</table>

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statistical analysis provides grounds for identifying the levels of development of the phenomenon under study, namely: low, medium and high. The qualitative analysis considers a holistic approach focused on an inductive description of the unit under study. Variational-statistical and qualitative analyses of the research materials during the examination of the cognitive component of the speech readiness of older preschool children with logopathology to study at school provide grounds for making a psychological-pedagogical characterization and generalized conclusions regarding the planning of educational and developmental work.

Differences in research results (while performing experimental tasks) between children with logopathology and those with normotypical development are confirmed by the Student’s t-test. To check the data, we use the t-criteria of the independent sample. During the statistical analysis, we work out two hypotheses: \( H_0 \) — the differences between the groups of children with logopathology and normotypical development are random; \( H_1 \) — the differences between groups are significant or reliably significant. If \( t_{\text{statistical}} \leq t_{\text{tab}} \text{labular} \), then we accept hypothesis \( H_0 \); if \( t_{\text{statistical}} \geq t_{\text{tab}} \text{labular} \), then we accept hypothesis \( H_1 \). The level of confidence (or error) will be \( p = 0.05 \), which indicates the reliability of the results of the experiment by 95%.

Results

Oral praxis. During the study of oral kinesthetic praxis, the child was asked to hold the articulators in the desired position for 3 to 5 seconds. High indicators were shown by 71.2 % (n = 178) of children with normotypical psychophysical development and 42.9 % (n = 153) with speech disorders. The children carefully listened to the teacher’s instructions, and independently, correctly and accurately performed the movements of the articulators.

Tasks were performed with errors and self-corrections in 46 % (n = 145) of preschoolers with speech pathology and 28.8 % (n = 72) with normotypical psychophysical development. The children who performed the task correctly had a slower pace and strained execution of articulation positions. They often needed additional instruction or stimulation assistance. In preschool children with rhinolalia, slight violations of coordination, smoothness and accuracy of movements were detected; in dysarthria, the muscles of the face and mouth were tense or relaxed, which affected the quality of performance.

16.5 % (n = 59) of children with speech pathology had low indicators of the oral praxis formation, with an impaired coordination of articulatory movements; 35.7 % (n = 10) of patients with rhinolalia performed articulatory movements imprecisely and undifferentially, the pace of the task was slowed down; 42.9 % (n = 33) of children with dysarthria have the most pronounced violations in the area of facial expression: difficulty switching from one articulatory movement to another, maintaining an articulatory setting, keeping a wide tongue on the lower lip; during the exercise “brushing the upper and then the lower teeth” the child moves the lower jaw together with the tongue from right to left; we observe clear violations of verbal instructions.

The study of *kinetic oral praxis* showed that 56.0 % (n = 156) of children with normotypical psychophysical development and 36.4 % (n = 130) with speech disorders were able to switch from one mimic pose to another. The children performed the tasks correctly, and the movements of the articulators were performed accurately as well.

Minor errors during the task execution are observed in 42.9 % (n = 153) of preschoolers with speech disorders and only 44 % (n = 44) with normotypical development. In this category of children who had an average level of kinetic oral praxis, minor facial disturbances were observed during the reproduction of a series of movements and the need for stimulating help from an adult. Significant switching difficulties were found in 20.7 % (n = 74) of children with low-level speech pathology.

During the exercises, the children could not immediately find the right pose for the articulators, it was difficult for them to keep it unchanged for 5–6 seconds; there were difficulties in switching from one movement to another. The following types of disorders were found in children with dysarthria: asymmetric muscle work (protruding tongue deviated to the right or left from the middle line of the lips; shift in the direction of a smile); problematic performance of individual movements (the child’s inability to reach one and then other corner of the mouth by the tip of the tongue); excessive amplitude when performing movements (instead of the tongue touching the upper teeth, it protruded too much from the mouth and covered the upper lips); unsynchronized movements of the organs of speech (when making movements with the tongue to the right and left, the lower jaw also moved); impaired muscle tone (tension of the muscles of the tongue and lips; during muscle hypotonia, the tongue is limp, has a stationary position at the bottom of the oral cavity; lips do not close, mouth is half open, with pronounced hypersalivation); nasalization of the voice (nasal tone of the voice); difficulty switching from one articulatory movement to another, maintaining an articulatory setting, keeping a wide tongue on the lower lip. Children with rhinolalia may skip the sequence of articulatory movements, rearrange them, or distort the exercise. During the performance of the task, they had a violation of the neurological status: an increase in the tone of the articulatory muscles, especially the tongue and lips (the tongue is tense and drawn upwards into the oral cavity, it becomes a lump), or hypotonicity, the vagueness of facial expressions; there was a space between the lips; the tongue is not mobile, there is the tip of the tongue tremor when switching from one movement to another; the soft palate is inactive. In children with a neurotic form of stuttering, there are also disorders of facial articulation, and difficulty switching and maintaining oral “tongue-lips” positions. Most of them do not correct their mistakes even with constant help from the teacher.

The general results of the research prove that a high level of oral praxis is mostly characteristic of 71.2 % (n = 178) of older preschool children with normotypical psychophysical development and 42.9 % (n = 153) with logopathology. Children independently, correctly and accurately performed movements of the articulators following imitation or verbal instructions; they have a sufficiently formed kinesthetic praxis (individual articulatory movements: stretching the lips in a smile; pucker lips; putting forward a wide, spread tongue, and then a narrow one raised upwards; raising the
lateral and front edges of the wide tongue upwards; slapping the tongue; sticking out the tongue, and then its deep retraction; alternate movement of the tip of the tongue, then to the left and to the right corner of the mouth) and kinetic praxis (combination of articulatory movements of the tongue and lips: tongue — lips, changing the positions of the tongue, changing the positions of the lips). 36.7 % (n = 131) of preschoolers with logopathology and 28.8 % (n = 72) with typical development had minor difficulties when reproducing the desired articulatory position. Their pace of execution is different, from fast to slow; the correct facial expression depended on the help of an adult. A low level is observed only in 20.4 % (n = 74) of children with speech pathology. Preschoolers experienced difficulties when making movements with the articulators, performed tasks with many errors (searching for a pose for a long time, incomplete range of motion, deviation from configurations, presence of synkinesis, hyperkinesis), there was a constant need for the teacher’s help (Table 2).

The investigated reliability of the experiment results indicates that children with logopathology (M ± SD = 4.29 ± 1.39; SEM = 0.09) had low indicators of oral praxis compared to those with normotypical psychophysical development (M ± SD = 5.26 ± 1.05; SEM = 0.09). Empirical (t<sub>emp</sub>) data is 6.7238 (the largest deviations are found in children with dysarthria: t<sub>emp</sub> = 11.5031, significantly less — with rhinolalia: t<sub>emp</sub> = 4.7088, dyslalia: t<sub>emp</sub> = 2.7229, and according to generally accepted criteria, the difference of children with stuttering, t<sub>emp</sub> = 5.0052, is considered statistically insignificant, that is, their indicators were close to normotypical development); the standard error of the difference of the total data is 0.143. The empirical value for the group is greater than the theoretical one (t<sub>emp</sub> = 6.7238 > t<sub>th</sub> = 1.967), H<sub>0</sub> hypothesis at the significance level of 5 % (p = 0.05) is accepted, confirming the differences between the experimental groups and the insufficient formation of oral kinesthetic and kinetic praxis in children with logopathology.

Articulatory praxis. To study kinesthetic articulatory praxis, preschoolers were asked to independently name the objects on the pictures, where the sound was at the beginning, in the middle, and the end of the word. The results of the completed task showed that all children with normotypical psychophysical development and only 7.28 % (n = 26) with logopathology, namely older preschoolers with stuttering, had high phonological indicators.

One or more sounds are not automated in 56 % (n = 200) of children with speech pathology, which indicated an average level of kinesthetic articulatory praxis. This group of preschoolers could skip some sounds in a word and mix and distort sounds. Defects in sonority and deafening of sounds were observed when paired unvoiced ones are replaced by sonorous ones, defects of hardness and softening of sounds. The largest number of errors was made by 36.7 % (n = 131) of preschoolers with speech pathology, who had a low level of articulatory praxis. Children with complex sound-speech disorders couldn’t pronounce different groups of sounds.

The results of the study of kinesthetic articulatory praxis showed that 95.2 % (n = 238) of children with normotypical psychophysical development and 16.3 % (n = 58) with speech pathology were able to correctly pronounce complicated words and had a high level of its formation. Average indicators were in 4.8 % (n = 12) of preschoolers with typical development and 58.5 % (n = 209) with speech disorders, who reproduced words slowly, and symbolically without maintaining the speech tempo, and needed stimulating help from the teacher. Only 25.2 % (n = 90) of patients with speech pathology had a low level, they distorted the sound-syllabic structure of words, made pauses, and permutations, omitted syllables, and added sounds and extra syllables. We also note the violation of the sound content of words: the exclusion of consonants from the word that is located next to each other, the addition of an extra sound to the composition of the word, the rearrangement of sounds, the repetition of a similar composition; violation of the syllabic rhythmity of the word structure: reduction, permutation of syllables, the addition of extra syllables.

General indicators of articulatory praxis showed a high level in 95.2 % (n = 238) of older preschool children with normotypical psychophysical development and 7.3 % (n = 26) with logopathology, namely stuttering. The children independently and correctly reproduced each group of sounds and complicated words, which indicated that they had sufficiently formed sound-syllabic structure of the word. The average level of articulatory praxis was noted in 58.8 % (n = 210) of patients with logopathology and 4.8 % (n = 12) with typical development. Preschoolers had one or more sounds not automated; distortion or replacement of one sound from the group was observed, as well as slow syllabic reproduction of words without keeping pace, the need for stimulating help from the teacher. 33.9 % (n = 121)

Table 2. Level of oral praxis formation

<table>
<thead>
<tr>
<th>Speech development</th>
<th>Level</th>
<th>Average</th>
<th>Low</th>
<th>M ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normotypical development</td>
<td>71.2</td>
<td>28.8</td>
<td>0</td>
<td>5.3 ± 1.0</td>
</tr>
<tr>
<td>Dyslalia</td>
<td>52.0</td>
<td>37.7</td>
<td>10.3</td>
<td>4.8 ± 1.2</td>
</tr>
<tr>
<td>Stuttering</td>
<td>65.0</td>
<td>20.0</td>
<td>15.0</td>
<td>4.9 ± 1.4</td>
</tr>
<tr>
<td>Rhinolalia</td>
<td>28.6</td>
<td>35.7</td>
<td>35.7</td>
<td>3.8 ± 1.5</td>
</tr>
<tr>
<td>Dysarthria</td>
<td>11.7</td>
<td>42.9</td>
<td>45.5</td>
<td>3.5 ± 1.1</td>
</tr>
<tr>
<td>Children with logopathy</td>
<td>42.9</td>
<td>36.7</td>
<td>20.4</td>
<td>4.3 ± 1.4</td>
</tr>
</tbody>
</table>
of children with speech disorders, who had a low level of articulatory praxis, had the greatest problems in phonetic speech; defectiveness of all sounds of groups or several were observed along with replacement, mixing, distortion or absence of individual sounds in isolated pronunciation; distortion of the sound-syllable structure (pauses, rearrangement, omission, addition of sounds and syllables); the task was not performed correctly even with the help of an adult (Table 3).

Student’s data indicates that preschoolers with logopathology (M ± SD = 8.20 ± 4.28; SEM = 0.29) compared to those with normotypical psychophysical development (M ± SD = 20.71 ± 1.29; SEM = 0.12) had the lowest results of articulatory praxis. Empirical generalized data (t_exp) is 31.8157 (the largest deviation is observed in children with dysarthria: t_m = 58.8701, significantly less — with rhinolalia: t_m = 30.5245, dyslalia: t_m = 37.8032, and the lowest with stuttering: t_m = 9.6354, whose indicators are close to normotypical development). So, as the empirical value is greater than the theoretical one (t_m = 31.8157 > tab = 1.967), the \( H_0 \) hypothesis is at the significance level of 5 \% (p = 0.05) and confirms the reliable differences between the experimental groups.

**Discussion**

Referring to the research of scientists [2, 8, 15, 16], we can state that the lack of neuromotor functionality in older preschool children with logopathology delays the development of speech, namely on the phonetic, lexical and grammatical levels. In modern science, education and upbringing of preschool children with special educational needs is a priority issue [17, 18]. But today, correctional programs and methods developed on the basis of the state’s basic component of preschool education are morally anarchistic and require a modernized rethinking and corresponding renewal. Educators, speech therapists, and correctional pedagogues need to be offered new constructive developmental programs for children with speech pathology, where “speech readiness” for schooling would be a priority [14, 19]. This necessity is determined by certain statistical indicators both in Ukraine and other countries, which is indicated by the annual increase in the number of children with various psychophysical, as well as speech disorders [20—22]. The structure of speech disorders has a tendency to acquire a complex combined nature in the future and provoke both secondary and tertiary disorders in the child’s mental development [19, 23, 24].

From a neurophysiological point of view, speech is a component of higher mental functions, carries out arbitrary mediation of mental processes, and unites and organizes them [2, 17, 18]. Experimental analysis of research materials makes it clear that there is a close relationship between kinesthetic and kinetic motor development and cognitive skills of children with speech disorders [15]. Scientists note that along with impaired oral and articulatory praxis, children have unformed general motility [25] and cognitive skills (auditory memory [2, 26], attention [27, 28], thinking activity [15, 29, 30], sensory-perceptual senses [25], verbal-spatial representation [31], implementation of executive function [32]).

Experimental studies allow us to claim that the development of oral and articulatory praxis contributes to the improvement of cognitive skills and self-regulation. The revealed unformed state of the neuromotor functionality in older preschoolers with logopathology provides for the introduction of modern educational and developmental methods, which would allow the formation of kinesthetic and kinetic oral (dynamic organization of facial and tongue facial muscles) and articulatory praxis (automation and introduction into the speech of all groups of sounds; work on the pronunciation of words with compound structure). This will contribute to increasing the level of neuromotor development of older preschool children and, in the future, their comfortable integration into the conditions of general education.

**Conclusions**

Analysis of the research results and statistical confirmation provides an opportunity for the following conclusions. A significant percentage of older preschool children with logopathology have an insufficiently formed state of neuromotor functionality. **Oral kinesthetic praxis** is mostly not formed in children with logopathology, especially with dysarthria: difficulties in transitioning from one oral posture to another and maintaining an oral posture (tongue or lip position). **Oral kinetic praxis** in preschoolers with speech disorders is underdeveloped: difficulties in dynamic switching from one oral posture to another and in maintaining them; rearrangement of a series of elements, their distortion or failure to complete the task; perseverative repetitions of the same element. **Articulatory kinesthetic praxis** is a weak point in the neuromotor functional development of children with logopathology: the pronunciation of all groups of sounds is impaired: whistling, hissing, sonorous, iotated sound combinations, all other sounds. The replacement, mixing, dis-

**Table 3. Level of articulatory praxis formation**

<table>
<thead>
<tr>
<th>Speech development</th>
<th>Level</th>
<th>M ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Average</td>
</tr>
<tr>
<td>Normotypical</td>
<td>95.2</td>
<td>4.8</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyslalia</td>
<td>0</td>
<td>70.7</td>
</tr>
<tr>
<td>Stuttering</td>
<td>65.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Rhinolalia</td>
<td>0</td>
<td>35.7</td>
</tr>
<tr>
<td>Dysarthria</td>
<td>0</td>
<td>54.5</td>
</tr>
<tr>
<td>Children with</td>
<td>7.3</td>
<td>58.8</td>
</tr>
<tr>
<td>Logopathology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
tortion or absence of individual sounds are detected as well when they are pronounced in isolation. Articulatory kinetic praxis in children with logopathology indicates a distorted pronunciation of the sound-syllabic structure of the word: pauses, permutations, omissions, and addition of sounds and syllables.

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References

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Функціональні можливості орально-артикуляційного праксису в дітей старшого дошкільного віку з логопатологією

Резюме. Актуальність. Мета дослідження: виявити сучасний стан нейромоторних функцій орально-артикуляційного праксису, що впливає на мовленню готовність до шкільного навчання, у дітей старшого дошкільного віку з логопатологією. Матеріали та методи. Методи дослідження спрямовані на вивчення кінестетичного та кінетичного орально-артикуляційного праксису. При діагностиці статичної артикуляційної моторики вивчається кінестетичний оральний праксис, кінетичний праксис оцінюють при діагностичному артикуляційному переключенні з одного руху на інший. Вивчення кінестетичного артикуляційного праксису відбувається під час діагностики звуковієї структури слова. Результати. Результати експериментального дослідження дають чітке уявлення про суттєву відмінність у сформованості нейромоторних функцій орально-артикуляційного праксису між групами дітей із логопатологією та нормотиповим психофізичним розвитком. У дітей старшого дошкільного віку з порушеннями мовлення виявлено низькі здібності при виконанні завдань кінестетичного та кінетичного праксису: орального (проблемне перемикання органів артикуляційного апарату, тривалий пошук артикуляційної пози, неповна амплітуда рухів, відхилення від конфігурації), артикуляційного (не правильно вимовляють звуки, заміна, змішування, спотворення слов). Під час занять діти пасивні, потребують постійної підтримки вчителя. Висновки. Виявлена несформованість нейромоторних функцій орально-артикуляційного праксису в дітей старшого дошкільного віку з порушеннями мовлення впливає на розвиток їх мовленнєвих навичок. Ключові слова: діти старшого дошкільного віку; нейромоторні функції; орально-артикуляційний праксис; логопатологія.