

UDC: 376.37

DOI: <https://doi.org/10.24195/2414-4665-2017-10-20>**Liudmyla Nikolenko,***PhD (Candidate of Pedagogical Sciences),
Oles Honchar Dnipro National University,
72, Haharina Avenue, Dnipro, Ukraine*

FORMING AUDITORY COMPREHENSION OF PRESCHOOLERS WITH BACKWARDNESS IN SPEECH DEVELOPMENT BY MEANS OF PSYCHOLINGUISTIC GAME

The formation of auditory comprehension of preschool children is one of the most important tasks of speech therapy, since the failure of this component of phonemic awareness negatively affects the formation of pronunciation and the development of communication skills of a child. The paper presents the results of an experimental study aimed at assessing auditory comprehension of preschool children with backwardness in speech development and searching for the ways to improve it. The experiment involved 54 preschool children with backwardness in speech development attending the kindergarten in the city of Kryvyi Rih who were divided into control and experimental groups and suggested to perform 5 diagnostic tasks. According to the results of their performance, the necessity of the improvement of their auditory comprehension skills was obvious. There has been implemented a specially designed program based on the use of psycholinguistic games into the educational process of the experimental group. At the end of the experiment the reassessment of auditory comprehension was carried out in both groups. The research outcomes have shown that purposefully applied psycholinguistic games contribute to the formation of auditory comprehension of preschool children with backwardness in speech development.

Keywords: *auditory comprehension, formation, correction, children of middle preschool age, general underdevelopment of speech, psycholinguistic game, empirical research.*

Introduction

According to the Law of Ukraine “On Preschool Education”, the main purpose of the activity of a preschool educational institution is improvement of health, development and formation of an individual, provision of psychosocial rehabilitation and adaptation of a child through a specially organized educational process in conjunction with correctional developmental, therapeutic and recreational work [3]. According to this goal, all participants of the educational process should solve a joint task – to create optimal conditions for the full development of a child. Such conditions include the correction of speech disorders, in particular, backwardness in speech development, within which the formation of auditory comprehension is one of the important tasks, since the failure of this component of phonemic awareness negatively affects pronunciation and development of communicative skills of a child. According to the observations of five recent years, in approximately 25-30% of preschool children attending kindergartens signs of speech disorders are detected. It disrupts neuro-mental activity of children, their behavior, and later becomes a serious obstacle in successful learning activities, social and cognitive development.

Theoretical studies on the issue of the formation of speech skills and processes in preschool children, conducted within the twentieth century, were carried out in various directions: neuropsychological, psycholinguistic, linguodidactic, linguistic, pedagogical and others. Paying attention to the pedagogical aspect of the issue studied it should be noted that as a result of psychological and ped-

agogical observations and researches, scientists have found that the auditory comprehension is developed primarily as a means of ensuring communication and interaction between people; sound as an object of auditory comprehension has a clear communicative focus (the earliest hearing responses of a child already have a bright social coloring: the child especially actively responds to the mother’s voice, and then begins to differentiate the voices of other close people); in the process of the development of auditory recognition of speech sounds an understanding of the statements of others is formed, and later – the child’s speech itself, which in the future ensures satisfaction of his/her needs in communication and socialization.

In this regard, L. Melekhova and M. Fomicheva point out that the formation of a child’s auditory comprehension of oral speech is connected with the mastery of a system of sound (phonetic) codes. Assimilation of the most important signs system for a human being – the phonemic ones – determines the development of speech as the main means of communication and cognition of the surrounding world [7].

The level of auditory comprehension maturity, according to S. Mironova, determines the child’s ability to perceive the sounds of a language, forms phonemic awareness; and vice versa, the lack of speech communication, underdevelopment of sensorimotor functions of a child can lead to backwardness of child’s speech and mental retardation in general [8].

Phonemic awareness of preschool children is studied in details by O. Kolesnikova. Her researches show that in

normal terms up to four years, a child must differentiate all sounds, in other words, he/she must have mature phonemic awareness and pronunciation. In this process, the primary forms of analytic-synthetic activity play an important role (one of which is the auditory comprehension), as a result of which a child generalizes the signs of the phonemes and distinguishes them from others [5]. These empirical conclusions clearly confirm the above generalizations.

It should also be noted that in the development of auditory comprehension the main condition is normal physiological hearing. In his works V. Beltiukov has proved that even with a relatively slight hearing disorder (which does not exceed 20-25 dB) there arise difficulties in the perception of certain sounds (many consonants, unstressed endings of words, etc.) [2]. Namely listening to the sounds, imitating the speech of others, children learn to distinguish those sounds which have the semantic meaning out of a huge number of different ones.

Well-developed auditory comprehension, and hence phonemic awareness, ensures the correct formation of clear pronunciation of words in accordance with generally accepted literary norms. The backwardness of auditory comprehension, besides the above, may be the reason for the late assimilation of the sound aspect of the language: slurring, inaccurate use of speech intonation, deviations in the tempo and volume of speech. In this regard, R. Levina states that the imperfections of pronunciation often serve as a kind of indicator, which shows a disorder in the field of sound analysis. Therefore, a teacher should carry out purposeful work on the development of auditory comprehension and improvement of language capabilities of children, using special tasks, constructed on verbal and nonverbal material [6].

As a result of reviewing the aforementioned and a number of other scientific sources, it becomes clear that the auditory comprehension plays an important role in the formation of phonemic awareness, skills of sounds and phonemes differentiation, and, accordingly, in the development of child's speech in general. This is especially true for children with backwardness in speech development. A well-formed auditory comprehension is the most important stimulus for the formation of normalized pronunciation.

The development of auditory comprehension in children with backwardness of speech occurs with great delay and deviations. They cannot differentiate the sounds of the native language in a proper way, which affects both the understanding of the speech of others, and the development of their own speech. Practice shows that without long-term special exercises on the formation of sound analysis and synthesis skills, children do not master literate reading and writing.

According to O. Kolesnykova, children with hearing disorders are bad at school with sound analysis of words, which causes difficulties in reading and leads to violations in writing (omissions, permutation, replacement of letters, etc.), which causes their academic failure, and the earlier

special corrective work in this direction begins, the more opportunities to prevent lagging in the development of speech children there are [5].

The analysis of the aforementioned studies has shown the practical significance of dealing with this issue in the field of special pedagogy and the importance of forming the auditory comprehension in correcting backwardness in preschool children's speech. At the same time, scientists note that in the process of speech therapeutic influence traditional psychological and pedagogical methods in many cases do not bring the desired results both during training and in person-focused correction. The scientists keep on looking for innovative approaches to resolving the issue. For example, the discovery of A. Tomates, who came to the conclusion that violin music for the maximum increase in the volume of high frequencies and at a minimum power of low ones (from 2 to 8 thousand Hz) acts as "the vitamin C sound", gives impetus to mental activity, increases concentration and attention during the perception of information, as well as efficiency of mastering language skills [1]. L. Kalmykova offered psycholinguotherapy and psycholinguistic correction technologies that combine psychological, linguistic and art-therapeutic approaches, which contribute to the development of speaking skills of preschool children [4].

Despite the number of research studies in this field, the investigation of this complicated issue is still urgent and relevant.

The paper **aims** to present the results of an empirical research on the issue of the formation of auditory comprehension of preschool children with backwardness in speech development by means of psycholinguistic games.

Research Methods

In order to identify the peculiarities and the level of maturity of auditory comprehension in children of middle preschool age with backwardness of speech we applied a set of psychodiagnostic tasks for preschool children taken from the manual by R. Pavelkiv and O. Tsyhyalo [9]. The methodology consists of five tasks, the results of which should be summed up to get clear characteristics of child's auditory comprehension skills maturity.

At first, a surveyed was asked to name the subject in a plural form (selected words: album, notebook, pencil, paint, book, table, window, lamp, bed, chair). We assessed the ability to comprehend and pronounce consonants. The correctness of the task was evaluated in points (1 point for each correctly named word). The second task was to assess a child's ability to recognize and distinguish the sounds (ten pairs of words were proposed). The results of the task were evaluated in points (1 point for each correctly named pair of sounds). The purpose of the third task was to determine the ability to perceive non-verbal sounds (for example, the sound of musical instruments-toys: drums, bubble, pipe, rattle). The results were also evaluated in points (2 points for one properly named instrument). The level of maturity of auditory comprehension of non-verbal sounds was checked and during the fourth task of the diagnostic technique, a child was sup-

posed to listen to, remember the sound of dry-goods in the metal box when shaking it, and then guess what there was in the box (the products used: peas, sugar, buckwheat, manna and rice groats). The child was given 2 points for one properly named product. The fifth task was to determine the level of comprehension of the heard information. The child was read a sentence: “Serhii got up, washed, had his breakfast, took his bag, and went to school”. He/she had to repeat it according to the order of actions (2 points for each correctly named action in the right order).

Points obtained for each task were summarized, the total number of points was determined, which reflected the level of maturity of auditory comprehension according to the following indicators:

- high level (38 - 50 points) – a child can correctly form and pronounce all suggested words, recognizes all pairs of sounds, calls musical instruments according to their sounding, guesses all dry products by ear; correctly reproduces the order of actions in the sentence;

- sufficient level (25 - 37 points) – a child calls the plural form of the words and pairs of different sounds correctly only after stimulation and encouragement; calls at least three musical instruments and guesses the three dry products after having them re-listened, calls the order of actions in the sentence after encouragement;

- average (12 - 24 points) – a child can call the plural form of a few words some way independently (from three to five), and the rest – after hearing them repeated, or after encouragement; calls several pairs of sounds correctly (from three to five); in other cases, he/she requires repeated listening, stimulation; recognizes two musical instruments and dry products, and then – only through encouragement and hints, calls the order of actions in the sentence with the help of an adult;

- low (0 - 11 points) – a child constantly needs help of an adult, additional explanation, cannot recognize the

sounds in the words, can recognize and call only one musical instrument and dry product even after the help of an adult and additional explanations, examples; cannot reproduce the order of actions in the sentence, needs help, additional listening for each task.

Practical activity on the formation and correction of auditory comprehension of children was based on a psycholinguo-therapeutic game method, since the game is the main simulative type of activity of children of this age category.

Empirical work on the formation of auditory comprehension of preschool children with backwardness of speech was conducted during 2016-2017 academic year on the basis of kindergarten 33 of the city of Kryvyi Rih, Dnipropetrovsk region. In order to identify the participants in the study, preparatory work was carried out: an examination of speech therapy groups of children in a total of 62 people. Preschoolers with backwardness in speech development were identified (54 persons), who were united into two equivalent groups: 27 children in an experimental group and 27 in a control one.

It should be noted that before the beginning of the experiment we also analyzed the results of the examination of the children’s physical hearing, since, as noted above, normal hearing is the most important condition for the formation of auditory comprehension. All children in the sample had normal hearing.

Research Results

As a result of the assessment, most children have shown low and moderate levels of auditory comprehension maturity. The total indicator of these levels in the experimental group is 88.2%, and 74% in the control group.

The generalized results of this stage are shown in Fig. 1, 2.

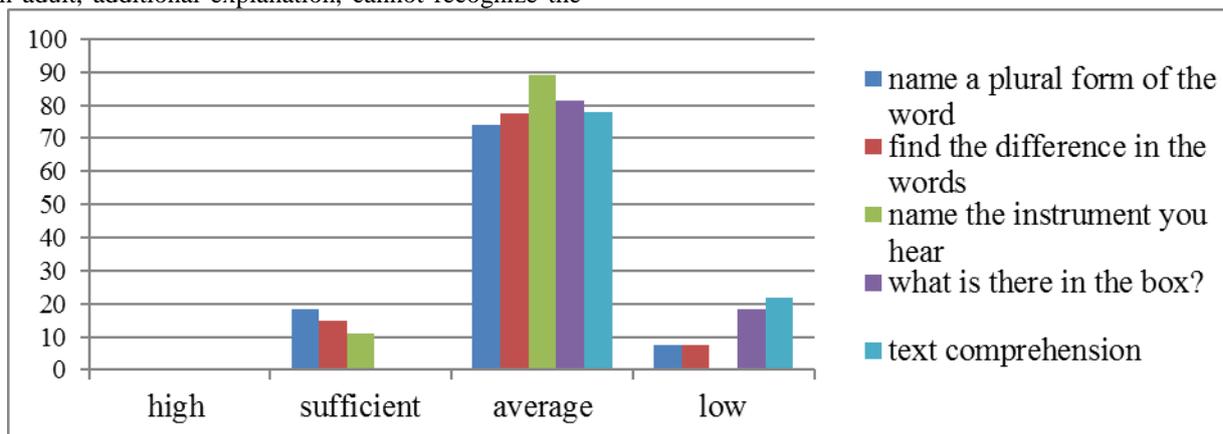


Fig. 1. Maturity of Auditory Comprehension at the Summative Stage (Control Group)

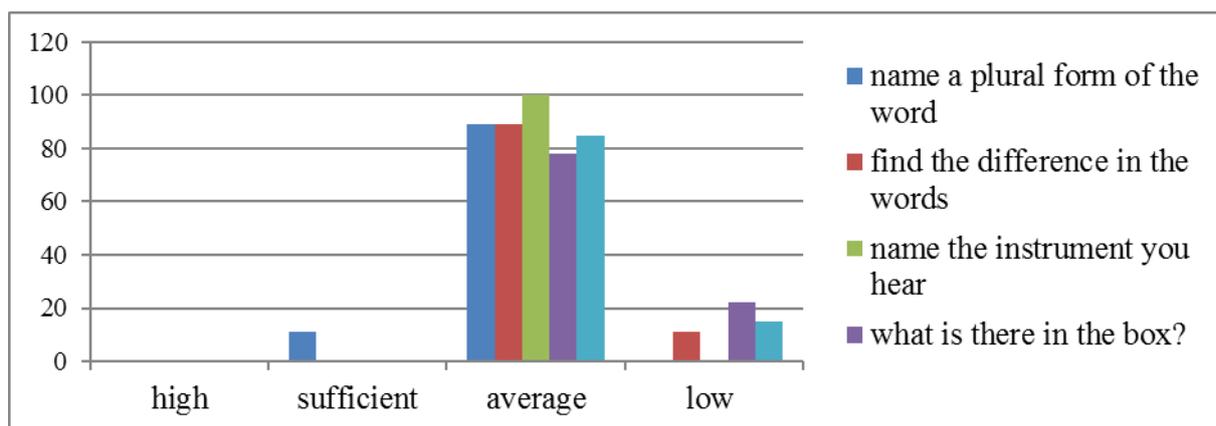


Fig. 1. Maturity of Auditory Comprehension at the Summative Stage (Experimental Group)

The experiment has shown violations of comprehension of not only incorrectly pronounced sounds, but also the ones which were pronounced correctly. It was more difficult for children to differentiate the consonants according to vocalization – voicelessness than to distinguish them according to their hardness-softness. It was confirmed also that the formation of auditory comprehension was affected by the low level of the maturity of linguistic attention, cognitive activity and interaction of the main nervous processes.

After analyzing the previous results, a program for the formation and correction of auditory comprehension of preschool children with backwardness in speech development was designed. It was focused on detected violations of auditory comprehension and speech of children.

When working on the program we based on O. Luria's conclusions that the higher category of phonemic awareness (the ability to distinguish sounds in a word, analyze their sequence) is, and the earlier the development of phonemic awareness and the involvement of a child in sound analysis takes place, the easier it is to train him/her to the sound perception of written speech. In addition, we also relied on the provisions of Leontiev's theory (the main changes in the formation of mental functions due to the leading activities), P. Halperin on the systematic and gradual formation of mental activities, as well as the conclusions of scientific researches, which highlight the leading role of interest in the educational-educational process (S. Rubinstein, L. Bozhovich, N. Morozova).

We also took into account that children with speech impairments had phonemic violations that were poorly corrected even by means of special classes. Children are not attentive to sounds. Teaching reading and writing, as well as audio analysis is difficult and requires special methods of correction.

Thus, the main goal of the program is to familiarize a child who has backwardness in speech development with

a special world of sounds, their attractiveness, significance on the basis of the development of cognitive interest in the process of psycholinguistic gaming.

The following tasks on the improvement of auditory comprehension of children were set: the development of skills of recognizing speech sounds, the formation of a clear auditory sound image, skills of auditory control over the quality of pronunciation, ability to differentiate sounds, carry out phonemic analysis and synthesis.

The study is based on the following provisions: the maximum focus on the formation of a child's ability to compare and distinguish the sounds of the language; examination and development of articulation of the sounds that are correctly spoken in isolation, but in the process of speaking are merging; working on missing and distorted verbal sounds and implementing them into speech; formation of skills of comparing and distinguishing the system of differential characteristics of sounds, etc.

The program was implemented in four stages, every of which included a number of psycholinguistic games: stage I – recognition of unspeakable sounds; stage II – differentiation of pitch and timbre of voice; stage III – differentiation of words close to the sound composition; stage IV – differentiation of phonemes.

It should be emphasized that for every child (group of children) the duration of every stage of the game, exercises and material were different. If necessary, some difficult exercises for children were changed for easier ones for better mastering and vice versa. In the process of correctional classes, children should first of all learn to control their pronunciation and correct it on the basis of comparing their own speech with the speech of others.

After the pilot implementation of the program described above, a formative assessment was conducted, according to which positive results were obtained (Fig. 3, 4).

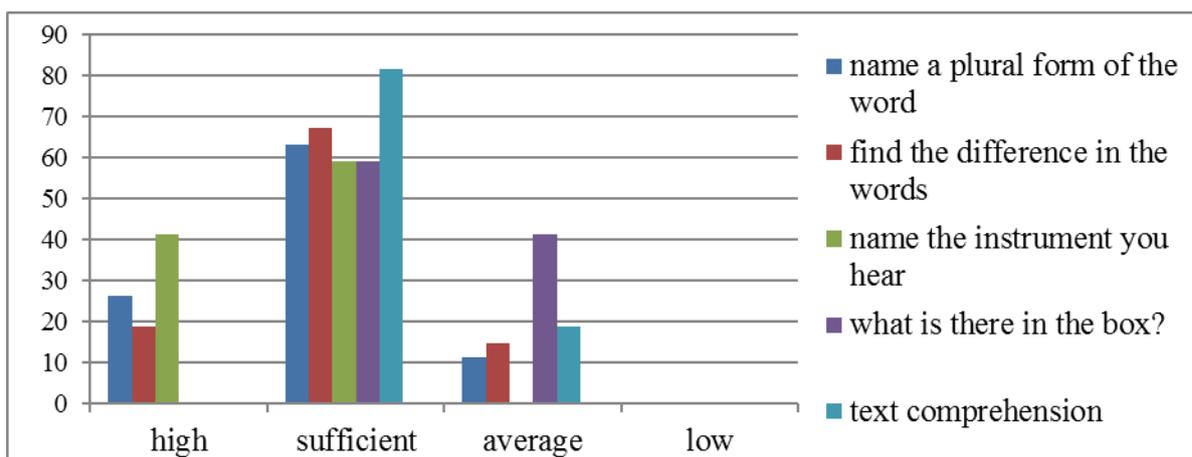


Fig. 3. Maturity of Auditory Comprehension at the Formative Stage (Control Group)

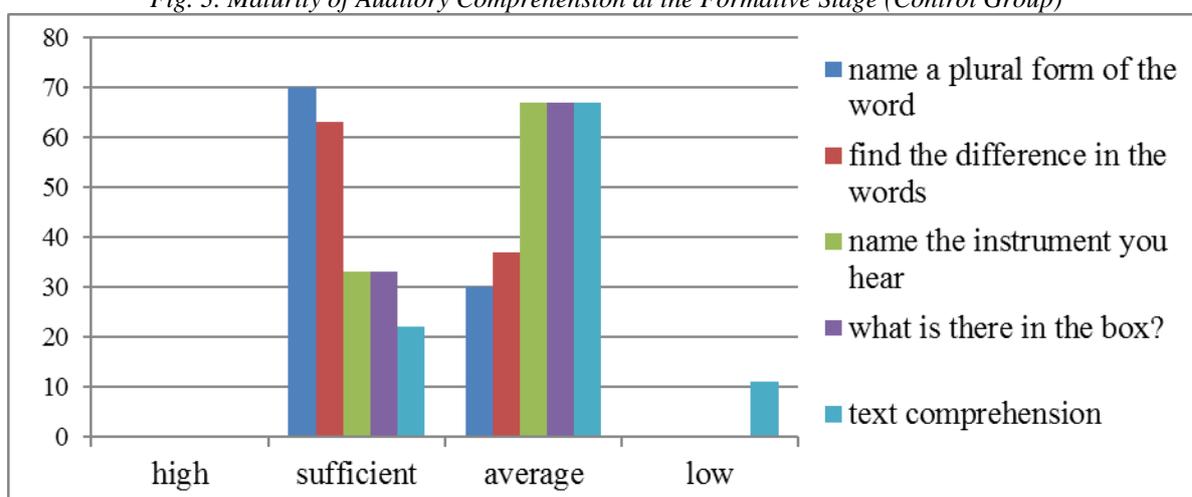


Fig. 1. Maturity of Auditory Comprehension at the Summative Stage (Experimental Group)

Having conducted a comparative analysis of the results of the study, we have found that due to the introduction of the program in the experimental group there was a significant improvement of the formation of auditory comprehension and phonemic awareness. This is confirmed by the following mean values: at the summative stage, 9.6% of the respondents had a low level, while there were no such results at the formative stage in this group (+9.6%); the average level was found in 88.2% of children at the beginning of the study and 17% at the end of it (-71.2%); the sufficient level has increased to 65.9% (it was 2.2%); besides, nobody had a high level when summative assessment was carried out, and the formative assessment has shown that this level is characteristic of 17.5% of the students.

The effectiveness of the carried out work shows the possibility of effective implementation of gaming into the educational process for the formation and correction of auditory comprehension of children of middle preschool age with backwardness in speech development. Reliability of the empirical results of the study was statistically confirmed using Student's t-test.

Conclusion

Auditory comprehension is considered as a determining part of phonemic awareness and one of the main conditions for the formation of correct pronunciation. It acts as a means of ensuring communication and interaction between people, affects the child's ability to perceive and reproduce sounds, clearly pronounce words in accordance with generally accepted literary norms. Accordingly, the immaturity of auditory comprehension harms the differentiation of sounds and their pronunciation, which results in the immaturity of sound analysis and synthesis skills, which subsequently prevents the successful mastering of grammar.

Especially these problems are observed in preschoolers with backwardness in speech development, so, within the framework of the empirical study, a program for the formation and correction of auditory comprehension based on psycholinguistic games was developed and introduced into the practice of speech therapy.

Comparative results of the assessment at the beginning and at the end of the study have shown that purposefully applied psycholinguistic games have a positive effect on the process of forming the auditory comprehension of preschoolers with backwardness in speech development, which encourages for further work in this direction.

REFERENCES

1. Tomatis, Alfred (2005). *The Ear and the Voice*. Scarecrow Press [in English].
2. Beltiukov, V. I. (2004). *Vzaiemodiia analizatoriv u protsesi spryiniattia i zasvoiennia usnogo movlennia [Interaction of analyzers in the process of perception and assimilation of oral speech]*. Moscow: Biblio [in Ukrainian].
3. Zakon Ukrainy «Pro doshkilnu osvitu» [Law of Ukraine “On Preschool Education”]. (2001). *Holos Ukrainy – Voice of Ukraine*. Retrieved from: <http://zakon3.rada.gov.ua>. [in Ukrainian].
4. Kalmykova, L. O. (2016). *Formuvannia u ditei starshoho doshkilnogo viku movlennievoi diialnosti: diagnostyko-rozvyvalnyi kompleks : navch. – metod. posib. [Formation in children of the senior preschool age speech activity: diagnostic-development complex: teaching. - method. manual]*. Kyiv: Vydavnychi dim «Slovo». Retrieved from: <https://scholar.google.com.ua>. [in Ukrainian].
5. Kolesnikova, O. V. (2010). *Rozvytok fonematychnoho slukhu u doshkilniat [Development of phonemic hearing in preschool children]*. Moscow: YuNITI [in Ukrainian].
6. Levina, R. Ye. (2013). *Osnovy teorii i praktyky lohopedii [Fundamentals of the theory and practice of speech therapy]*. Moscow: AlianS [in Russian].
7. Melekhova, L. V. (2007). *Mova doshkilniat ta yii vypravlennia [Language of preschoolers and its correction]*. Moscow: Prosveshchene [in Ukrainian].
8. Myronova, S. A. (2005). *Lohopedychna robota v doshkilnykh ustanovakh i hrupakh dlia ditei z porushenniam movy [Speech work in pre-school institutions and groups for children with speech disorders]*. Moscow: Prosveshchene, [in Ukrainian].
9. Pavelkiv, R. V. (2013). *Psykhodiahnostychnyi instrumentarii v umovakh doshkilnogo zakladu : Navchalnyi posibnyk [Psychodiagnostic tools in pre-school institutions: manual]*. Kyiv: Tsentр uchbovoi literatury [in Ukrainian].

ЛІТЕРАТУРА

1. Tomatis Alfred. *The Ear and the Voice* / Alfred Tomatis. – Scarecrow Press, 2005. – 142 s.
2. Бельтюков В. І. Взаємодія аналізаторів у процесі сприйняття і засвоєння усного мовлення / В. І. Бельтюков. – М. : Бібліо, 2004. – 206 с.
3. Закон України «Про дошкільну освіту» // Голос України. – 2001. – 2 серпня, № 136. Із змінами внесеними згідно із законами № 911-VIII від 24.12.2015, ВВР, 2016, № 5, ст.50. – [Електронний ресурс]. – Режим доступу : <http://zakon3.rada.gov.ua>.
4. Калмикова Л. О. Формування у дітей старшого дошкільного віку мовленнєвої діяльності: діагностико-розвивальний комплекс : навч. – метод. посіб. – [Електронний ресурс] / Л. О. Калмикова. – К. : Видавничий дім «Слово», 2016. – 384 с. – Режим доступу : <https://scholar.google.com.ua>.
5. Колеснікова О. В. Розвиток фонематичного слуху у дошкільнят / О. В. Колеснікова. – М. : ЮНІТІ, 2010. – 654 с.
6. Левина Р. Е. Основы теории и практики логопедии. / Р. Е. Левина. – М. : Альянс, 2013. – 367 с.
7. Мелехова Л. В. Мова дошкільнят та її виправлення. / Л. В. Мелехова, М. Ф. Фомічова. – М.: Просвещение, 2007. – 96 с.
8. Миронова С. А. Логопедична робота в дошкільних установах і групах для дітей з порушенням мови / С. А. Миронова – М.: Просвещение, 2005. – 232 с.
9. Павелків Р. В. Психодіагностичний інструментарій в умовах дошкільного закладу : Навчальний посібник / Р. В. Павелків, О. П. Цигипало. – К. : Центр учбової літератури, 2013. – 296 с.

Людмила Миколаївна Ніколенко,
кандидат педагогічних наук,

Дніпровський національний університет імені Олеся Гончара,
проспект Гагаріна, 72, м. Дніпро, Україна

ФОРМУВАННЯ СЛУХОВОГО СПРИЙНЯТТЯ ДОШКІЛЬНИКІВ ІЗ ЗАГАЛЬНИМ НЕДОРОЗВИТКОМ МОВЛЕННЯ ЗАСОБАМИ ПСИХОЛІНГВІСТИЧНОЇ ГРИ

Формування слухового сприйняття у дітей середнього дошкільного віку виступає одним із важливих завдань логопедії, оскільки несформованість цієї складової фонематичного слуху негативно впливає на формування звуковимови і розвиток комунікативних навичок дитини у цілому, а за спостереженнями останніх п'яти років, приблизно у 25-30% дошкільнят, які відвідують дитячий садок, виявляються ознаки мовленнєвих порушень, що дезорганізує нервово-психічну діяльність дитини, її поведінку, а в подальшому стає серйозною перешкодою для успішної навчальної діяльності, соціального та пізнавального розвитку. У статті представлено результати емпіричного дослідження з проблеми формування слухового сприйняття дітей середнього дошкільного віку із загальним недорозвитком мовлення засобами психолінгвістичної гри. Основними методами дослідження виступили діагностичні (п'ять діагностичних вправ-завдань для дошкільників), емпіричні (психолінгвістичні ігри та вправи на формування слухового сприйняття та корекцію мовлення дітей середнього дошкільного віку) та математично-статистичні (математична обробка емпіричних даних, t-критерій Стьюдента).

Здійснений науковий пошук дав можливість констатувати, що дослідження з проблеми формування мовленнєвих процесів, навичок та дій набули активності у минулому столітті і тривають досі у різних напрямках. Слуховому сприйняттю вчені приділяють значну увагу і вважають його визначальною складовою фонематичного слуху та однією з головних умов становлення правильної вимови. Слухове сприйняття розвивається перш за все як засіб забезпечення спілкування та взаємодії між людьми, впливає на здатність дитини сприймати і відтворювати мовні звуки, чітко і виразно вимовляти слова відповідно до загальноприйнятих літературних норм. Відповідно, слабка сформованість процесів слухового сприйняття перешкоджає розрізненню і відтворенню звуків мови, призводить до того, що у дітей самостійно не формується готовність до звукового аналізу та синтезу, що згодом не дозволяє їм успішно оволодіти грамотою. Особливо яскраво ці проблеми відстежуються у дошкільників із загальним недорозвитком мовлення, а корекційна робота щодо подолання вказаних труднощів за загальноприйнятими методами не дає бажаного результату, тому в рамках даного емпіричного дослідження була розроблена і впроваджена у практику логопедичної роботи програма формування та корекції слухового сприйняття, основу якої склали психолінгвістичні ігрові заняття. Порівняльні результати констатувальної та контрольної діагностики рівня сформованості слухового сприйняття середніх дошкільників показали, що цілеспрямовані психолінгвістичні ігри, застосовувані системно, позитивно впливають на процес формування слухового сприйняття дітей середнього дошкільного віку із загальним недорозвитком мовлення.

Ключові слова: слухове сприйняття, формування, корекція, діти середнього дошкільного віку, загальний недорозвиток мовлення, психолінгвістична гра, емпіричне дослідження.

Submitted on September, 13, 2017

Reviewed by Doctor of Psychology, prof. V. Hladush
