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Imaginative thinking formation in senior preschool children with speech disorders

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Abstract. Imaginative thinking is the main type of thinking in children of senior preschool age. The state of its formation largely determines the success of children in acquiring knowledge, forming skills and abilities following the Basic Component of Preschool Education, and in the future, the requirements of school curricula. The study aims to outline the results of the research on the state of formation of figurative thinking in older preschool children with speech disorders in comparison with children with typical speech development. The following methods of scientific research were used in the study: analysis and synthesis of scientific and methodological literature on the research problem, experiment, testing, comparison, and quantitative and qualitative analysis of the experimental data. According to the results of the diagnostics carried out according to the author's methodology, which is based on a modification of the study of figurative memory, it was found that children with speech disorders have an insufficient level of figurative thinking, especially its topological, projective, ordered, and compositional substructures. These results indicate that children have difficulty creating mental images of objects or phenomena, operating with previously created and stored images, as well as analysing, synthesising, abstracting, mediating, comparing, and generalising perceived information. These difficulties are at the heart of the problems with preparation for studying at the New Ukrainian School. The practical value of the work is to inform specialists of special and inclusive preschool education institutions about the specific features of the state of formation of

imaginative thinking in older preschool children with speech disorders. The results of the study can be used for the development and implementation of methods for the formation of imaginative thinking in senior preschool children with speech disorders

Keywords: mental imagery; imagery memory; image processing; speech impairment; cognitive functions; communication

INTRODUCTION

Senior preschool age is an important stage in the development of several cognitive mental processes, including thinking and speech, which ensure children's successful transition to school. During this period, they continue to actively explore the world around them, acquire knowledge about it, other people, and themselves, and improve their speech skills. The development of imaginative thinking is a key element of both pedagogical and speech therapy support for children with speech disorders (SD), as it contributes to their full social, language and cognitive development. Children with normal development can already solve various mental tasks (every day or educational) not only by performing practical actions with objects but also by acting mentally, i.e. based on the formed images of these objects, and ideas about them; they can successfully memorise various information, formulate and express their thoughts. The study of the state of formation of figurative thinking in older preschool children with general underdevelopment of speech allows us to expand the understanding of its influence on the acquisition of knowledge, the formation of the necessary skills, in particular on the development of speech, of this category of children and to choose the most effective ways to form it. Knowledge about the state of imaginative thinking helps professionals create a favourable learning environment that considers and supports the needs of children with speech impairments. This may include the use of visual aids, interactive methods and other strategies aimed at the child's development. Speech is a semantic and analytical activity of the central nervous system that is connected with other mental functions. From the point of view of the psycholinguistic approach to the study of speech activity, mental processes function as prerequisites and elements of speech and underlie its acquisition and development in interaction with it. In this context, the scientific achievements of E. Danilavichiutie *et al.* (2022) on the close relationship and mutual influence of such general functional mechanisms of speech activity as attention, memory, thinking and its processes, etc. that ensure speech acquisition, and specific speech mechanisms that ensure its perception and generation are relevant. S. Dolzhenko and J. Ribtsun (2020) concluded that the study of speech activity from the standpoint of the psycholinguistic approach helps to understand all the deep mechanisms of speech formation in children, in particular in the context of dysontogenesis. I. Brushnevska and I. Sydoruk (2022) note that the connection between speech disorders and other aspects of mental development determines specific features of thinking.

Speech and thinking synthesis create the ability to create images and operate with them arbitrarily through language. V. Klak (2019), N. Vaganova (2020), M. Savchyn and L. Vasylenko (2021) identified the age-related characteristics of preschool children in the context of thinking development. Thus, the main type of thinking in children aged 4 to 6 (7) years is figurative thinking, that is, the ability to reproduce the world around them in the form of images of objects and phenomena, and the culmination of its development is the older preschool age, 5-6 (7) years when children with typical development begin to use mental images freely. On the one hand, insufficient development of cognitive processes, including imaginative thinking, is reflected in speech activity; on the other hand, speech disorders lead to insufficient development of other cognitive processes, including imaginative thinking. One of the most common speech disorders in older preschool children is speech disorders. This is a complex speech disorder in which a child with typical hearing and intellectual development has all or some components of speech (pronunciation, vocabulary, grammar, coherent speech) impaired. J. Ribtsun (2022) determined that the general underdevelopment of speech is also manifested in the insufficient or complete lack of formation of those functions and operations, in particular, thinking, which ensures language acquisition. The analysed scientific sources indicate the interconnection of speech disorders and insufficient formation of thinking and its operations in children; however, insufficient attention is paid to the peculiarities of the formation of figurative thinking in general and its substructures, in particular, in children with speech disorders. Therefore, the study aims to determine the peculiarities of the state of formation of figurative thinking in senior preschool children with speech disorders in comparison with children with typical speech development. Following the aim, the following tasks are defined: 1) to analyse the peculiarities of the formation of figurative thinking in senior preschool children in ontogeny and dysontogeny in the scientific field of research; 2) to study the state of formation of figurative thinking in senior preschool children with speech disorders in comparison with children with typical development; 3) to determine the peculiarities of the state of formation of figurative thinking in senior preschool children with speech disorders.

MATERIALS AND METHODS

The theoretical and methodological basis of the study was formed by the theory of cognitive development of the

child by J. Bruner (1964); research by O. Novikova (2007) on the structure of imaginative thinking; psycholinguistic approach to the analysis of the child's speech development and its formation in the process of ontogenesis and dysontogenesis. Analysis and generalisation methods were used to study the key aspects of figurative thinking, patterns of its formation in children and the state of its formation in senior preschool children with typical development and speech disorders. The methods of experimentation and testing were used to study the state and level of formation of figurative thinking in senior preschool children. The experiment involved 20 children of senior preschool age, who are pupils of preschool educational institutions No. 505 (compensatory type) and No. 53 in Kyiv: 10 children with speech disorders and 10 children with typical speech development. The average age of the children is 5.5 years. Before the study was conducted, the parents of the test participants were informed and gave their consent to its implementation. The study was organised based on agreements on internships of students of Borys Grinchenko Kyiv Metropolitan University with preschool education institutions that were identified as the practice base. Permission to conduct the study was granted by the administrations of preschool educational institutions No. 505, No. 53, and Borys Grinchenko Kyiv Metropolitan University.

The study was conducted with consideration of the psychological characteristics of children of senior preschool age with typical development and speech disorders. All principles of morality were observed, the rights of each participant were not violated, honour and dignity were not humiliated, discrimination was not allowed, and no harm was done to the health of the participants. The testing was conducted by the recommendations on the ethical aspect of pedagogical research developed by reputable organisations, including the American Educational Research Association (2011) and the British Educational Research Association (2018). The results are published anonymously. Diagnostics of the state of formation of figurative thinking in these children were carried out employing testing. Since the mnemonic component plays an important role in the formation of images, the diagnosis of figurative thinking was carried out through the study of figurative memory. Thus, the basis of the author's methodology was formed by three modified diagnostic methods for the study of figurative memory. Thus, the "Short-term memory capacity" method by O. Kairis (2013) was used to test such a parameter as the ability to create images. The Test for Assessment of Voluntary Figurative Memory by S. Maksymenko *et al.* (2004a) made it possible to study the ability to operate with images. The Associative Memory Test by V. Kniaziev *et al.* (2019) was used to study the ability to create and operate images based on associations. During the tests, handouts such as tables and cards were used. To investigate the ability of the children under study to create and use vivid images in their imagination, all stimulus material was selected in black and white. The survey was conducted individually with each child. The comparison method was used to compare the state of formation of figurative thinking in senior preschool children with speech disorders and typical speech development, as well as to determine the specifics of its formation in children with speech impairments. The method of quantitative and qualitative analysis of the obtained experimental data was used to interpret the results of the empirical study and to gain a deeper understanding of the state of formation of figurative thinking in children with SD. The generalisation of the obtained data was used to formulate the conclusions of the study.

RESULTS

Despite the growing interest in thinking as an important process of personality development, little research has been devoted to how children think and how they begin to think. E. Jones Arango *et al.* (2018) sought to identify the key concepts underlying the conceptual boundaries of individual differences in children's (5-12 years old) thinking. They analysed the literature describing differences in learning and thinking that are associated with children's academic achievement to determine what type of thinking is important for a particular child. The researchers state that there is virtually no research that focuses on children's thinking preferences that are consistent across contexts and over time. In addition, they have not found any research on the impact of differences in thinking outside of the educational sphere, such as in the home. The researchers emphasise that further research is needed to identify more stable characteristics that reflect and capture children's specific ways of thinking. Ukrainian modern psychological and psycholinguistic research shows that imaginative thinking is a type of thinking in the ontogenetic development of a person, in which images of specific phenomena of reality or objects are operated with, without performing real practical actions with them (Serhieienkova *et al.*, 2012). It begins to form in early preschool age, reaches its peak in older preschool age, and "is of great importance for future life, as it is an integral part of any creative activity" (Savchyn & Vasylenko, 2021). Thus, imaginative thinking is a specific and basic way of mental activity of children of senior preschool age, characterised by the ability to create and operate with mental images or ideas about objects and phenomena to solve various every day and educational tasks, perceive and reproduce information, and express their thoughts. According to L. Lysenko (2020), preschool children think about what they remember and the impressions they receive through their senses or in the process of thinking remain in their brains as images and ideas about objects and phenomena they have perceived before. According to S. Maksymenko *et al.* (2004b), this experience can be recalled and used in activities when needed. That is, it is the mnemonic component that is responsible for processing visual information and forming images. As noted by A. Chemerpilska (2015), the development of visual perception, as well as short-term and long-term memory, mainly determines the level of imaginative thinking. On the other hand, the peculiarities of figurative thinking affect the amount of short-term and long-term memory.

Through imaginative thinking, children's master concepts, facts, relationships and other units of knowledge. E. Lodatko (2013) notes that the speed and quality of learning this knowledge depends on the interaction of information sources of the first and second signal systems. The first signalling system is fed by images that arise during learning and represent specific impressions and objects. The second, in turn, is responsible for the perception of reality through generalised and abstract concepts that are formed through speech, thinking and mental images. These concepts contain semantic (meaningful) information that expands the child's understanding of the world around him or her. These findings are confirmed by the research of I. Brushnevska and I. Sydoruk (2022), state that speech (the first signalling system) can lead to disorders of mental processes: Thinking, memory, attention, perception, and representation (the second signalling system). According to Y. Ribtsun (2022), speech disorders are manifested not only in the unformed or complete absence of all components of speech activity at the level of expressive and/or expressive expression. It also includes the lack of functions and operations necessary for the correct acquisition of language (in particular, thinking functions and operations, perception, attention, memory and control of various modalities). L. Trofymenko (2014) adds that due to phonetic-phonemic and lexical-grammatical impairments in speech, children with SD may have limited thinking, difficulties with speech generalisations and specific difficulties in mastering reading and writing skills. Cognitive impairment is often the cause of insufficiently formed imaginative thinking in older preschool children, which in turn can lead to an insufficient level of understanding of verbal instructions and difficulties in retaining them in memory, fragmented task performance, disruption of the algorithm of predictability of actions, inability to independently acquire new knowledge based on their own sensory experience, etc. In this regard, children in this category may have difficulty learning the necessary knowledge and developing skills and abilities following the Basic Component of preschool education in general. The diagnostics according to the author's methodology made it possible to empirically identify the state of formation of figurative thinking in senior preschool children with SD compared to children with typical development and to determine the level of its formation in both categories of children. The generalised results of the survey by the parameter "ability to create images" in children with speech disorders and typical development (TD) are presented in the diagram (Fig. 1). The short-term figurative memory scope is determined by the peculiarities of figurative thinking, namely the ability or inability to create new vivid images in the mind. Compared to children with typical development, who recalled a variety of shapes during the diagnosis, children with speech disorders recognised mostly familiar geometric shapes – squares and triangles. One child with a SD did not show any shapes at all but only looked at them in a confused manner on the table. This indicates that children SD have significant difficulties in creating a new image in their imagination: they cannot analyse what the newly perceived figure consists of; identify similar elements to other familiar figures; compare the figure with other objects similar in shape; not mentally draw certain details to the figure to bring its appearance closer to an already familiar object whose image is stored in their memory. All of this indicates that their projective and compositional substructures of figurative thinking are not well developed. And since children cannot perform mental actions with shapes, it is difficult for them to remember them and then recall them, even after a short time. The generalised results of the examination of the parameter "ability to handle images" in children of both categories are demonstrated in the diagram in Figure 2.

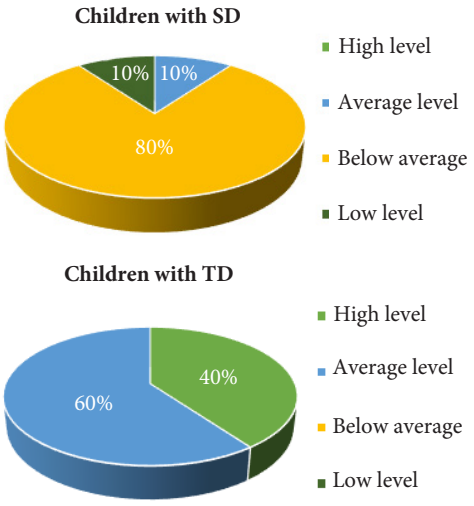

Figure 1. Results of the survey by the parameter "ability to imagine"
Source: compiled by the authors

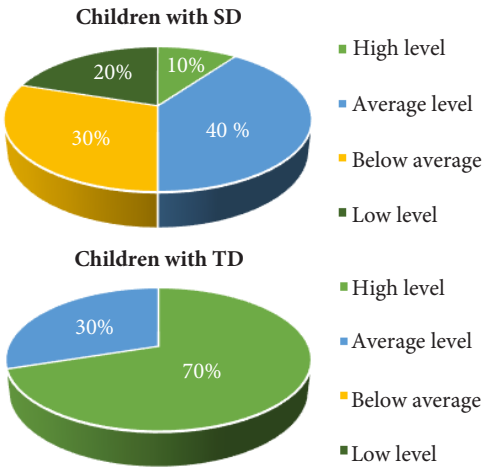

Figure 2. The results of the survey by the parameter "ability to handle images"
Source: compiled by the authors

The peculiarities of the formation of figurative thinking, namely the ability or inability of children to operate with previously created and recorded images of objects in

memory, led to the selectivity of figurative memory. In contrast to children with typical development, who mostly recalled identical images, a little less often images similar in general silhouette, and very rarely images that differed in some detail, children with SD most often pointed to identical images or images that differed in some detail (the latter, according to the methodology, were not counted as correct answers). This means that they are dominated by visual action thinking, which is based on the direct, obvious perception of objects, and the orderly substructure of figurative thinking is not sufficiently formed. That is, it is difficult for children with SD to analyse the appearance of familiar objects, notice their differences and similarities, identify similar features, compare them by shape, and silhouette, fill abstract objects with specific meanings, and transfer their previous experience or knowledge to them. In general, this task was the easiest for both children with SD and children with typical development to complete compared to the other two. This indicates that it is much easier for them to mentally operate with familiar images than to create new ones. The generalised results of the examination of the parameter "ability to create and operate images based on associations" in children with SD and typical development are illustrated in the diagram in Figure 3.

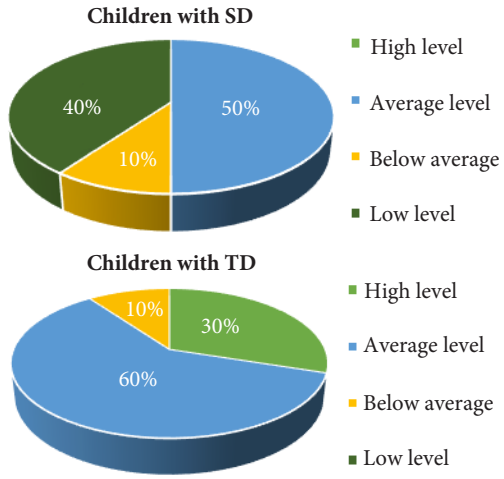

Figure 3. Results of the survey on the parameter "ability to create and operate images based on associations"
Source: compiled by the authors

The level of associative memory formation is determined by the peculiarities of figurative thinking, namely the ability or inability of children to create new images and operate with previously created images based on associations. Compared to children with typical development, during the examination according to a certain parameter, children with SD had significant difficulties in selecting cards for the words to be memorised, even after a training attempt. They chose the cards rather slowly, often needing help in the form of guiding questions from the experimenter, for example: "What do you think of when you hear the word "lunch"?", "What do you think of when you hear the word "night"?", etc. Furthermore, children were rarely able to explain the connection between the word and the selected card on their own, without prompting, i.e. why they chose this particular image. Most often, children made commonly understood associations, such as lunch – table, bird – nest, bird – feather, clothes – shirt, garden – tree, etc. Furthermore, the associations included visual associations that had similarities, such as shape (bird – plane, chair – armchair); and causal associations (night – moon, garden – apple, dinner – table, etc.). In addition, children selected cards based on individual associations related to their own experience and not always clear to others, for example: lunch – car (the child recalled how during a recent family trip they had lunch with their parents and sister in the car), clothes - sofa (the boy explained that his mother puts the things he needs to wear on the sofa). However, there were also some individual associations that children could not explain even with the help of leading questions, such as night – person, bird – person, road – lamp, clothes – tree. Such answers may indicate that these were unrestricted associations that usually arise spontaneously and are not always realised by the child. Four children with SD were unable to recall any words correctly, as they only named the objects depicted on the cards. Other children sometimes correctly recalled the necessary words, sometimes they named the objects depicted in the pictures. This indicates that they have impaired goal-oriented thinking, insufficiently formed associative memory and the ability to perform such mental operations as mediation, as well as topological, projective, ordered, and compositional substructures of figurative thinking. That is, it is difficult for children with SD to mentally "grow" a new image and operate on previously created images through mental transformations and establishing similarities in appearance, and properties between objects or phenomena, as well as through comparison, evaluation, and combination. Based on the results of the survey of the three studied parameters, the level of figurative thinking formation in senior preschool children with GSI of III-IV level and typical development was determined. The generalised data are presented in the diagram in Figure 4.

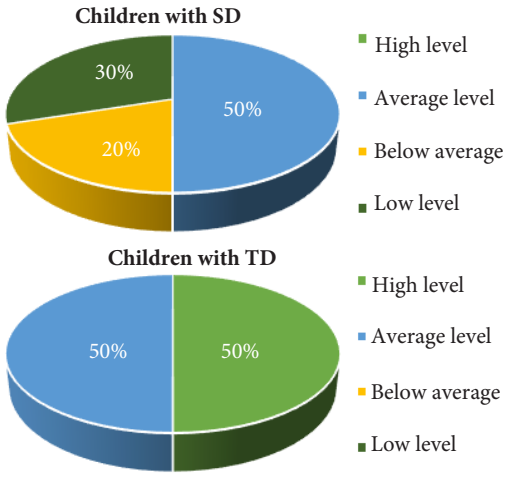

Figure 4. General distribution of levels of imaginative thinking
Source: compiled by the authors

Comparative characteristics of children of both categories showed that only children with typical development have a high level of imaginative thinking. Thus, a lack of figurative thinking, especially its topological, projective, ordered, and compositional substructures, can be seen in children with speech disorders. In particular, this was manifested in the fact that when performing diagnostic tasks, they did not always understand verbal instructions correctly and often could not explain their choices. They found it difficult to navigate among various graphic images and correlate them with previously created and stored images; create new images, mentally establish similarities between various objects and phenomena, highlight certain properties in them, classify them according to various features (for example, size, shape, etc.); mentally operate with visual images. In contrast, children with typical development found it much easier to complete the proposed tasks: They made fewer mistakes, made choices faster, could justify them, and generally had few difficulties with creating and manipulating images.

DISCUSSION

According to the study, children with speech disorders have problems with the formation of figurative thinking, in particular its topological, projective, ordered, and compositional substructures. They have difficulty understanding verbal instructions, navigating graphic images, and creating new images. The above opens up opportunities to explore the relationship between these difficulties and the development of children's cognitive skills. In the context of considering the psychological aspects of children's imaginative thinking, it is advisable to join the research of O. Novikova (2007), who considers imaginative thinking as a set of mental processes: creating an image, operating with it and orientation in space. In addition, the researcher divides imaginative thinking into five substructures: topological, projective, ordered, metric, and compositional, and creates a basis for a more comprehensive understanding of the diversity of these aspects in the context of child development. The study also emphasises the importance of developing each of these substructures in children to ensure that children's mental potential is fully developed.

It is important to note that in foreign literature, the types of thinking have different names and interpretations. Concerning imaginative thinking, the literature has an analogue of "mental imagery" – the ability to create images of information in the imagination (Algozzine & Douville, 2004), and this opens up additional perspectives in the study of the issue at hand. In particular, foreign research by I.E. Boerma *et al.* (2016) examines in detail the role of mental representation in the process of reading images and understanding stories. The study highlights the importance of this aspect for the development of readers' cognitive skills, which confirms the interconnection and mutual influence of the first and second signalling systems discussed in the Results section of this article. An important study of the relationship between screen media use in preschool children and the development of their mental representations was conducted by S.P. Suggate and P. Martzog (2022). It does not directly consider children's speech as the main object of study. However, in the context of a broader understanding of cognitive development, it can be assumed that the development of mental representations can affect speech. For example, if screen media limits children's ability to create their mental images, this may have implications for their ability to form mental models in their speech. Overall, the relationship between screen media use and children's speech can be complex and it is important to examine it in the context of cognitive development. The above research has helped to deepen our understanding of the relationship between technology use and cognitive development. A. Prasanna *et al.* (2022) highlight the impact of presentation modalities on preschool children's memory ability. They examine different types of modalities and their impact on children's performance, pointing out the benefits of audio-visual support compared to audio and visual support. These conclusions are worthy of agreement, as in the context of our study, it can be assumed that the quality of imaginative thinking in children with speech impairments may be related to their ability to work with different modalities of information. Therefore, it may be necessary to consider the quality of information presentation for preschool children with speech impairments to optimise correctional and developmental work on the formation of their imaginative thinking. At the same time, it is necessary to consider the research of R. Hick *et al.* (2005), which indicates the use of only certain types of visual support for children with specific language impairments. The researchers emphasise that children in this category will have difficulties with tasks that require a high level of processing or several mental manipulations.

Determining the state of imaginative thinking and the existing mechanisms that interfere with its formation helps a specialist develop the right strategy for working with a child. After all, formed imaginative thinking ensures the child's ability to express their thoughts and feelings through images, which facilitates the process of communication; promotes cognitive development, namely the ability to compare, associate, classify, and distinguish; also, the ability to imagine specific images improves memory, as it makes it easier to learn and remember information. This is especially important for children with SD, as imaginative thinking can provide them with an alternative way of expressing themselves and their needs through drawings, gestures, body movements, etc. In addition, it allows children to express their ideas, fantasies, feelings, and dreams in a creative way, which contributes to their self-expression and self-realisation. Comparing the concept used in the Ukrainian space of "imaginative thinking" and the international "mental imagery" or the ability to create images, it is worth noting that they have much in common and complement each other. In terms of their interpretation, the common and important thing for their formulation is the formation of the cognitive sphere. This means that in the process of forming images, cognitive mental processes will also develop. In general, the study integrates the findings of

Ukrainian and foreign research to enrich the understanding of the problems and prospects in the development of imaginative thinking in older preschool children, including those with speech impairments. The results of this study indicate the need to introduce innovative methods into the educational process for children with generalised speech impairment. Teachers and speech therapists can focus on the development of the substructures of imaginative thinking, which demonstrate significant difficulties in this category of children. The introduction of interactive methods and technologies can help to activate imaginative thinking and improve cognitive skills. For the effective development of imaginative thinking in children with speech disorders, it is recommended to develop and implement individualised strategies for correctional and developmental work. This may include the use of game techniques, creative tasks, and interactive methods.

CONCLUSIONS

The analysis and synthesis of scientific and methodological literature on the study of the problem of the formation of imaginative thinking in older preschool children made it possible to define the concept of "imaginative thinking" and conclude that children with a sufficient level of imaginative thinking can mentally plan their actions, understand and use schematic images, solve mathematical examples, correctly arrange and express their thoughts in lexical and grammatical terms, skilfully retell texts and compose coherent stories based on a picture, etc. It has also been established that generalised underdevelopment of speech is not only a complex speech disorder, but also a disorder of cognitive functions, including imaginative thinking, and operations that support speech activity. This leads to difficulties in planning their actions, comparing objects and phenomena, understanding, and using diagrams and tables necessary for learning, memorising, and reproducing information of varying complexity and large volumes, generalising knowledge, etc. These difficulties cause problems with school readiness.

The following parameters of figurative thinking have been identified: the ability to create images, the ability to operate with images, and the ability to create and operate with images based on associations. An empirical study of the state of formation of figurative thinking in children with SD compared to children with typical speech development was carried out using the author's methodology based on the modification of methods for studying figurative memory. According to the results of the diagnostics, it was found that the level of figurative thinking in children with SD is significantly lower than in children without speech disorders and has its specific features. This is due to the insufficient development of topological, projective, ordered, and compositional substructures of figurative thinking. These results indicate that children have difficulty creating mental images of objects or phenomena, operating with them and previously created and stored images in their memory, as well as analysing, synthesising, abstracting, mediating, comparing, and generalising perceived information, which in turn leads to difficulties with cognitive and learning activities. Determining the state of formation of figurative thinking and the existing difficulties in its formation can be an important basis for specialists to develop the correct strategy for correctional and developmental influence on children of this category.

The study does not exhaust all aspects of the problem and does not claim to be a complete study. At the same time, it is of practical importance, as the results of the study can be considered in the implementation of correctional and developmental work with older preschool children with speech disorders in special and inclusive preschool education institutions, as well as in the training, certification and professional development of psychological and pedagogical staff of these institutions. The scientific novelty of the study is determined by an interdisciplinary approach to the study of the problem, systematisation of theoretical material on the state of formation of figurative thinking in senior preschool children in ontogenesis and dysontogenesis, determination of the state of formation of figurative thinking through the study of figurative memory. A promising direction for further research is the development, implementation, and testing of the effectiveness of the methodology for the formation of figurative thinking in senior preschool children with general underdevelopment of speech using eidetic techniques.

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CONFLICT OF INTEREST

None.

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Стан сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення

Анотація. Образне мислення є основним видом мислення у дітей старшого дошкільного віку. Від стану його сформованості значною мірою залежить успішність дітей у засвоєнні знань, формуванні умінь та навичок відповідно до Базового компонента дошкільної освіти, а в майбутньому й до вимог шкільних освітніх програм. Мета цієї роботи – окреслити результати дослідження стану сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення III-IV рівня, якщо порівнювати з дітьми з типовим мовленнєвим розвитком. У роботі використано такі методи наукового дослідження: аналіз та узагальнення науково-методичної літератури з проблеми дослідження, експеримент, тестування, порівняння, кількісно-якісний аналіз отриманих експериментальних даних. За результатами проведеної діагностики за авторською методикою, що ґрунтується на модифікації дослідження образної пам'яті, констатовано недостатній рівень сформованості образного мислення, особливо його топологічної, проєктивної, упорядкованої та композиційної підструктур, у дітей із загальним недорозвитком мовлення III-IV рівня. Такі результати вказують на наявність у дітей труднощів зі створенням мисленнєвих образів предметів чи явищ, з оперуванням раніше створеними та збереженими в пам'яті образами, а також під час аналізу, синтезу, абстрагування, опосередкування, порівняння та узагальнення сприйнятої інформації. Окреслені труднощі лежать в основі проблем з підготовкою до навчання в Новій українській школі. Практична цінність роботи полягає в інформуванні спеціалістів спеціальних та інклюзивних закладів дошкільної освіти щодо специфічних особливостей стану сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення III-IV рівня. Результати дослідження можна використати для розробки та впровадження методики з формування образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення

Ключові слова: мисленнєвий образ; образна пам'ять; оперування образами; порушення мовлення; когнітивні функції; комунікація