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PSYCHOPHYSICAL FEATURES OF THE DEVELOPMENT OF PRESCHOOL CHILDREN WITH SPEECH DISORDERS IN THE CONTEXT OF MUSICAL-CREATIVE AND PHYSICAL EDUCATION

Abstract. *The comprehensive and harmonious development of a child is linked to their morphological-functional, physical, somatic, mental, and other individual characteristics. Based on this, we considered it necessary, within the framework of a pedagogical experiment, to analyze how subjectively parents assess their children's speech development. Subsequently, for further analysis of the correctional process technology which effectively forms the basis of dance-cognitive education – thus being constantly perfected and practically applied – we deemed it essential to identify certain features of the musical-creative and physical development of children at the initial stage of their preschool education. Objective: to identify the psychophysical and speech characteristics of children's development, define the specifics of their musical-creative and physical education, in order to develop a further strategy for conducting classes with elements of dance exercises that address speech correction. Subjects: 87 parents of children aged 4–6 years. To study the parameters of speech development and create a characterization of musical-creative and physical education for children, we used the questionnaire survey method. Analysis of the survey data revealed that, despite parents' evident interest in their child's speech development, not all of them understand their role in the process of speech formation. It was also identified that at the early stages of development, children's cognitive interests play a predominant role. The results of the survey allowed us to determine the main strategy for physical education for preschoolers with speech disorders, based on the technology we developed for correcting speech impairments through classes incorporating dance exercises. In this aspect, classes with dance elements can creatively fulfill this need, develop a sense of rhythm, strengthen the skeletal and muscular systems, and stimulate memory, attention, thinking, and imagination. This experience may further assist children in successfully mastering various artistic-creative and sports activities such as choreography, theatre arts, playing musical instruments, gymnastics, etc. Among other benefits, dance-corrective exercises involve the use of both short-term and long-term memory to memorize and reproduce dance figures. These exercises impact the activity of motor neurons in the cerebral cortex, thereby developing motor centers. Constant changes in sequences and rhythms in dance stimulate brain neurons, enhancing the functional flexibility of neural processes. Further research – conduct an analysis of the results of assessing speech and psychophysical development, cognitive functions and dance abilities of preschool children at the initial stage of education.*

Keywords: *preschoolers, speech features, musical-creative education, physical development.*

Петренко Н., Петренко С. Психофізичні особливості розвитку дітей дошкільного віку з мовними відхиленнями в контексті музично-творчого і фізичного виховання.

Всебічний гармонійний розвиток дитини пов'язаний з його морфофункціональними, фізичними, соматичними, психічними та іншими індивідуальними особливостями. Виходячи з цього, ми визнали за необхідне в рамках педагогічного експерименту проаналізувати, наскільки суб'єктивно оцінюють батьки мовленнєвий розвиток своїх дітей. Потім, для подальшого аналізу розробленої та застосовуваної нами на практиці технології корективного процесу, яка становить основу танцювально-когнітивного виховання, ми вирішили визначити деякі особливості музично-творчого та фізичного розвитку дітей на початковому етапі навчання у дошкільному закладі. Мета: виявити психофізичні та мовні особливості розвитку дітей, визначити специфіку їх музично-творчого та фізичного виховання для розробки подальшої стратегії проведення занять з елементами танцювальних вправ, що забезпечують корекцію мовленнєвих порушень. Категорії досліджуваних: 87 батьків дітей 4–6 років. При вивченні параметрів мовного розвитку та складанні характеристики музично-творчого та фізичного виховання дітей нами було використано метод отримання інформації, який відносять до опитування – анкетування. Аналіз анкетних даних показав, що при наявності реальної зацікавленості батьків у розвитку промови дитини, далеко не всі з них розуміють свою роль у процесі становлення мови. Було також виявлено, що на початкових етапах розвитку переважне значення мають пізнавальні інтереси дітей. Результати анкетування дозволили нам визначити головну стратегію фізичного виховання дошкільнят з мовними порушеннями, в основі якої лежить розроблена нами технологія корекції мовних порушень шляхом проведення занять з елементами танцювальних вправ. У цьому аспекті заняття з елементами танцювальних вправ можуть допомогти творчо реалізувати цю потребу, розвинути почуття ритму, зміцнити скелет та мускулатуру, стимулювати пам'ять, увагу, мислення та увагу. Передбачається, що набуття такого досвіду може допомогти дитині надалі успішно освоювати різні художньо-творчі та спортивні види діяльності: хореографію, театральне мистецтво, гру на музичних інструментах, гімнастику тощо. Серед іншого, танцювально-корекційні вправи мають на увазі залучення короткочасної та довготривалої пам'яті для запам'ятовування та

відтворення танцювальних фігур. Ці вправи впливають на активність мотонейронів кори мозку, розвиваючи рухові центри. Постійні зміни зв'язок та ритмів у танці стимулюють нейрони головного мозку до перемикання, розвивають функціональну рухливість нервових процесів. Подальші дослідження – провести аналіз результатів оцінювання мовленнєвого та психофізичного розвитку, когнітивних функцій і танцювальних здібностей дітей дошкільного віку на початковому етапі навчання.

Ключові слова: дошкільнята, мовні особливості, музично-творче виховання, фізичний розвиток.

Problem Statement. The issue of physical education for preschool children occupies a significant place in the research of both domestic and foreign specialists in the field of physical culture education (Krutsevych T., 2012; Bohinich O., 2012; Pangelova N., 2014; Cvetković M., 2020; Kalimbet O., 2021; A. Demirli, 2022, etc.).

According to global statistics, over the past decade, the proportion of speech disorders among children diagnosed with "general speech underdevelopment" has reached 70%, maintaining a tendency for steady growth. Consequently, the problem of prevention and correction of speech disorders in preschool children remains highly relevant.

It is worth noting that working with preschool children requires taking into account their age-related psychophysical characteristics and searching for the most accessible and effective forms of material presentation. For example, in the preschool physical culture education system, it is advisable, according to A. Demirli and M. Cvetković, to apply children's fitness technologies [1, 2].

It is known that various forms of organic and functional speech disorders are often accompanied by certain pathologies in the motor domain. Thus, children with speech disorders lag behind their peers in physical development. At the same time, activities with preschool children aimed at restoring motor functions (in particular, by developing the motor analyzer) can significantly contribute to the correction of speech defects in this category of children [5].

The foundation of correctional work in the process of physical education typically includes exercises focused on diaphragmatic-speech breathing, relaxation, development of fine motor skills, articulation motor skills, coordination of movements, spatial representations, rhythmic abilities, aerobics on balls, self-massage, and the improvement of emotional and volitional spheres [3, 5].

However, the high importance of the problem necessitates the search for additional effective means of correcting speech impairments. Accordingly, the task of developing new methodological approaches in the physical education system to partially or even completely eliminate speech disorders, and thereby improve the cognitive functions of children, is highly relevant today.

Analysis of the Literature Sources. Research shows that a child's harmonious development depends on their physical, mental, and individual traits [4]. Our study incorporated parental assessments of speech development and evaluated children's musical-creative and physical abilities at the start of preschool education.

Speech impairments can negatively affect mental and intellectual development, limit social interactions, and hinder personality growth, contributing to shyness and feelings of inferiority. Early intervention is critical. Traditional preschool physical education lacks specialized methods for addressing speech disorders. Studies confirm that motor activity and physical exercises, combined with environmental factors, significantly enhance cognitive functions, highlighting the need for targeted correctional methodologies in physical education [5].

Our analysis of literature, along with insights from masterclasses and seminars, highlighted the effectiveness of psychocorrectional approaches using creative activities, such as art, music, and dance, for preschoolers with speech impairments. Dance exercises emerged as particularly impactful for developing motor coordination, enhancing physical skills like rhythm, and stimulating motor cortex areas related to speech regulation.

Fitness-ball dance gymnastics combined with play therapy (e.g., fairy-tale therapy) showed optimal results, promoting a seamless integration of movement, music, and language. These activities improve neuromuscular, respiratory, and cardiovascular functions while enhancing memory, attention, and emotional well-being [3].

Despite existing theories on speech correction and the benefits of physical education, no comprehensive methodology simultaneously addressing musical-creative and physical education with speech correction has yet been developed.

The objective of this study was to identify the psychophysical and speech characteristics of children's development, define the specifics of their musical-creative and physical education, in order to develop a further strategy for conducting classes with elements of dance exercises that address speech correction.

Presentation of the Research Material. Participants: 87 parents of children aged 4–6 years. We used questionnaires to assess preschoolers' speech development and strategies for their musical-creative and physical education. The first survey examined speech development and its connection to parental communication and interaction. The second focused on musical-creative and physical education. Statistical analysis was performed using the software package «StatSoft STATISTICA 13.3».

Results showed that while parents are interested in developing their child's speech, many lack full understanding of their role (table 1). It should be noted that 47% play speech-promoting games with their children. Thanks to didactic games, a child learns such concepts as, for example, an object's attribute, learns to classify them, generalize, compare. Therefore, such games are an effective method of preschool education, promoting increased cognitive activity, development of concentration, and assimilation of acquired knowledge.

Notably, 67% actively work on speech improvement, 87% monitor their child's speech, 86% correct errors and 69% rate their child's speech as satisfactory. Additionally, 82% ask exploratory questions, and only 14% of children demonstrated grammatical mistakes.

Table 1.

Parent Questionnaire 1: Speech Characteristics of Children (Age 4–6)

Questions	Yes (%)	Not always	Cannot	No (%)
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		(%)	answer (%)	
Do you work with your child on improving their speech?	67	19	5	9
Are you concerned about your child's speech development?	45	11	2	42
Do you rate your child's speech as satisfactory overall?	69	17	2	12
Do you monitor how your child speaks?	87	10	0	3
Does your child correctly use pronouns like «I», «you», «he», «she»?	67	21	2	10
Does your child make grammatical errors (e.g., «long ears», «many chairs»)?	14	32	2	52
Does your child ask questions starting with «who», «how», «how many»?	82	10	2	6
Do you correct your child's speech errors?	86	8	2	4
Do you play games with your child that promote speech development?	47	32	2	19

The survey revealed that a child's speech development relies on parental communication, attention, and a supportive preschool environment. Educators face challenges with grammatical issues often overlooked by parents, underscoring the need for early correction. Cognitive interests dominate in early development, and skills gained through musical-creative and physical education play a key role in improving speech. Such activities enhance neural structures, activate analyzer systems, and improve psychophysical data and cognitive functions, which, in turn, contribute to speech correction (table 2).

Table 2.

Parent Questionnaire 2: Musical-Creative and Physical Education (Age 4–6)

Questions	Yes (%)	Not always (%)	Cannot answer (%)	No (%)
Are you satisfied with the quality of morning performances and events in the preschool?	78	9	9	4
Are you satisfied with the musical education your child receives in the preschool?	73	7	18	2
Does your child demonstrate creative abilities?	75	15	5	5
Does your child demonstrate choreographic abilities?	40	16	26	18
Do you plan to continue your child's musical education in the future?	47	13	27	13
Do you plan to continue your child's choreographic education in the future?	38	9	35	18

Holiday matinees in kindergarten, as an important component of the educational process, have a positive impact on the formation of the child's personality. Such holidays allow children to show their skills and show creative initiative. In addition, this is a certain result of pedagogical work. It has been proven that well-organized holidays have a beneficial effect on the development of mental processes: memory, attention, they create a favorable atmosphere for the development of the child's speech, consolidation of knowledge obtained in various classes, and contribute to moral education.

Results showed that 78% of parents were satisfied with preschool events, and 73% positively assessed their child's musical education. Additionally, 75% noted their child's creative abilities, while 40% identified choreographic potential, emphasizing dance as a tool for fostering creativity. Looking ahead, 47% of parents plan to continue their child's musical education, and 38% intend to pursue choreographic training.

Analysis and generalization of the survey results allowed us to determine the main strategy for conducting classes in a preschool institution that contribute to the correction of speech disorders.

Conclusions. The results of the survey allowed the following conclusions to be drawn. The formation of correct speech in children depends on the environment, particularly on how parents speak and the extent of their verbal interaction with the child. Specific skills and abilities that preschoolers acquire through musical-creative and physical education contribute to the development of nervous structures, activation of analyser systems, improvement of psychophysical data, cognitive functions, and consequently, correction of speech impairments. Musical-creative and physical education foster personality formation, adequate evaluation, and self-esteem in children. The parent survey facilitated the development of a correctional technology that centers on activities with dance exercise elements. These activities not only ensure physical development but also address speech correction in children.

Prospects for Further Research. Conduct an analysis of the results of assessing speech and psychophysical development, cognitive functions and dance abilities of preschool children at the initial stage of education. Classes with dance exercise elements may creatively satisfy children's needs, develop a sense of rhythm, strengthen the skeletal and muscular systems, and stimulate memory, attention, thinking, and imagination. It is anticipated that such experience will help children successfully master various artistic-creative and sports activities in the future, such as choreography, theatre arts, playing musical

instruments, gymnastics, and more.

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PHYSICAL EDUCATION IN HIGHER EDUCATIONAL INSTITUTIONS IN THE DIRECTION OF PSYCHOLOGICAL AND PEDAGOGICAL FOUNDATIONS

In the development of an active positive attitude towards physical culture and sports, the formation of the corresponding motives in young people is of primary importance. This process includes two mechanisms - "bottom up" and "top down". In the first, spontaneously formed or specially organized conditions of physical culture and sports activities satisfy certain needs selectively. If this happens systematically, the corresponding motives arise and are strengthened. The second mechanism, "top down", operates when a person assimilates the motives presented to him in a ready-made form; according to the plan of the teacher and coach, they should be trained in him. The student must gradually transform these motives from understood into effective ones. Explaining the essence of motives, their relationship with each other and with needs makes it easier for the student to work on their internal meaning, eliminates the spontaneous search for mistakes, the wrong choice of sport or form of physical education. Thus, the first mechanism is stimulated by changing the external conditions of physical education and sports activities (methodology, selection of physical exercises, etc.), the second - by changing the intrapersonal atmosphere through understanding needs and turning them into motives. Full formation of motives is possible with the synchronous action of both mechanisms. In reality, this is what happens, although in some periods one may prevail. During the introduction of young people to physical education and sports, the first