UDC 159.923.38:78 **DOI: 10.31652/2786-6033-2024-3(2)-52-59**

Anton Panasiuk
Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University
graduate student of the Department of Psychology and Social Work
baibalatyga@gmail.com
https://orcid.org/0009-0002-9511-2314

THEORETICAL ANALYSIS OF THE ISSUE OF DEVELOPING MUSICAL ABILITIES OF INDIVIDUALS

В статті розглянуті різноманітні аспекти та проведено теоретичний аналіз досліджень проблеми розвитку музичних здібностей, їх вплив на психологію особистості. Ряд досліджень вказують на потенційні механізми, які лежать в основі розвитку музичних навичок та впливу музики на мозкову активність. Висвітлено зацікавленість проблемою розвитку музичних здібностей особистості вчених в контексті нейронауки, вплив емоційної сфери на сприйняття музики, формування музичних уподобань у дітей та дорослих. Розглянуто питання розвитку музичних здібностей та його вікових особливостей, їх структури, місце загальних здібностей у розвитку музичності. Стаття спрямована на систематизацію та розгляд теоретичних аспектів, що стосуються розвитку музичних здібностей особистості, вивчення сучасних теорій, узагальненні наукових підходів та поглиблення наукових досліджень у цій сфері. У дослідженні наводиться визначення поняття «музичні здібності» представниками різних галузей знань: психології, музикознавства, музичної педагогіки, а також їх класифікація. Надається характеристика музичності як особливої психічної функції та поняття синтестичної природи музичності. Доведено, що музичність впливає на розвиток особистості, роблячи її більш цілісною та збалансованою, сприяючи розвитку різноманітних аспектів: інтелектуальних, емоційних, соціальних та творчих. Зазначається, що музична обдарованість людини базується на сенсорних музичних здібностях, основними з яких є музичний слух, відчуття ритму та музична пам'ять. В статті розглядається питання розвитку музичного слуху - найважливішої сенсорної музичної здібності, розвиток якої пов'язаний з високим рівнем психічної еволюції людини. Проаналізовано ряд наукових досліджень про сприйняття музичного ритму, розглянуто питання розвитку відчуття музичного ритму у дітей. Наведено визначення поняття музичної пам'яті як окремої музичної здібності, описано її класифікацію, функціонування, види у взаємозв’язку; наголошено на необхідності постійного тренування для її розвитку та покращення. Окремо розглядається поняття музичного мислення та музичної уяви, яке віддзеркалює аспекти когнітивної та творчої активності у музиці. Зроблено висновки про розвиток музичних здібностей як універсального інструменту розвитку особистості.

Ключові слова: музичні здібності, розвиток особистості, музичність, музичний слух, ритм, музична пам’ять

The article discusses various aspects and provides a theoretical analysis of research on the development of musical abilities and their impact on personality psychology. Several studies point to potential mechanisms underlying the development of musical skills and the influence of music on brain activity. The interest of scientists in the problem of developing musical abilities in personality is highlighted within the context of neuroscience, the influence of the emotional sphere on music perception, and the formation of musical preferences in both children and adults. The article examines the issue of musical ability development and its age-specific characteristics, their structure, and the role of general abilities in musical development. The article aims to examine and systematize the theoretical aspects related to the development of musical abilities in individuals, to study contemporary theories, to consolidate scientific approaches, and to deepen research in this field. The research provides definitions of the concept of "musical abilities" by representatives of various fields of knowledge: psychology, musicology, music pedagogy, as well as their classification. A characterization of musicality as a special mental function and

the concept of the synesthetic nature of musicality are provided. It has been proven that musicality influences personality development, making it more integrated and balanced, fostering the development of various aspects: intellectual, emotional, social, and creative. It is noted that a person's musical giftedness is based on sensory musical abilities, the main ones being musical ear, sense of rhythm, and musical memory. The article examines the issue of developing musical ear - the most important sensory musical ability, the development of which is associated with a high level of human mental evolution. A number of scientific studies on the perception of musical rhythm are analyzed, and the development of a sense of musical rhythm in children is discussed. The definition of the concept of musical memory as a separate musical ability is provided, describing its classification, functioning, and interrelated types. Emphasis is placed on the necessity of continual training for its development and improvement. The concept of musical thinking and musical imagination is separately examined, reflecting aspects of cognitive and creative activity in music. Conclusions are drawn regarding the development of musical abilities as a universal tool for personal growth.

Keywords: musical abilities, personality development, musicality, musical ear, rhythm, musical memory.

Formulation of the problem. In contemporary society, which is constantly undergoing socio-economic changes, the task of instilling genuine human values and ideals in the youth becomes extremely important. According to the Law of Ukraine "On Education," the main purpose of education is the comprehensive and harmonious development of personality aimed at enhancing the moral and intellectual potential of society. The interaction of people with art and through art is one of the most powerful factors influencing the formation of fundamental psycho-physical aspects of personality, such as intellectual, emotional-sensory, and volitional aspects. In particular, music, as an integral component of culture, has a significant influence on shaping the spiritual image, states, and traits of personality.

Analysis of recent research and publications. The issue of developing musical abilities and their impact on personality psychology encompasses various aspects studied in the fields of psychology, musicology, musical psychology, and neuroscience. Several studies reflect significant interest in exploring musical abilities from a neuroscientific perspective and indicate potential mechanisms underlying the development of musical skills and the impact of music on brain activity. Theoretical analysis of the issue of developing musical abilities in the context of neuroscience interests many researchers. Here are some scientific works that address this topic:

1. Guillermo Carvajal, Rocío González-Castro, Sergio Pozo, Juan Silva-Pereyra, Lorena Rocchi, Cristián Modroño. "Neuroeducation and music. Toward a multisensory approach" - In this paper, the authors discuss the impact of music education on brain development and cognitive functions, utilizing an approach that considers the complexity and multisensory nature of musical learning.

2.Isabelle Peretz."The Cognitive Neuroscience of Music"- research on the interaction between music and the brain from various perspectives, including cognitive psychology, neuroscience, and music therapy.

3.Petri Toiviainen, Sylvie Nozaradan, Bruno L. Giordano, Elvira Brattico."Neurocognition of music: a model for interactive neural mechanisms", Virginia B. Penhune, Nadine Gaab."The Effects of Musical Training on Structural Brain" - These articles discuss models and theories that explain how music influences the brain and cognitive functions.

4.Robert J. Zatorre."Music and the Brain: The Neuroscience of Music and Musical Appreciation"

In this book, the authors explore the neuroscientific aspects of musical perception, development, and creativity.

Neurobiologist and psychologist A.L. Arismendi, along with psychologist S. Atanasova-Vukova,[1,134] researched the emotional response of a child to music even before birth, tracing the correlation between music and the development of the emotional sphere in fetuses and newborns.

The study of musical abilities and the search for methods of their formation and development have been conducted by both Ukrainian pedagogues such as M. Leontovych, E. Pecherska, O. Rostovsky [7, 248], O. Radinova-Sadovenko, and K. Stetsenko, as well as by foreign scholars including E. Jaques-Dalcroze, Z. Kodály, M. Montessori, K. Orff, and S. Suzuki. Researchers have demonstrated that musical abilities influence the development of aesthetic perception of the world, creative potential, thinking, memory, imagination, emotional sphere, and cognitive activity, contributing to the formation of general culture.

The significance of emotionality in the process of developing musical abilities has been studied by various scholars, including S.I. Naumenko [6,103], B. Liuban-Płocza [4,200] , T.I. Naumenko, and others.

They studied the influence of the emotional sphere on the perception of music, the formation of musical preferences, and the development of musical abilities in both children and adults. The main principles of sensitive periods in the development of musical abilities are elucidated in the works of Edward Gordon, Lilia Berk, Lorenzo Tortora, Irina Katyuzhanska, Anna Dzjadziuk, and others. Many scientists, both domestic and foreign, have traced intellectual processes within the structure of musical abilities, such as thinking, musical memory, attention, and musical imagination. Some of them include Olena Pryadko, Christoph Sischka, who studied the issues of musical abilities and their impact on the development of intellectual processes. Additionally, researchers like Sergiy Stadnyk [10] and Rafael Reves have explored the relationship between musical activities and the development of cognitive functions. These scholars, along with many others, have investigated how musical activity influences the development of various cognitive functions, such as thinking, attention, memory, and creativity. Their observations contribute to a better understanding of the relationship between music and cognitive processes.

Contemporary Ukrainian researchers such as O. V. Koval [3,22], Svitlana Morenets, Lyudmila Taranenko, Irina Klochkova, and Natalia Shulgina have explored the issues of musical abilities and their impact on personality psychology. These authors in the field of music psychology and education have studied musical abilities in children, issues of music psychology and pedagogy, including aspects of developing musical abilities. However, the question of the development of musical abilities and its age-specific features, their structure, and the role of general abilities in the development of musicality remain insufficiently researched. Therefore, the choice of the topic for our research, "Theoretical analysis of the problem of developing musical abilities of personality," is justified by the relevance and insufficient development of this issue.

The purpose of the article. The aim of the article is to systematize and examine theoretical aspects related to the development of musical abilities of personality. The article focuses on studying modern theories and approaches to understanding this problem, analyzing key factors influencing the formation of musical abilities, and substantiating and summarizing scientific approaches to the issue of musical abilities development to support and deepen research in this field.

Outline of the main material. The issue of identifying and developing musical abilities attracts the attention of representatives from various fields of knowledge: philosophers, psychologists, physiologists, educators, music educators, and musicologists. O. Rostovsky notes: "Studying the experience of music education from ancient times allows us to understand the laws of music pedagogy, the driving forces of the development of children's musical and creative abilities." [8,22]

Musical abilities are the psycho-physiological characteristics of an individual that determine their capacity to perceive, understand, perform, and create music. Researchers from various scientific fields have different approaches to defining this concept. Below are some definitions of musical abilities from different scholars:

Howard Gardner, an American psychologist, believed: "Musical abilities are the capacity for perceiving, producing, analyzing, and expressing music." His colleague, also an American, Carl Simons, noted: "Musical abilities are skills and capabilities related to understanding and performing music, arising from a combination of genetic predispositions and the environment." Robert Sternberg viewed musical abilities as the capacity to generate, understand, and perform music, which includes the ability to perceive rhythm, melody, harmony, and express musical ideas clearly. German musicologist Heinrich Hertz referred to musical abilities as "a combination of personal, intellectual, and motor skills that enable a person to successfully perceive, analyze, perform, and create music."

Ukrainian scholar and educator M.D. Yarmachenko regards musical abilities as "individual psychological characteristics of personality, including auditory sensitivity that determines the analysis of natural, speech, or musical sounds, and emotional reactions to them." [11,331]. These definitions reflect various aspects of musical abilities and the understanding of their essence by scholars in the fields of psychology, musicology, and other disciplines.

The main musical abilities include musical ear, sense of rhythm, and musical memory. These abilities are developed through constant practical activities such as listening to music, performing, and composing. Musical abilities can be classified into sensory (related to perception) and intellectual. The former includes musical ear and rhythmical sense, while the latter includes musical memory, intellect, and perhaps musical imagination. However, the presence of musical abilities, even high ones, does not always indicate a person's ability to successfully engage in musical creativity or music analysis. Understanding music as a phenomenon requires not only a combination of musical abilities but also a special mental function, which at the beginning of the 20th century was termed "musicality." Various researchers, such as

K. Sishor and R. Reyes, have viewed musicality differently: from a combination of individual abilities to understanding it as a holistic quality of personality. Modern science considers musicality as the integration of emotional and intellectual foundations developed through the mastery of musical art. Although the essence of musicality remains a subject for further research, it differs from basic musical abilities and has its own characteristics. At the core of musicality lies synesthesia - the ability of the human psyche to form inter-sensory associations. For instance, when a person listens to music, they may envision visual images, experience emotional reactions, feel movements or tactile sensations reflecting the rhythm of the music, or even perceive certain physiological responses such as changes in heart rate or breathing. The synesthetic nature of musicality emphasizes that music is not just auditory information but a complex phenomenon that interacts with various aspects of human experience and functioning. The concept of the "synesthetic nature of musicality" indicates that the perception of music and musical performance involves not only auditory aspects but also other sensory, emotional, cognitive, and physiological processes. The main idea is that music influences all aspects of perception and personal experience, including visual perception, tactile sensation, emotional reactions, as well as the level of cognitive functions. Studying music contributes to the development of cognitive skills such as attention, concentration, memory, and reasoning. Performing musical tasks, such as playing an instrument or learning notes, can improve motor skills and coordination. Music lessons influence the emotional development of individuals: music can evoke a wide range of emotions, from joy and ecstasy to sadness and longing. It helps people express their feelings and understand the emotions of others. A profound appreciation of music can also stimulate the development of emotional intelligence. Group music lessons or performances can foster unity among people, creating a sense of community and promoting social interactions, as well as the development of communication skills, cooperation, and mutual understanding. Engaging with music encourages people to think creatively and express themselves. Creating music or interpreting it in one's own way can foster imagination, originality, and inventiveness. Listening to music can be an effective means of relaxation and stress reduction, providing individuals with resilience.

Research in the field of musicality attracts the attention of scientists from around the world. Renowned international and domestic scholars have dedicated their work to studying this issue:

Gary E. McPherson (Australia). His research focuses on musical development in children, factors influencing music education, and musical achievements.

Susan Hallam (Great Britain). The impact of music education on cognitive development and social integration.

Ellen Winner (USA). Specializes in the psychology of art and investigates differences in musical abilities among children.

John Sloboda (Great Britain). His research focuses on the psychology of music, particularly the study of musical expertise and creativity.

Ukrainian researchers: H.I. Dvorskyi and S.H. Chepiga are studying the influence of music on the personality of schoolchildren and the peculiarities of its perception by six-year-old first graders.

Zavalko K. V. [2,161], Semizorova V. V. [9,68.], actively research issues in music pedagogy and the development of musical abilities in children; Vyatkha I. specializes in music psychology and music education, including aspects of musicality.

Therefore, musicality influences the development of personality, making it more integrated and balanced, promoting the development of various aspects of intellectual, emotional, social, and creative abilities.

Musical giftedness in individuals is based on sensory musical abilities. These sensory musical abilities encompass a wide range of perceptual experiences through various sensory organs and subconscious processes, enabling individuals to perceive and react to musical impressions. The most crucial sensory musical ability is musical perception. Unlike biological hearing, musical perception involves reacting to various aspects of musical art, such as the characteristics of musical sound, means of musical expression, musical structure, and so forth. The development of musical perception is linked to a high level of human psychological evolution, and it is shaped through voluntary efforts and educational activities.

For the development of musical perception in children, the use of solfeggio (a system of musical notation that includes notes, intervals, chords, and rhythmic patterns) and folk melodies is essential. Solfeggio enables children to learn fundamental musical concepts such as notes, rhythm, intervals, and chords, laying the groundwork for a deeper understanding of musical structures and their relationships.

Studying folk melodies allows children to explore the diversity of musical styles and traditions, expanding their musical horizons and enriching their musical experiences.

The use of absolute ear training aids in developing a deep understanding of music and cultivating a high level of musical perception. Absolute ear training is a process of learning music that involves recognizing notes, intervals, chords, and melodies without the use of written notation. It helps to develop abilities in perceiving harmony, rhythm, and tempo in music. This method of music education is focused on enhancing musical perception and understanding of sounds.

Musical perception and its development are influenced not only by the environment and education but also by genetic factors. However, the genetic aspects of musical perception are not fully understood. Some genetic factors that may influence musical perception and its development include:

Heredity: Research suggests that a propensity for musicality may be hereditary. Certain genes may affect the level of musical talent or the ability to learn music.

Neurological characteristics: Individual variations in brain structure and function may also have genetic roots. For example, some individuals may have enhanced abilities to distinguish sounds and melodies due to specific features of their brain activity.

Genetic mutations: Rare genetic mutations may lead to exceptional musical talents or, conversely, to various musical disorders, such as amusia (the inability to perceive music).

Heredity of auditory perception traits: Some individuals may have a hereditary predisposition to certain aspects of auditory perception, such as high sensitivity to intonation, rhythm, or harmony.

Interaction of genetics and environment: It is important to note that genetics is not the sole factor influencing musical perception. The environment and external factors, such as education, exposure to music, and cultural influences, also play a significant role.

Overall, musical perception and its development represent a complex synthesis of genetic and environmental factors. Genetics may influence initial predispositions and abilities, but the development of musical perception occurs through the interaction of these genetic factors with the surrounding environment.

Analyzing scientific research on the development of musical perception in children will contribute to a better understanding of this process and the identification of teaching strategies and approaches to its enhancement. Below are key studies and theories in this field:

Zoltan Kodály's theory emphasizes the importance of using solfeggio and folk melodies for the development of musical perception in children, focusing on active musical experiences from an early age.

Schindler's theory, focused on absolute ear training, suggests the possibility of developing musical perception in all children, similar to language acquisition in early childhood.

Research by Isabelle Peretz reveals the genetic aspects of musical perception and its development.

Ukrainian scientists are also actively engaged in studying the development of musical perception in children:

Natalia Chernishenko investigates the effectiveness of music teaching methods in children and their impact on musical perception.

Olena Hirnyk studies the influence of music education on cognitive functions in children, particularly on musical perception.

Iryna Fedorova actively tracks the correlation between music education and language development in children. Her work highlights the importance of a musical environment in stimulating auditory perception and developing communicative skills.

Maria Reznichenko studies the impact of music education on the psychological development of children, particularly the development of musical perception and the emotional sphere.

Thus, it can be argued that the improvement of musical perception is associated with the development of cognitive abilities in humans.

Musical rhythm perception is part of sensory musical abilities and is related to a general sense of rhythm inherent in all processes in the world - from cosmic rhythms to the internal biorhythms of living organisms, but it has its own peculiarities. Reaction to musical rhythm manifests through active muscular contractions, including vocal cords and external body muscles. Musical rhythm encompasses not only the concept of time but also dynamics, tempo, and rhythmic density.

The sense of musical rhythm relates to those fundamental musical abilities that, as practice shows, begin to develop early, at a subconscious level. Rhythm perception is the ability to distinguish, understand, and feel rhythmic structures in music. A. Bentley notes that a child reacts to rhythmic elements of music already with their first immediate response to sounds of maternal singing or any musical instrument, such as a violin or piano. The rhythmic elements of music encourage a child to engage in bodily movements, initially nonsystematic, which later synchronize with the "pulse" of the music. By the age of 2.5-3 years,

children develop simple rhythmic concepts, while for older children, rhythm becomes a key element in music perception; they perceive melody and harmony less effectively. Carl Orff, in creating his system of music education for children, considered rhythm as the "primary element" of musical perception. He quickly established contact with children who had insufficient musical development by using rhythm, combining word, music, and movement in special integrated exercises. There is also information suggesting that children react differently to proposed musical-rhythmic tasks. This indicates that children encounter various challenges related to performing different fragments of musical rhythm, and that the components of musical abilities gradually emerge in the development of each child according to their ontogenesis. Thus, the complex structure of musical rhythm corresponds to a complex sensory ability that gradually forms during ontogenesis.

The issue of developing musical rhythm in children attracts the attention of many researchers both in Ukraine and abroad. Here are a few examples of such researchers:

Ukrainian scientists:

Oksana Huttsak - a musicologist specializing in music pedagogy and the development of musical abilities in children, particularly in the rhythmic aspect.

Svitlana Morenets - conducts research on the use of musical games and exercises for developing rhythmic skills in children.

Foreign scientists:

Laurel Trainor (Canada) - studies the process of musical rhythm development in children, as well as the impact of music education and experimental research on rhythm perception in children of different ages.

Susan Hallam (Great Britain) - specializes in music psychology and music education, including studying the influence of music education on the development of rhythmic skills in children.

Eckart Altenmüller (Germany) - investigates the neurophysiological aspects of musical rhythm development in children, particularly the impact of music education on brain activity.

Renee Timmers (Netherlands) - conducts research on musical development in children, including rhythmic development in early childhood and the influence of musical environment on rhythm perception.

These scientists, along with many others, are engaged in researching the development of musical rhythm in children, which contributes to deepening our understanding of this process.

Musical memory. For a long time, musical memory was not considered as an independent musical ability. Such a viewpoint can be found in the book of the English pianist and researcher of musical memory issues, L. MacKinnon, who believes that "there is no such thing as musical memory as a separate kind. What is usually understood as musical memory is actually the cooperation of various types of memory possessed by every normal person - it is the memory of the ear, eye, touch, and movement" [5,152]. Modern science is increasingly inclined to the idea that musical memory, which is a component of general memory, is actually a separate musical ability. It is a property of the nervous system to store and reproduce the experience of interaction specifically with musical images. Memory transforms what is heard, and upon subsequent listening, enhances this experience. Musical memory has two forms: as knowledge (recognition) of music and as the ability to reproduce it vocally or perform it on a musical instrument. Thus, musical memory is divided into two categories: cognitive - auditory (lower level) and reproductive - performance (higher level). Both levels are interconnected. Musical memory is classified and functions according to the same principles as general memory, and it is studied within its categories. The principle of association plays a key role in its functioning, based on the connection: the more associations, the better the memory works. Musical memory can also be divided into stages: encoding, storage, retrieval (recognition), and recall. The process of forgetting is also important for it, as an excess of musical information can overload memory. At the core of the functioning of musical memory (as well as general memory) lies the engram - a functional change in the cortex of the brain. The engram persists throughout life because it is a biochemical process. Musical education helps organize engrams, but an excess of engrams can be detrimental to memory, so forgetting is a natural protective mechanism. During the forgetting process, the engram does not disappear but rather transitions into the subconscious. Similar to general memory, musical memory can be divided into involuntary and voluntary, immediate and mediate. It can also be classified according to various criteria: by phenomena, by types (operational and long-term), by levels (from listener's to performer's), and by types (logical, imagery, emotional, motor, visual, and auditory). However, practically all types of musical memory are interconnected, and the dominance of any type depends on the specific musical composition and individual psychological characteristics. In terms of its characteristics, musical memory is divided into reproductive - mechanical and reconstructive - creative. Reproductive memory, typical for

children up to 5-6 years old, is associated with the first signal nervous system. It is characterized by rapid memorization, the integrity of information assimilation, and short-term storage in memory. Reproductive memory does not involve creative processing of information, and reproduction can only be "verbatim", without errors, from beginning to end. From a younger school age, reproductive musical memory gradually gives way to reconstructive musical memory. Creative (reconstructive) memory is associated with the activity of consciousness, manifested in the ability to analyze, synthesize, and reproduce experience. Memorization becomes slower, but enriched with understanding, and the memorized piece can remain in memory for a long time. Gradually, as the child grows older, reproductive memory works less and less intensively, but never completely disappears. Therefore, in practice, both types of memory work together. Knowing the age-specific features of memory, one should guide the process of memorizing music. Musical memory is subject to development, and continuous training is necessary for its improvement.

The concept of musical thinking and musical imagination reflects aspects of cognitive and creative activity in music. Musical thinking, or musical intelligence, manifests itself in the ability to form musical images in one's mind. It is divided into two categories: reproductive and productive. Reproductive thinking is associated with the perception, reflection, analysis, and evaluation of existing music. It requires complex logical operations such as analysis and synthesis, as well as comparative characteristics. Hence the use of the terms "thinking" and "intelligence". Productive musical thinking involves creating fundamentally new musical images. As practice has shown, both reproductive and productive thinking develop in both the listener and the performer during the process of musical education. Therefore, musical thinking contributes to stimulating all mental processes, but particularly positively influences the development of heuristic qualities, thinking, and imagination. Musical imagination is closely linked to musical thinking and manifests in the psyche's ability to correlate musical images with extramusical scenes, states, or other musical works. The development of musical imagination is spurred on one hand by musical ideas, sourced from memory, and on the other hand by both musical and non-musical associations, as well as diverse experiences: life experiences, literary works, artistic expressions. Training the imagination contributes to the activation of both musical memory and auditory imagery.

These abilities have a deep psychological basis, as they are regulated by specific areas of the brain.

Research by scientists from various countries underscores the importance of studying musical abilities for understanding the process of personality development and for refining methods of education and upbringing. Music plays a role as a universal tool for personality development, promoting the development of emotional intelligence by effectively regulating emotional activity and the ability to manage one's own emotions.

Conclusions and Prospects for Further Research. In summary, based on the views of scholars regarding musical abilities, it can be considered that musical abilities are a relatively stable integrative combination of individual psychological characteristics of personality. Therefore, the task of synthesizing the achievements of scholars from various fields - psychologists, neuroscientists, educators, ethnopsychologists, art historians, cultural experts, physiologists - is important. Thus, in contemporary theory and practice of music education, the problem of developing musical abilities of personality should become one of the priority directions.

References

[1] Atanasova-Vukova, Syia. Vъzmozhnost za pesne pry detsa ot 1 do 3 hodiny. Nauchny trudove. − t.VII. − Sofyia. − 134 p. (in Bulgarian)

[2] Zavalko K. V. Osnovy orf-pedahohiky : navch. posib. Cherkasy : Cherkas. TsNP, 2013. 161 p. (in Ukrainian).

[3] Koval O. V. Formuvannia muzychnykh zdibnostei molodshykh shkoliariv na urokakh muzyky : avtoref. dys. … kand. ped. nauk : 13.00.02 / O. V. Koval. – Kyiv, 2002. – 22 p. (in Ukrainian).

[4] Liuban-Plotstsa B. Muzyka i psykhika. – K.: Vyd.dim “ADEF − Ukraina”, 2002. – 200 p. (in Ukrainian).

[5] Makkinnon Lilias Hra napamiat Seriia "Sekrety fortepiannoi maisternosti" anhl. Sokolova F. Klasyka-XXI, f-t 60kh88 1/16, 152 p. (in Ukrainian).

[6] Naumenko S.I. Osnovy vikovoi muzychnoi psykholohii / Ukr. tsentr tvorchosti ditei ta yunatstva. – K., 1995. – 103 p. (in Ukrainian).

[7] Rostovskyi O.Ya. Pedahohika muzychnoho spryimannia. Navchalno-metodychnyi posibnyk. – K., 1997. – 248 p. (in Ukrainian).

[8] Rostovskyi O.Ya. Teoriia i metodyka muzychnoi osvity : navch.-metod. posib. Ternopil : Navchalna knyha «Bohdan», 2011. 640 p.(p.22) (in Ukrainian).

[9] Semyzorova V. V. Vykorystannia systemy «elementarnoho muzykuvannia» Karla Orfa v osvitnomu protsesi doshkilnoho navchalnoho zakladu. Ternopil : Mandrivets, 2014. 68 p. (in Ukrainian).

[10] Stadnyk S. Sutnisna kharakterystyka muzychno-tvorchykh zdibnostei osobystosti http://oldconf.neasmo.org.ua/node/836 (in Ukrainian).

[11] Yarmachenko M. D. Pedahohichnyy slovnyk [Pedagogical dictionary] / Edited by M. D. Yarmachenko. Kyiv, 2001. 516 p. (in Ukrainian).

Рецензія отримана 7.06.2024