

Presentation date: June, 2022, **Date of acceptance:** August, 2022, **Publication date:** November, 2022

38

METHODS FOR THE DEVELOPMENT ARTISTIC AND IMAGINATIVE THINKING IN MUSIC STUDENTS: A COMPARATIVE ANALYSIS

MÉTODOS PARA EL DESARROLLO DEL PENSAMIENTO ARTÍSTICO E IMAGINATIVO EN ESTUDIANTES DE MÚSICA: UN ANÁLISIS COMPARATIVO

Natalia Anufrieva¹

E-mail: nata415485@mail.ru

ORCID: <https://orcid.org/0000-0003-4119-9805>

Marina Kruglova¹

E-mail: marisha.krug@mail.ru

ORCID: <https://orcid.org/0000-0001-5820-3378>

Denis Tsarev¹

E-mail: denistsarev@bk.ru

ORCID: <https://orcid.org/0000-0002-1340-9708>

Karine Merabova¹

E-mail: kmerabova@yandex.ru

ORCID: <https://orcid.org/0000-0002-9021-738X>

Aigul Gareeva¹

E-mail: gareeva.detyam@gmail.com

ORCID: <https://orcid.org/0000-0001-5518-3228>

¹Russian State Social University, Moscow, Russia

Suggested citation (APA, seventh edition)

Anufrieva, N., Kruglova, M., Tsarev, D., Merabova, K., & Gareeva, A. (2022). Methods for the development artistic and imaginative thinking in music students: a comparative analysis. *Revista Conrado*, *18*(89), 359-367.

ABSTRACT

The study examines and compares the associative method of perception and the audiovisual and problem-based learning methods from the point of their effectiveness in studying 20th-century music for the development of artistic and imaginative thinking. Study hypothesis. The indicated methods of learning show effectiveness in the development of artistic and imaginative thinking in the process of mastering avant-garde music styles given that the teaching methods are selected specifically for each style. The novelty of the study. For the first time, the paper compares different methods for the development of musical and imaginative thinking and determines the extent of their effectiveness in the development of sonarism, concrete, and aleatoric music of the 20th century. The practical significance of the study. The study provides methodological recommendations on the use of associative, audiovisual, and problem-based methods of teaching modern composition for the development of musical and imaginative thinking.

Keywords:

Music pedagogy, associative method, audiovisual technology, problem-based learning, perception of music, music analysis.

RESUMEN

El estudio examina y compara el método asociativo de percepción y los métodos audiovisuales y de aprendizaje basado en problemas desde el punto de vista de su eficacia en el estudio de la música del siglo XX para el desarrollo del pensamiento artístico e imaginativo. Hipótesis de estudio. Los métodos de aprendizaje indicados muestran efectividad en el desarrollo del pensamiento artístico e imaginativo en el proceso de dominio de los estilos musicales de vanguardia dado que los métodos de enseñanza son seleccionados específicamente para cada estilo. La novedad del estudio. Por primera vez, el artículo compara diferentes métodos para el desarrollo del pensamiento musical e imaginativo y determina el alcance de su efectividad en el desarrollo del sonarismo, la música concreta y aleatoria del siglo XX. La importancia práctica del estudio. El estudio proporciona recomendaciones metodológicas sobre el uso de métodos asociativos, audiovisuales y basados en problemas de enseñanza de la composición moderna para el desarrollo del pensamiento musical e imaginativo.

Palabras clave:

Pedagogía musical, método asociativo, tecnología audiovisual, aprendizaje basado en problemas, percepción de la música, análisis musical.

INTRODUCTION

One of the primary objectives in training music performers is the development of their special qualities and abilities that provide for their mastery in playing musical instruments. Of special significance among such abilities is musical and imaginative thinking, which ensures sensible and emotional perception of musical pieces, the content basis and expressive means of which are comprehended in the process of cognizing music through thinking and imagination. The artistic images, feelings, and experiences “encoded” in the combinations of sounds appear quite abstract to the listeners; what helps “decoding” and understanding them are associative links with specific phenomena and processes experienced by a person. Imagination as an attribute of musical and imaginative thinking involves the processes of comprehending and emotionally experiencing a musical idea or image associated with the instruments of musical language. This process is based both on auditory experience and its accumulation and on the flexibility of artistic associations tying the means of musical expression with the artistic idea and image based on the stereotypicality of life realities repeated in various situations. Thus, the depth of comprehension of a musical piece depends on the level of the development of artistic and imaginative thinking of music performers.

The process of comprehending a work of art, particularly musical pieces, is a process of enriching one's experience of the world, of certain cognition of the world via artistic images and their association with life realities (Ushaneva, 2009). Artistic and imaginative thinking is examined in our study as a complex personality formation expressed in the ability to reflect and later reproduce the experience of interacting with music as a factor in the enrichment of artistic experience and the development of artistic thinking, which ensures a higher quality of the interpretation of musical pieces in pianists. In this, we emphasize that artistic and imaginative thinking is an essential professional quality of future musicians as it constitutes the basis for creative activity (Oliynik & Umrikhina, 2020). The flexibility of a musician's artistic thinking is defined by the rapidity of stimulation of impressions and emotional reactions to the sound by means of matching various images, comparing them, analyzing the dramaturgy of their development through a variety of artistic methods and means. The accumulated experience with art and the enrichment of life experience are two interrelated factors in the development of artistic and imaginative thinking of a musician.

Thinking ensures the understanding of the artistic image, the artistic method, and the means of its disclosure necessary for a musician to interpret the works and play on an instrument expressively. Artistic and imaginative

thinking is the mental process of modeling artistic images and concepts of works aesthetically valuable to a society based on certain views, tastes, worldviews, and attitudes in the sphere of artistic creativity. Thinking becomes a kind of connecting link that unites all forms of art in a person's experience of communication with it: music, painting, choreography, theater, etc. The quality and depth of comprehension of musical images and the way a person's artistic thinking operates with them depend not only on their musical, general artistic, and aesthetic but also life experience.

The conducted work consists of several stages: preparatory (theoretical), experimental (practical), and final (evaluation of the research results and the formulation of conclusions). At the first stage, the specificity of artistic and imaginative thinking is determined and a theoretical review of the problems of its development in music students is conducted. It is revealed that students prefer to listen to and master the repertoire of the 18-19 centuries, while the music of the 20th century is avoided, not understood, rejected, and criticized. The review also sheds light on the problems faced by modern youth in mastering 20th-century avant-garde music due to the lack of interest and motivation (Aksenova et al., 2020), the complexity of language and means of expression (Pereverzeva, 2020), and the lack of appropriate teaching methods (Pereverzeva et al., 2020). Next, the methods of teaching music that have been researched so far are selected.

The second stage of the study involves experimental work on the evaluation of the effectiveness of three methods of teaching modern music in developing the artistic and imaginative thinking of musicians. The research is carried out through comparative analysis: three teaching methods were deployed in the process of students mastering the works of three different composition techniques: sonorism, concrete music, and aleatorics. The assessment criteria are determined and the levels of thinking development in the students participating in the experiment are identified. At the third stage, the results of the study are evaluated and conclusions are formulated.

The methodological basis for the study is formed by research in the spheres of the theory and history of contemporary composition, as well as psychology, pedagogy, and methodology. Musical and imaginative thinking as an ability is studied in the works of psychologists, musicologists, and musicians, as well as other authors. Among the methods for the development of musical thinking in musicians, we highlight the interdisciplinary approach utilized in the process of music performers studying compositions of the 20th century (Pereverzeva et al., 2020). The practice of art education actively uses the method of creating the

cultural context of an artistic image (Brova, 2016), which involves studying artistic images by “going beyond” music. This method not only reveals the closeness of the languages of different arts but also allows connecting objective knowledge with personal experience and information with the experience of this information. The method fosters personal meaning behind studying and reproducing the artistic images of music in student pianists.

The method of synchronous analysis of the artistic images of music involves comparing music with other forms of art in the context of “the style of the age” (Barash, 2011). In synchronous analysis, a major role is played by artistic style as the set of most prominent ideological and artistic peculiarities of the art of a particular era. Synchronous analysis ensures that a pianist student’s memory captures the regularities of the art aesthetics of a particular era, the consideration of its typical features, and the identification and reproduction of certain typical features in the performance. Diachronic analysis of a musical work is not tied to a particular artistic style. It involves comparing artistic images of music with images of other art forms based on “intercultural associations”. Such comparisons can be drawn between the musical images of Scriabin’s preludes and the portraits of I. Vrubel, the images of Debussy’s preludes and the poetry of K. Balmont, etc.

The associative method (Goriunova, 2015) activates a person’s imaginative thinking and emotional memory through associative links between the elements of musical language and specific phenomena and processes that are more easily comprehensible. This method is widely used in teaching music (Popova, 2017; Sanzheeva & Tan, 2020), yet it has never before been used in studying contemporary music and its effectiveness for the development of artistic and imaginative thinking has not been assessed. The audiovisual method was initially used in teaching languages with intense utilization of the means of visual and auditory demonstration, but in the 21st century, it began to be used in music pedagogy as well (Gorbunova, 2014), although it too has not been evaluated from the point of effectiveness in developing artistic and imaginative thinking of musicians. The technology of problem-based learning in music is based on students’ acquisition of new knowledge by solving problem tasks of both practical and theoretical nature (Tsarev & Bulkina, 2019). It is in this context that we define the methods for developing artistic and imaginative thinking.

The development of artistic and imaginative thinking of music performers, which is essential for creating one’s own interpretation of a musical piece, is achieved through analysis, imagination, comparison, and active cognition, which are ensured by the use of appropriate methods of

teaching and mastering musical works. Based on the fact that the search for associative links between the phenomena of reality and musical images, the engagement of all the senses in the perception of works of art, and the creation of problem situations that require finding solutions to complex problems are the factors that activate the cognitive musical and creative activity of students and actualize their knowledge, analytical skills, and the ability to see patterns behind individual facts, and thus develop artistic and imaginative thinking and memory, we set ourselves the goal to conduct a comparative analysis of the selected methods from the point of their effectiveness in the process of students’ study of contemporary music. From among the composition techniques of the 20th century, we focus on the ones most difficult to perceive and understand: sonorism, concrete, and aleatoric music.

MATERIALS AND METHODS

The conducted study deploys theoretical (analysis, classification, comparison, generalization) and empirical (student testing, participant observation, pedagogical experiment) methods.

Analysis was applied in the process of uncovering the essence of the object under study, artistic and imaginative thinking, to ensure its in-depth understanding. Artistic and imaginative thinking as a philosophical category presents an individual form of reflecting and reproducing objective reality in art from the standpoint of a certain aesthetic ideal (Ushaneva, 2009). The components of artistic and imaginative thinking are the mental processes of logic, memory, imagination, attention, associations, ideas, aesthetic sense, creativity, and volitional operations (self-control, criticism). The psychological and pedagogical conditions for the development of artistic and imaginative thinking are the emotional and creative factors, the problem-based approach, and the forms of classes that activate imagination and associative and imaginative thinking and expand students’ knowledge on the forms of musical expressiveness.

Classification is used in summarizing research on the methods for the development of artistic and imaginative thinking and selecting the ones most effective for mastering contemporary music, as no specialized methods have yet been developed for it specifically. Comparison of the methods and the results brought by them allows summarizing the accumulated pedagogical experience and identifying issues in the development of artistic and imaginative thinking, particularly through 20th-century music, the potential of which in this process is not utilized due to the lack of appropriate learning methods. It is also found that the existing learning methods have not been assessed from the point of their effectiveness for the

development of artistic and imaginative thinking on the material of avant-garde compositions.

The empirical methods deployed in the experimental part of the study include testing music students with listening to audio tracks to assess the level of artistic and imaginative thinking development; participant observation of students in the process of studying contemporary music with different teaching methods, as well as a teaching experiment involving the use of three teaching methods to compare and evaluate their effectiveness in learning the music of the 20th century (the testing, observation, and experiment involved 54 music students of different specialties – pianists, vocalists, violinists, cellists, flutists, trumpet players, etc.). The study examines and compares the associative perception method and the audiovisual and problem-based learning methods from the point of their effectiveness in mastering music of the 20th century to develop artistic and imaginative thinking. The study hypothesizes that the aforementioned methods of teaching are effective in the development of artistic and imaginative thinking in the course of studying avant-garde music styles under the condition of the teaching methods being selected appropriately for each style.

RESULTS AND DISCUSSION

To assess the level of artistic and imaginative thinking development in the students participating in the experimental study of the effectiveness of different teaching methods, a survey of student musicians in the form of auditory and written testing is conducted. The testing includes listening to fragments of the works of 20th-century composers and questions allowing to determine the level of students; understanding of contemporary music styles and the means of expressiveness of 20th-century music. The audio materials include fragments of works by B. Bartók, P. Hindemith, B. Britten, E. Varez, G. Cowell, C. Stockhausen, and other 20th-century composers, 20 tracks in total, including sonorism, aleatoric, electronic, and concrete music. The criteria of developed thinking are identified as the ability to react emotionally to music with complex melodic, rhythmic, and harmonic language, describe the emotions expressed in music and evoked by the sound, and identify the artistic image and the author's concept of the piece. These abilities are of professional importance for music performers and their presence indicates the level of development of a musician's thinking, which allows them to interpret avant-garde music and perform it at a high artistic level.

The testing results are presented in Table 1.

Table 1. The results of the experiment participants' testing to determine the level of development of artistic and imaginative thinking.

abilities	high level	average level	low level
the ability to react emotionally to avant-garde music	35%	33%	32%
the ability to describe the emotions expressed in music and evoked by the sounds	21%	35%	44%
the ability to describe the artistic image of a work of art	20%	34%	46%
the ability to identify and formulate the author's concept of the work	14%	28%	58%

Having summarized the four indicators, we obtained the following levels of development of artistic and imaginative thinking of music students participating in the experiment: high – 22.5%, average – 32.5%, low – 45%. The results of testing show that the students have a level of thinking development insufficient for their further professional activity, as well as an unsatisfactory level of knowledge of contemporary music, thus, the next step of our study is a pedagogical experiment focused on applying and evaluating the effectiveness of teaching methods.

The choice of teaching methods

The analysis of scientific literature and the conducted participant observation indicate that the greatest effectiveness in the development of artistic and imaginative thinking is demonstrated by methods stimulating creative thinking, the problem-based learning method, and the use of audiovisual technologies. These methods stimulate cognitive skills via various processes of operating with artistic images (Pereverzeva, 2020). Encouraging students to explore the essence of artistic images of music and create their own imaginative and semantic interpretation provides for the activation of their creative search through expanding the musical and artistic knowledge based on the relationship between the emotional and rational aspects of musical image interpretation.

Pedagogical practice shows that listening to electronic works by K. Stockhausen, piano opuses by P. Boulez, ensemble compositions by S. Gubaidulina, aleatoric works by J. Cage, and orchestral works by G. Ligeti without explanations, comments, or even analytical discussion causes misunderstanding, an emotionally neutral attitude, as well as many questions about the essence, message, and meaning of this music (Pereverzeva, 2015). After the presentation of historical and theoretical material, most students remain indifferent to these materials. However, when students engage in the analysis of music involving

the associative method of perception, when they search for associations – specific phenomena, feelings, and processes that correspond to the title of the musical work, its expressive means, etc., – they reassess the opuses in question, start to understand the emotional and figurative content of music, and form their own attitude toward it. This is evidenced by students' judgments about contemporary music, which demonstrate their emotional responsiveness and the ability to articulate a figurative and substantive concept.

Pedagogical experiment

The 20th century has brought about new sound systems, such as dodecaphony, sonorism, and aleatorics, yet the new techniques are put by composers at the service of conceptual content, as well as expanding the possibilities of linguistic means, which become an obstacle to understanding contemporary academic music. The new manner of writing of the 20th-century composers is a new organization of music in time and space, new images and concepts formed in the mind of the author under the influence of world events, scientific discoveries, and creative achievements of contemporary artists. Hence the new techniques of writing and unusual thematic material, with which modern music students and pedagogical university faculties have difficulties.

One of the 20th-century composition techniques difficult for the ear is sonorism – the music of sonorities that is not devoid of intonational, and thus semantic and figurative content. Meanwhile, sonorism often relies on aleatorics – a free organization of material in the course of performers' improvisation guided by the model established by the author, therefore, such music lacks any signs of traditional classical-romantic composition, conventional melody and harmony, causal logic of dramaturgical development, etc. An example of a work that the students were able to comprehend by courtesy of the associative method is "Lontano" by György Ligeti (1967). The title of the work translates as "distant," "remote," "obscure," and "indefinite". Defining the character of the music in such words is too superficial. The concept of the work is much deeper and more serious. To test the effectiveness of the associative perception method of perception, the teacher provided for the students to listen to Ligeti's work independently before the lecture devoted to it. Of course, the students looked in the dictionary and read the translation of the title of the piece, but before the lecture, they could not understand what image was embodied and what meaning the composer put into the words "remote", "distant", and "indefinite". Even more "strange" for the students was the technique

of composing and the special nature of the deployment of sounds in time – a kind of "aimless movement".

The fact is that in contemporary music, particularly in Ligeti's work, a new attitude towards time has taken shape, which has lost its typically classical-romantic linear orientation, as if closed in a circle, slowed down (Pereverzeva, 2014). What becomes the characteristic principle of the organization of the work is "mental time" with its strangeness, failures, apparitions, periods of uncertainty. This is a sort of reflection of the concept of entropy in music. The irreversible dissipation of energy is counteracted by orderliness. In his works, Ligeti pays the most attention to the "harmony of colors" – the sound itself, its consistency, color, and dynamics. Abstract painting with its attraction to the beauty of spatial objects, lines, planes, volumes, the development of the idea of "color for the sake of color", "the architecture of color", its free play and dynamics can serve as an analogy. At the heart of Ligeti's sonorism is "pure sound" liberated from an a priori grammatical system, just as abstract painting is liberated from objectivity.

Since the goal of the study is to assess the effectiveness of methods for the development of musical and imaginative thinking by comparing them, the sample of participants (54 people) is divided into three subgroups of 18 students, each of which is taught in accordance with one of the three selected methods while mastering the same pieces: "Lontano" by D. Ligeti (sonorism), "Birdsong" by E. Denisov (concrete music), and "Music of Change" by J. Cage (aleatorics). Below we present the examples of the application of associative, audiovisual, and problem-based methods of thinking development on the material of avant-garde music.

After listening to Ligeti's "Lontano" ("Far away"), students in the first group studying based on the associative method were asked a question of what phenomena, processes, and sensations they might have compared the play of sounds in the studied work to. The students reported such word associations as "sonic chaos," "sound mass," "flow," "hum," "meditation," "dwelling," and "stain". Then, the students were proposed to find the common ground for these word associations. That was sound elevated to the rank of a self-valuable category that governs the entire hierarchy of relationships in a piece of music. The thing most difficult for the music students was to comprehend sonority as a style of composition with peculiar material that generates images and emotions unusual for the aural perception of students who mostly studied classical-romantic music in schools and colleges.

Sonorism views sound as a phenomenon of independent artistic value, which leads to the formation of specific

whole sound complexes that cannot be divided into smaller units. Such sound objects can have varying configurations and densities and be placed in space sequentially or simultaneously obeying the natural forms of vertical and horizontal relationships. Another question prepared for the students is what system is sonorism similar to. The answer to this is the cosmos, the universe. What associations do these concepts evoke? The answer is chaos and harmony, the interaction of elements, the movement of planets, clusters of stars, and nebulae, huge masses of cosmic bodies...

On repeated listening, students likened the sound masses of Ligeti's "Lontano" to the elements of the universe and followed their movements, changes, and transformations. This is how audial perception of sonorism music should be. If the work is not associated with the embodiment of the image of the universe in the sounds, then the layering of uniform lines, the number of which exceeds the limits of auditory perception of the texture, as well as the very "colorless" lines almost devoid of any expressive intensity of intonation, cannot be perceived by students properly, remain misunderstood, and cause a negative reaction on the part of the learner.

By virtue of the associative perception method, the students were able to understand what images Ligeti's "Lontano" carries and what artistic concept the author captures in his work: it is the image of the birth of the universe when in the beginning, there emerges a certain sound construct, an elementary particle (individual tone), which then gradually covers more and more space, reaches its climax, and then slowly goes out just as a new universe is born, develops, and disappears.

In the second student group. Ligeti's "Lontano" was studied by means of the audiovisual method, which involved the sound sequence being accompanied by a video imitating space flight to distant galaxies, similar to one of the episodes of the movie "Contact" by R. Zemeckis (1997). To no surprise, the students easily described the "flow" of sounds, their expansions and thickening, the collisions of galaxies, etc. As a result, the students proposed that the complex textural organization of the work was due to the composer's visual-spatial ideas – the compression and stretching of sound similar to the compression and dispersion of cosmic matter, as well as, surprisingly, the mixing of colors and the intersection of lines in the works of abstractionist painters. Thus, participants in the second group discovered the close relationship between Ligeti's sonorism music and abstract painting of the second half of the 20th century. The synaesthetic connections of Ligeti's works to the paintings of Kandinsky, Mondrian, and Klee are multidimensional and are realized at the level of

parallel compositional elements and even artistic images (the students detected a correspondence between the paintings of these artists and the character of the sound of the play).

The students of the third group were given a problem task while listening to "Lontano" – they had to fill out a table of the expressive means used in the work including its dramaturgy, texture, intonation, dynamic, rhythm, and, as a result, image. Not all students coped with the task and were able to characterize the means of expression, but in the subsequent collective discussion, several participants voiced their results, and the general characteristics presented in Table 2 were formulated.

Table 2. Characteristics of the expressive means in Ligeti's "Lontano".

dramaturgy	everything is fluid, ambiguous, elusive light is quickly replaced by darkness - darkness is just as elusive as light
texture	micropolyphony, polyphonic canon melodic lines consist of different timbres - invasion of "foreign" elements in the fabric (chords of the three trombones, woodwind and brass, three French horns performing the cadence function)
intonation	"colorless" - characteristic motif with a descending minor second
dynamic	- amplification of the sound by registering and thickening the sound
orchestration	real winds and "ethereal" strings (flageolets) - dips in the low register and rises in the high register
rhythm	- "floating" rhythm with "erased" metrical accents
image	the absence of imitations and direct imaginative associations - the image of a "sonic" mirage, a "ghostly" sound

As a result of completing the problem task, the students in the third group concluded that Ligeti embodied the "pictorial" idea of branching, the division of cells in a living organism, the "spatial" idea of approach and distance, expansion and contraction similar to the refraction of time and space in A. Einstein's theory (Pereverzeva, 2021).

When studying another work, "Symphony for One Man Alone" by P. Henry and P. Schaeffer (1951), the first group of participants in the experiment was offered the task to find associations to the obscure sounds in the piece. This symphony can evoke no less strong emotions than a classical piece, however, its music material is knocking on the door, strange banging, shrieks, scraps of dialogue, etc., evoking all sorts of associations. Most students do not perceive the Symphony as music that has a serious concept behind it, therefore, using stimulating methods of music cognition was necessary to "launch" the process of the analysis of music with complex language and the

development of artistic and imaginative thinking. The origin of the taped and processed environmental sounds is uncertain, and therefore needs to be connected to more specific phenomena familiar to the students. The students discovered a relationship between the sounds of "Lontano" and film music in such genres as thriller, horror, and psychedelic drama, whose sonic palette is often of paramount importance compared to the visual side of the film.

The second group was shown a video of a choreographic composition by M. Béjart to the music of the Symphony, in which almost every element of concrete music – environmental sounds and noises recorded on tape – was accompanied by expressive movements "commenting" the rustling of leaves, the creaking of doors, the clacking of heels, and the noise of street transport. "All effects and no content", – the students said at first. However, upon closer examination of the dancer's movements, the experiment participants noticed the method of contrasting images and experiences, a sudden slowing down and speeding up, an illogical sequence of movements similar to the events in a dream. Every evening, before we go to sleep, the images and sounds of the day go by, and in our sleep, they mix and turn into a medley of incoherent phenomena and processes. The Symphony illustrates this strange, distorted reality that presents itself in one's mind. This – a dream after a busy day – was the concept of the work formulated by participants in the second group. In the light of this concept, the students gained a clearer understanding of the artistic images of the work and were able to offer different versions of its interpretation.

The third student group was completing a problem task when listening to the "Symphony for One Man Alone": they were asked to select illustrations matching the industrial noises in the work, which they only perceived by ear, and to make collages of them. After that, the students had to invent titles for their collages; the resulting names were "Parallels and Intersections," "Dramatic Collisions," "Sound Flow," "Paradoxes," "Playing with Reality," and so on. Then the experiment participants were proposed to formulate the author's concept of the Symphony by adding to their own titles the words characterizing the sound of concrete music. As a result, with the teacher's assistance, the students formulated the philosophical concept of Schaeffer and Henry's opus as follows: at the heart of the work lies the fundamental principle of play in every sense of the word: play with reality, play with the noises of the environment, and play as a way of organizing art and life.

The same three methods for the development of artistic and imaginative thinking were used in the first, second,

and third groups of students in the process of them studying Cage's aleatoric piano cycle "Music of Change".

In the course of the experimental study, the proposed methods were introduced in work with three student groups to assess their effectiveness and compare the outcomes. At the end of the experiment, the second round of testing similar to the first one was conducted; the students listened to the fragments of unfamiliar works of 20th-century composers that were similar in terms of style and images to the ones studied in classes as part of the experiment. Significant changes can be observed: the number of students at the high level of artistic and imaginative thinking has risen from 22.5% to 46% in the first group, the prevalence of the average level increased from 32.5% to 34%, and the share of the low level reduced from 45% to 20%. In the second group, the percentage ratio of the levels is similar: 42%, 32%, and 26%, respectively. In the third group, the learning outcomes are more modest: 34% of the students demonstrate the high level, 38% are at the average level, and 28% are at the low level.

Interpretation of the experimental study results and pedagogical observation provide for the following conclusions:

1. The associative method activates a person's imaginative thinking and emotional memory by means of associative links between the elements of musical language and the specific phenomena and processes that are more easily comprehensible. Studying the effect of the associative method, we conclude that it is capable of developing artistic and imaginative thinking and visual, aural, tactile, and emotional memory, which allows tying the elements of musical composition to specific phenomena and processes. This gives students with little experience of listening to avant-garde music the opportunity to better understand what artistic images constitute the content basis of music and what emotions it expresses since metaphors are what stimulates artistic and creative thinking. Mental operations of comparison underlie the judgments on the similarity or difference of images, helping students to understand and interpret them. Goriunova (2015); and Popova (2017), arrive at similar results and conclusions in their study.

2. The synaesthesia induced by audiovisual technologies is an important aspect of the development of artistic and imaginative thinking, as it actualizes the experience of personal and sensual artistic impressions, entails the uniqueness of specific sensual individual perception of artistic images, and provides for the emotional richness of their reproduction. It stimulates comprehension of the multidimensionality of the musical image and contributes to the completeness of its experience in the unity of the conscious and unconscious. The feelings arising as a

result of the translation of the musical language of an artistic image into the artistic expressive means of other arts provide the opportunity to grasp the essence of an image through sensual comparison of its various characteristics. The emergence of associative impressions of the affinity of the artistic languages of different types of art is ensured by the method of drawing artistic parallels: intonation of the musical image is compared with the plasticity of choreography; the harmonies and timbre of the music are correlated with the dynamics of the structural elements of the painting, the nuances of light and color. As noted by Gorbunova (2014), *“such comparisons, analogies, artistic parallels focus students; attention on the essence of the content of an artistic image and help them acquire the experience of aesthetic perception, evaluation, and comprehension, which actualizes artistic and imaginative thinking”* (p. 456)

3. The problem-based method also activates the experience of interaction with the musical images of pieces. However, solving complex analytical problems requires a certain level of artistic and imaginative thinking development, which is exactly what allows students to operate with their knowledge of music history and theory, the forms of analysis of musical material, and the skills of searching for new conceptual solutions. The development of artistic and imaginative thinking in the process of aural perception of music in comprehending the essence of artistic images implies sensual and not intellectual understanding of the nature of sound, which is ensured not by problem-solving but by the emotional experience of music. Zaets (2019), emphasizes that *“the creative performance activity of the musician-performer involves specific musical and imaginative thinking, which is an attribute of the functioning of the artistic thinking of the individual as the ability to recognize and subsequently reproduce the experience of interaction with music and enrich the auditory and analytical skills, which provides for high-quality interpretation of musical works”* (p. 121)

Thus, the problem-based method proves to be not as effective in the study of avant-garde music. The adequate perception of the artistic image of a work within the problem-based approach lacks associative sensual ideas or subjective effects of integration of the visual, aural, and tactile sensations assisting artistic and imaginative thinking, whereas the previous two methods do provide them. Similar conclusions are made by Pereverzeva (2014, 2021), in her evaluation of the methods for analyzing stochastic and algorithmic music. The emotional factors dominate the perception of music. For instance, Wright & Palmer (2020), prove the importance of psychological and behavioral factors in playing a musical instrument,

particularly the ones affecting tempo changes. Aksenova et al. (2020), also note that comprehending avant-garde music calls for a comprehensive approach integrating the capabilities of hermeneutics, semantics, and semiotics, and Pereverzeva et al. (2020), point to the interdisciplinary approach to the methodological support of musicians' training.

The study identifies the conditions for maximum effectiveness of the examined methods for the development of performers' thinking. First, the effectiveness of the methods depends on them being introduced into the pedagogical process in advance, before the topics associated with avant-garde music. Second, it is more expedient to utilize them in seminars, when learning takes place primarily in the form of dialogue and discussion between the teacher and students. Third, it is advisable to deploy these methods after presenting and explaining the theoretical material, because the complex language of avant-garde works requires close examination, as supported by the conclusions of Aryutkina (2020). Fourth, the associative method should be alternated with audiovisual technologies and the problem-based learning method for the activation of both rational and emotional mechanisms of perception.

CONCLUSIONS

The conducted experimental study shows that the highest effectiveness in the development of artistic and imaginative thinking of music performers in the process of studying avant-garde music is demonstrated by the associative and audiovisual methods, whereas the problem-based learning method brings more modest results. In addition, the experiment demonstrates that each method effectively promotes artistic and imaginative thinking when applied in studying a specific style of music: the associative method is more suitable for sonorism music, the audiovisual method pairs well with concrete music, and the problem-based method is more effective for aleatoric music.

Thus, the study has reached its main goal – three methods of training for the development of musical and imaginative thinking in music performers are evaluated from the point of their expediency. The associative and audiovisual methods are adapted to modern composition, practical classes with students based on these methods are conducted, and the reasons behind the obtained results are identified. A novelty is the implementation of the associative method specifically for studying avant-garde musical pieces created in the techniques of sonorism and aleatoricism, which are difficult for aural perception.

The limitations of the study can be attributed to the fact that in the second round of testing, the students were applying already mastered “models” of conceptual and figurative content, as well as associations and visual analogies already familiar from the works studied. This, however, is the exact way new music is comprehended – based on available knowledge, experiences, sensations, and ideas. Moreover, the present study used three methods in studying musical pieces in three different techniques, which leaves open the possibility of other types of techniques requiring other pedagogical approaches.

The results of the study can find their application in pedagogical practice and be implemented in contemporary music courses for the students of pedagogical departments and universities of culture and art. At the same time, it is expedient to conduct a comparative analysis of the capabilities of other methods that actively influence students' thinking, such as interactive teaching methods, multimedia technologies, and electronic educational resources.

REFERENCES

- Aksenova, S.S., Kruglova, M.G., Ovsyannikova, V.A., Pereverzeva, M.V., & Smirnov, A.V. (2020). Musical hermeneutics, semantics, and semiotics. *Journal of Advanced Research in Dynamical and Control Systems*, 12(S3), 779-784.
- Aryutkina, A.N. (2020). Communicative component of professional competence of a musician-performer. *Vestnik of Samara University History pedagogics philology*, 26(4), 38-43.
- Barash, L.A. (2011). Synchronous and diachronic profiles of the dialogue of cultures in contemporary painting and music. Historical, Philosophical, Political and Legal Sciences, Culture Studies and Art Criticism. *Issues of Theory and Practice*, 5-4(11), 24-28.
- Brova, T.P. (2016). On the problem of creating an artistic context in the music class. In, *Muzykalnaia kultura i obrazovanie: innovatsionnye puti razvitiia: materialy I mezhdunarodnoi nauchno-prakticheskoi konferentsii*. Yaroslavl State Pedagogical University named after K.D. Ushinsky. Yaroslavl.
- Gorbunova, I.B. (2014). Audiovisual synthesis: history, current state, prospective significance for musical theory and practice. *The world of science, culture and education*, 6(49), 456–461.
- Goriunova, S.A. (2015). The associative method of perception as a method of teaching literature and the Russian language. In, *Aktualnye voprosy obucheniia russkomu (rodnomu) iazyku*. Mezhhregionalnaia konferentsiiaRyazan State University named after S.A. Yesenin.
- Oliynik, T., & Umrikhina, O. (2020). Features of the formation of student musicians performing culture in higher education institutions. *Collection of Scientific Papers of Uman State Pedagogical University*, 1, 145-151.
- Pereverzeva, M.V. (2014). music: the philosophical aspect]. *Philosophy and culture*, 7(79), 954-963.
- Pereverzeva, M.V. (2015). *Summary of a doctoral dissertation in art history*. oscar State Tchaikovsky Conservatory.
- Pereverzeva, M.V. (2020). The works of contemporary composers in the teaching repertoire of the music institutions: mastering problem. *Contemporary Problems of Social Work*, 6(4(24)), 29-35.
- Pereverzeva, M.V. (2021). *Theory of modern composition: algorithmic music: textbook*. Russian State Social University Publishing House.
- Pereverzeva, M.V., Anufrieva, N.I., Kats, M.L., Kazakova, I.S., & Umerkaeva, S.S. (2020). Interdisciplinary approach to the mastering of the music of the 20th century. *Journal of Advanced Research in Dynamical and Control Systems*, 12(S3), 772-778.
- Popova, S.V. (2017). Khudozhestvenno-obraznye assotsiatsii v protsesse obucheniia igre na fortepiano [Artistic and imaginative associations in the process of learning to play the piano]. *Symbol of science: international scientific journal*, 1(1), 216-218.
- Sanzheeva, L.V., & Tan, S. (2020). The method of intermodal associations in music education of students of pedagogical universities. *Human capital*, 5(137), 153-158.
- Tsarev, D.V., & Bulkina, E.V. (2019). Problemnye metody obucheniia v protsesse osvoeniia muzyki XX veka [Problem-based learning method in mastering the 20th-century music]. *Scientific notes of the Russian State Social University*, 18(1(150)), 68-75.
- Ushaneva, I .S. (2009). [The concept of artistic and figurative thinking in aesthetics, psychology, pedagogy. *The Humanities and Social Sciences*, 3, 50–60.
- Wright, S. E., & Palmer, C. (2020). Physiological and Behavioral Factors in Musicians' Performance Tempo. *Frontiers in Human Neuroscience*, 14.
- Zaets, V.M. (2019). Specific aspects of professional thinking of musician-performers. *Culture and arts in the educational process of the modernity*, 3(47), 121-142.