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Enhancing Professional Competence of Future Vocal Teachers through Analyzing Current Music Culture: the Neuroaesthetic Outlook

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Abstract: *The article attempts to comprehend the latest achievements in such a field of neuroscience as neuroaesthetics, which analyzes the nature of music and musical creativity through the prism of ontogenetic features of the human brain. Using numerous examples it is shown that the key ideas of neuroaesthetics in general correspond to the spirit of Kantian a prioriism, reinterpreted in current terms of cognitive neuroscience; an attempt is made to justify the necessity of increased attention to the urgency of updating the professional training of vocal teachers, revealed the ideal structure of the competence of a vocal coach on the basis of systematized by him views of different experts, as well as proposed to make individual principled emphasis on a comprehensive study of trends in current musical culture by students; as a conscious and purposeful familiarization with such, in his view, is an essential element in the system of today's professional competence. The personal and professional characteristics that every future vocal coach should possess are revealed in great detail; the special importance of each of these components of success in competing in the pedagogical labor market is emphasized.*
In addition, key features of the dissemination of musical information in today's society, the impact of network technologies on the specialized training of teachers and recipients, the formation of the technological basis of vocal and sound culture aesthetics of academic singing of the future teacher are highlighted. As a conclusion, further, more in-depth study of the raised problems is proposed, since it is not sufficiently developed at the scientific level.

Keywords: *Musical art, academic singing, professional and pedagogical culture, neuroscience, neuroaesthetics.*

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Introduction

This research is highly significant since future vocal teachers must have a superficial knowledge of the diversity of current music styles, notwithstanding that some of them may be mindless or even antagonistic to culture.

The primary role of novices is to sift through information and discern what is valuable from what is not; and then, when they assume the responsibility of a teacher, to teach their charges how to make sensible decisions with the information they receive.

The distinctiveness of professional training for future vocal teachers is apparent in music, necessitating the engagement of most cognitive capacities, and musical exercises result in a remarkable enhancement of several neural systems. This applies to those neural networks that provide language activity, and therefore training in music will be useful. In general, music lessons improve the cognitive abilities of both children and adults, which, in particular, is reflected in an increase in their IQ. There is an opinion that any creativity in the field of art has a common source, which is set by the ontogenetic features of the human brain that determine the aesthetic experience.

The study of theoretical and practical aspects of the formation of vocal-sound culture as the basis of future professionalism of the teacher has been engaged in both foreign researchers and domestic.

Starr (2013) proves that research into the cognitive mechanisms of scientific cognition and artistic creation are generated by aesthetic experiences, prompts the question of their community and a kind of unity of growth points.

With the existing differences in the interpretation of the concept of "pedagogical culture", many authors (Monakhova, 2019; Skivko, 2021; Popovych et al. 2012), it is understood as an important part of the general culture of the teacher personality, manifested in the system of his professional qualities and the specifics of pedagogical activity. As a way of realization of social experience in mastering the pedagogical reality.

According to scientists Voytik (2019), Shapovalova (2015), Chernova (2015), the professional and pedagogical culture of a music teacher has its own specifics. It is essential for music teachers to possess a vast range of methodological, artistic, musical and aesthetic knowledge in addition to general and pedagogical culture for a successful professional and pedagogical culture.

Valuable studies of foreign scholars. Agarwa & Thakur (2014) prove in their research papers that vocal-performance training of future music teachers takes place in different forms of singing and has a pedagogical orientation. According to Iqbal et al. (2017), in the development of performing practice and singing pedagogy is a problem in teaching voice production, and so they give recommendations on how to achieve optimal results in mastering the singing art.

This article aims to illustrate neurobiological mechanisms of musical aptitude development, stress the importance and role of qualifications in connection with the investigation of today's musical culture in the structure of a vocal teacher's professional competence. Thus, it seeks to explain the significance of this part of specialist education, how it relates to other areas and the impact of factors, especially technologies, on the success of the specialist.

The research methodology involves an explanation of the neurobiological processes of formation of musical abilities; study of the competence structure of the vocal teacher from the perspective of the neurobiological approach; presentation of the experience of forming the technological basis of the vocal-sound culture of neuroesthetic academic singing future teacher and communication strategies for formation and development of the vocal-sound culture of the music teacher.

To achieve the goals of the study, methods of critical analysis and synthesis of scientific and methodological sources, system analysis, descriptive and predictive methods, method of generalization of the obtained results - induction and deduction, traductive method were used.

Neurobiological processes of musical ability formation

Apparently, musical abilities are formed and begin to manifest visibly at certain stages of brain and intellectual development until approximately one year of age. For infants in the first months of life, music and are not differentiated according to speech or musical sound; they can only respond to prosodic information. Even in early infancy, the human brain does not respond as much to music as it does to cheerful and meek voices, whether they are clothed in musical or linguistic form. It is no coincidence that lullabies have similar acoustic features in many cultures, with the lullaby genre being uniquely human.

In people with a formal musical education, areas of neural network activity are more localized than in those who have not studied music. Children's exposure to music, or even passive exposure to Western tonal music, also contributes to the formation of these kinds of localized networks in the brain.

Music is always directly related to motor activity, dancing. Children's ability to respond with movement to music appears by the end of the first year of life, and in adult music is known to be often accompanied by dance and ritual activities. Movement to music is naturally woven into the lives of all peoples, regardless of what that people understand music to mean and what musical rhythms they prefer. Suitable feelings of pleasure are inspired by sound, as are physical movements. From a neurobiological point of view, movement is caused by the so-called mirror neurons of the brain, which are disturbed when observing an action; apparently, these neurons play an important role in language learning and open up possibilities of empathy, a kind of empathy. They are indirectly accompanied by the production of oxytocin in the process of enjoying music, dancing activities and/or in the highest form of mental concentration - for falling into trance. Natural languages and music appear to be linked by some implicit correlative relationships. A particular language sets a certain angle of perception of music and features of musical creativity (Bazhanov, 2015).

Research in the neurophysiology of a choreographic artistic and cognitive practice - dance - supports this hypothesis and proves to be very useful for studying cognitive processes of the brain and thinking in general. Despite the fact that dance is a fundamental form of human expression, neurophysiology has traditionally paid less attention to it compared to music, for example.

The results of the research, in which functional magnetic resonance imaging of the brain of the subjects of choreographic artistic and cognitive practice was performed, allowed us to consider dance as a union of the representational capacity of language and the rhythmicity of music. The brain serves well as a neural metronome, a kind of conductor: it receives many sensory inputs from the auditory, visual and somatosensory vertical systems (this is necessary in order to be able to adjust movements to various signals, from sounds to visual stimuli and touches) and contains a sensorimotor reflection of the whole body. The activity in the medial cranial body of the subcortical structure of the brain was specifically related to synchronization, and not just to listening to music. This discovery allowed scientists to formulate an assumption, according to which during unconscious subordination of rhythm the auditory information gets directly to the cerebellum, bypassing higher levels - auditory areas of the large hemisphere cortex.

Neurobiological perspective on the expertise of future vocal teachers

A teacher's professionalism encompasses activities such as methodological and psycho-pedagogical. Nonetheless, individuals in this sector of employment, during the post-industrial/information era of social development, are challenged with the imperative of actively and dynamically integrating key elements of professionalism, such as information and communication skills, as well as musical abilities.

Musical abilities are natural and most likely unique properties of the human brain, which are the result of its long evolution. They are related to the phenomenon of the so-called implicit memory, which turns out to be the most important tool in mastering and operating in language. In the brain, naturally (i.e. from nature, from birth), by the nature of the subject's activity, and in the process of life and his cultural environment, certain "modules" responsible both for speech, language acquisition, and musical abilities are formed. Finally a set of such modules provides vital functions of living organisms, Bazhanov (2015). These systems include cognitive modules (neurodynamic archetypes), which, generally speaking, are designed to fix objects falling into the field of vision of the body; specific actions of the body; to quickly realize the number of objects - "number sense"; to provide orientation in space; to communicate with immediate partners and realize the difference between "us" and "others" ("us" versus "them").

Neuropsychologists express a belief that any complex kinds of material and spiritual activity, including musical activity, are built on the basis of these rather simple systems (modules).

To remain competitive in the labour market, today's teachers must demonstrate an information competence. It also denotes their success in establishing a rapport with the up-and-coming generations.

Essential components of information competence necessitate expertise in socio-informational aptitudes, which requires a circumspect way of dealing with the latest information technologies and media outlets, instead of uncritical trust. Additionally, cognitive competence, exemplified through a commitment to continuous self-development, the ability to independently acquire new knowledge and skills, is equally important.

The notion of "trend", a concept which has been largely promoted by many in the business and coaching realms, is relevant to the field of music too, as it encompasses more than just financial or purely commercial aspects. It is reasonable to interpret a trend as a phenomenon which has a notable sway on the typical lifestyles of people in today's society, the techniques and approaches of their socio-cultural interactions, the characteristics of scientific

and technological advancement and a considerable influence on the political and economic elements of society (Voytik, 2019).

Apart from this fundamental meaning, the stakeholders are able to designate the core attributes, the succession of major alterations and the general condition of a specified pattern with the assistance of the "trend" concept.

Today's music culture trends are composed of the most popular genres (both in traditional and more eclectic forms), styles and celebrated artists, as well as certain themes, ideologies and creative interpretations. If one wants to sufficiently train a performer, regardless of the type of performance they pursue in the future, it must be taken into consideration that any artist in some way acts as a channel for an artistic idea in each of their pieces; whether it is a vocal performance, a theatrical scene, a dance or a musical composition. Enhancing an artist's performing skills involves the integration of their training with the study of cutting-edge performance techniques, tactics to emotionally affect the audience, methods of self-control and stress resistance and the growth of a unique character.

Nevertheless, none of the above can be achieved without an academic and personal fascination with such a sociocultural setting, formed by the efforts of all students who strive to become professional vocalists. Becoming aware of oneself and one's strivings in the continually developing present-day culture, despite the various degenerative strategies employed by showbiz businesspeople (Klabukova, 2018), will grant one the knowledge of one's identity and individual traits.

Paring down from the vast array of learned musical and other material, and pinpointing those paradigms that are essential to any performance, are the primary objectives that vocal teachers must impart to their students (Ferris & Bannon, 2002).

Examining musical culture trends as a vital aspect of professional competence

Most of today's students have already developed preferences and inclinations, usually expressing different favourite authors and artists from both the classical vocal realm and the prevailing sociocultural milieu. It is therefore understandable why they would be eager to take extra classes to enhance their skills to better prepare for future teaching roles (Popovych, 2012).

The following are some of the most important elements of professional training for future vocal teachers:

1) singing accompanied by an instrumentation that is most recognizable and spiritually significant to them;

2) group and solo planned learning of arias from musicals;

3) musical aptitude (both solo and collective) based on the works of prominent figures, during class hours that do not disrupt the primary curriculum.

Applying the methods of celebrated expert vocalists and incorporating particular criteria of comparison provides students a rare prospect to isolate the most advantageous of the studied systems and engage in remarkable and advantageous vocal work. Bearing in mind that there is no all-encompassing approach to teaching, it is necessary for future teachers to cultivate their own style, selecting those approaches that allow them to express themselves most effectively.

As noted by Shapovalova (2015), numerous students seek to gain comprehensive understanding of the approaches used by renowned authors from both ancient times and today by taking an elective or specialized course.

In light of the current socio-cultural reality, the vocalist's performing arsenal must include a vast selection of techniques and methods.

Without a systematized foundation of theoretical knowledge, it is unfeasible to refine professional training of future vocal teachers and amplify their competence. In this regard, a thorough and exhaustive analysis of the list of traditional and today's vocal technique authors, a close examination of their professional and personal experience and the documentation of the approval of their techniques in corresponding fields of work are of the utmost importance.

In order for the training process of highly qualified specialists in music education and vocal performance to be responsible, it must adhere to present-day requirements of professional competence. One of these requirements is the comprehensive and sufficient artistic, cultural and general development of potential vocal teachers in today's society.

Analyzing hindsight must go hand-in-hand with considering the musical trends of today, no matter the conservatism of a vocal teacher's views and tastes. This is critical, as graduates will need to navigate the sociocultural space they enter and strive to make it better.

Nowadays, students aspiring to become vocal teachers should concentrate on evaluating systematically the factors that affect the historical-theoretical and practical components of vocal artistry. It is imperative that they acquire the capacity to objectively evaluate the cultural and historic importance of various musical genres. They must also be able to accurately analyze, unify and classify the achievements of notable voice trainers and musicians (Matuga, 2004).

Furthermore, emphasis should be laid on the fact that a vocal work is, to a certain extent, a conglomeration of its time, style, genre and the individual manner of performance of its artist. As students progress through their studies, they should cultivate a scientific and pedagogical sensitivity and attentiveness, having a subtle awareness that musicians are the ultimate source of musical knowledge. A highly talented vocal teacher can decipher the intricate relationship between poetic words and a musical score, perceiving in vocal expression a space of intense emotion, the quintessence of all the vital forces and the performers' intuition.

The growth of future teachers' aesthetic awareness is a critical factor in unleashing their creative and pedagogical capacities. Their unique experience can be imparted to the next generations with utmost motivation when they take a mindful approach to the performance.

According to Mead (1963), an evolved outlook, comprehension of new musical trends, genuine aesthetic curiosity, expressed through the comparison of multiple musical genres, and sophisticated taste act as a symbolic beginning in the arrangement of educational and creative pursuits and in the shaping of future teachers' singing culture.

For this reason, it is essential to foster the growth and enhancement of these qualities. As is known, a broad variety of aesthetic interests, artistic requirements and preferences to a great extent encourages intellectual and inquisitive as well as imaginative activity of students.

Students should not only reserve a personal space of aesthetic interests, but also monitor its content, activity, steadiness, information saturation and level of expression.

This sphere serves as a medium to show pedagogical skills and spiritual-creative capabilities. In addition, it is essential to emphasize that vocal teachers serve as intermediaries bringing together the composer's realm of knowledge and the student population. To guarantee the successful completion of the relevant tasks, specialists in this domain need to be proficient in correctly replicating intonation and delivering the performance accurately.

Intonation as a vital tool for artistic and emotional expression carries within it a formidable cultural and informational substance, a concentration of different methods of emotionally and artistically engaging with the audience, one of the most pivotal methods of conveying motivational and value orientations. In vocal art, intonation is a necessary amalgamation of human language, consciousness and contemplation. The accurate realization of the composer's intended tone allows for the recognition of the most essential messages of musical pieces through the musical hallmarks found in each of them.

A vocal teacher's professional culture should include the comprehension of current musical trends as a crucial component. This ability is directly associated with the basic understanding of theory and practice, acquired in the classroom, and with the requirement to uncover the special personal capabilities of novices, which defines the main aims of their professional culture as a whole (Medvid, 2016).

Today, professional attributes of vocal teachers constitute a complex combination of their broad cultural knowledge and specialized skills, encompassing awareness of trends. Nevertheless, they should not only be acquired from a technical perspective, based on purely formal criteria. One must be highly educated as it is essential to continually uncover fresh aspects of one's admiration for music and those who perform it, sense them and value the loveliness they make.

The following essential parameters should be taken into consideration when summarizing the main elements of vocal teachers' professional competence:

1) actualizing one's personal culture through artistic and meaningful inflections of music;

2) techniques unifying vocal knowledge and abilities in the harmony of intonational and figurative understanding, as well as skills in genre and style recreation;

3) imaginative and expressive interpretation of performance;

4) using artistry as a way to identify oneself mentally while creating one's own works and perceiving the works of others;

5) reflecting in a professional manner;

6) being able to empathize with different performers and using this skill in the psychology of their students.

Evidently, a today's vocal teacher's expertise is multi-faceted and involves a fusion of intellectual, practical and creative components, depicting the intricate bond between general cultural knowledge, professional proficiency and talents, all of which are imperative for successful performance (Nurgayanova, 2010).

The second set of competencies for future vocal teachers is fairly straightforward, yet very intricate and structured. This signifies technical proficiency, which requires a range of expertise, abilities and capacities of students in the domain of computers and other technologies to be able to track down, sort, organize, save and transfer the pertinent data on specific investigated musical cultural trends on a real-time basis.

At this point, one should also acknowledge the use of "Big Data" technology products since they are becoming increasingly widespread in

today's music industry. In this day and age, with students having access to computers and updated technologies, the data at their disposal allows them to not only evaluate the "top" of the Ukrainian and foreign pop in different rankings but also register feedback from listeners and their direct musical tastes, in real-time.

It is logical to follow the development of musical trends by making use of "Big Data" provided by streaming services such as "Spotify", "Pandora", "iHeartRadio" and many others (Voytik, 2019).

Using "Big Data" today, both teachers and their students can identify up-and-coming artists and create innovative methods for cultivating listener loyalty (should vocalists aim to progress in the music industry, not only in the teaching world).

By being an adept and capable user of "Big Data" technology, one can obtain real-time, organized, pre-processed facts about the amount and quality of audience purchases of music tracks, albums, tickets to diverse concerts; concerning what people listen to, download and think about their idols due to Internet technologies.

Undoubtedly, the major downside of relying on such technology to extend one's knowledge is that it offers only a portion (albeit a noteworthy one due to the prolific use of web-based platforms for the sharing of music products) of the data regarding musical preferences of the population.

The remainder of the population is not accessible to the Internet, due to the age of certain individuals (the elderly) and their traditional upbringing, which renders them to use other products besides online ones. Some sections of the population almost never tune in to radio stations (which are now logged by Internet communication providers), however on occasion they indulge in nostalgia for past classics and play vinyls, audio cassettes, "reels" or CDs they bought in the past. At the same time, the benefits of such people are already visible and fail to align with the trends, even though the number of retirees or young enthusiasts of the stylization of the Soviet and the first post-Soviet life could be substantial. Therefore, teachers should consult data from pertinent sociological studies to grasp the extent of this isolated or sometimes isolated segment from the Web (Iqbal et al., 2017).

In the 21st century, the advantages of accessing music culture, especially due to the abundance of Internet rates, have become increasingly attractive to even the elderly.

Adding to the complexity is the fact that the information of various "official" hit parades is unreliable. Indeed, one can observe the same degree of manipulation as in political elections. Certain video platforms that host music videos, concert recordings and other interesting material have been

known to have "scams" (such as "likes", comments and seemingly random positioning of certain works on the homepage).

Consequently, future vocal teachers should be able to collect and compile information from multiple sources (including engaging people in conversations about their musical likes and passions) (Ferris & Bannon, 2002).

Formation of the technological basis of the vocal-sound culture of neuroaesthetics of academic singing of the future teacher

There is a notion of musical "modus" in domestic art history, which can be regarded as the nearest equivalent of the neurocognitive module relating to the limbic and paralimbic systems of the brain that control emotion. The musical "modus" is actually a musical and linguistic structure that generalizes and "fixes" the psycho-emotional states established as historical and cultural types and norms. Such a musical module is an expression of a neurodynamic cognitive archetype, a specific state, for which a certain socio-culturally identified constant, determined by a certain ethnic and cultural atmosphere, is historically fixed. The role of such a constant is played by musical intonation. Bazhanov (2015) argued that "speech intonation and often musical intonation are branches of one sound stream". Bazhanov (2015) proposed the notion of "intonational vocabulary of an era," referring to a certain sphere of meanings of intonations that appeared or surpassed a certain era in style, genre, ethnic traditions. For example, the descending intonation of groaning, questioning, affirmative, fanfare have meaning in the established tradition. The similarity of musical and speech intonations is manifested in the presence of reference sounds, in the location of the main reference sound in the lower register of the vocal range, the alternation of wavy rises and falls of pitch motion with descending motion as a result of semantic expression. Musical intonation is akin to speech and grammatical rules - the presence of pauses, caesurae, question-and-answer structure, etc. The upward strains of attenuation going downward are a characteristic technique of intonational utterance.

The criterion of aesthetic tradition of academic singing, which is considered separately and independently from the sound of the voice, as a system of indicators is developed and successfully used in the pedagogical process in assessing the results of vocal training. Essential in this approach is the development of the skill of auditory analysis of one's own performance according to parameters not distorted by subjective perception (phoneme shape and vibrato characteristics).

The analysis of the property of singing, rather than the property of the sound, develops the ability to state an evaluation of both one's own and another's performance, argumentatively and within the framework of a very serious conceptual apparatus adopted. An approach to evaluation based on the criterion of the aesthetics of singing is a sign of the professional competence of the critic and teacher (Nurgayanova, 2010).

From the practical point of view, the formation of the technological basis of the aesthetics of academic singing includes the skills of aural perception, analysis and aesthetic evaluation of vocal art phenomena within the European academic opera-concert cultural tradition and the skills of practical singing activity. They must be formed in accordance with the qualitative criterion of this tradition, called by V.V. Emelyanov the criterion of aesthetics of academic singing (hereinafter - CAAS).

The concept of "vocal culture" does include many components, such as "school", "style", "tradition", "aesthetics", "vocal hearing" and others. But it needs formalization, precision of definition. Especially, when the education of vocal culture needs to be effectively implemented in a limited time (according to the curriculum, 140 hours). If the voice production, that is the vocal technique or technology of vocal formation, can be formed with the help of techniques, methods, methods, then the formation of vocal culture can be implemented in the same way (Popovych, 2012).

Consequently, it is necessary to determine the technological basis of the vocal culture of the singer, the skills of which should be formed in parallel with the skills of academic vocal formation at the initial stage of training of a music teacher.

In vocal-pedagogical practice it is difficult for students to learn so many indicators and it is difficult to apply them. In order to introduce the indicators at the initial stage of training, they were adapted and reduced to the optimal number of "Singing Rules". Azuma (2017) also developed a technology to put them into practice.

The "Rules" system is a verbal model that describes the aesthetics of academic singing. Matching singing to this model brings it closer to academic aesthetics, which is especially important for the initial stage of work with students. The system of "Rules" is also a means of precise formulation of the task, concentration of students' attention on concrete actions and components of singing, regardless of the level of training of the student in the development of the voice. Some components of "Rules" need to be mastered at the initial stage of training in parallel with the development of the voice (Matuga, 2004):

1. "Glissando" - sliding connection of tones (portamento), absence of "aspiration" between degrees, vowels or their sequences, compositions with consonants.

2. "Open" composition - carrying over and joining the last consonant or group of consonants in a composition to the next vowel.

3. "Active" pause - establishing the maximum volume and form of the vowel before the beginning of phonation, maintaining it at the moment of removal of the vowel, before the vowel preceding it, after the pronunciation of the last consonant (before pause, caesura or inhalation). The mouth must not close at the time of the withdrawal, pause, and inhalation.

4. Equivalence of vowels is the minimization of the differences in the singing process that are characteristic of linguistic vowels.

5. "Stable" vowel - the constancy of the vowel with respect to form, volume, tone strength, and characteristics of the singing tone over the duration of the tone.

6. Masked vowel articulation - the minimization of articulatory movements.

7. Correct and active pronunciation of consonants - pronouncing consonants at the pitch of the next vowel or the preceding vowel at the end of a phrase.

8. Soft attack of the loud beginning of a word, phrase, after a pause.

9. Silent rapid inhalation with both nose and mouth at the same time.

10. Removal of a vowel by silent inhalation before a pause, at the end of a phrase.

Formation of the sum of skills in accordance with the listed "Rules" and their observance leads to aesthetic perfection, and violation - to the distortion of the academic manner of singing (Kholopova, 2014).

Thus, for the concept of "vocal culture of the teacher" in its technological aspect, the following definition is proposed: the technological basis of vocal culture as a component of the holistic singing process is the sum of signs (indicators), fixed in the tradition of performance and preserved in the art of outstanding singers, allowing to distinguish the aesthetics of academic singing from other types of vocal music and from the process of sounding speech.

During learning activities, the formation and practical mastery of auditory analysis skills occurs in the following activities:

1) during their performing activities (as knowledge, performance, and control);

2) during testing of classmates in classroom activities, reporting performances (as knowledge and evaluation);

3) when testing specially selected audio and video materials of vocal art phenomena (as knowledge and evaluation).

In the teaching process, the following problems are solved with the use of the "Rules":

- the given system of indicators becomes a verbal model describing the technology of the aesthetic tradition of academic singing or the "zone of admission", the stay in which ensures the singer's belonging to the academic aesthetics;
- the metrics become the working language of communication in evaluating the aesthetic qualities of the singing process;
- in the process of teaching, the system of indicators becomes a means of precisely formulating the task and of concentrating the student's attention on specific observable objects and elements of the technology of singing;
- many of the technology elements embedded in the indicators are mastered with the most modest and limited vocal data, including at the initial stage of learning for students of all ages.

The CAAS indicators or "Rules" system are used in the pedagogical process as a tool for objectively assessing learning outcomes (Settel et al., 2009).

Training future teachers to apply the criteria indicators is the formation of professional competence of a music teacher and allows you to solve the aesthetic aspect of the problem of vocal-choral education, which will increase the vocal-pedagogical training in general. The acquired knowledge and skills that young professionals use in their pedagogical activities will help solve the problem of increasing the level of mass singing culture of society. Schoolchildren who have been brought up from childhood on the examples of the aesthetic tradition of academic singing will be able to become truly educated listeners of academic vocal arts.

Conclusion

This article holds significance in elucidating the neurobiological mechanisms underlying the development of musical abilities. It also examines the structure of vocal teachers' professional competence through a neurobiological prism. Furthermore, it shares insights into establishing the technological foundation for neuro-aesthetic academic singing to foster and nurture the vocal-sound culture of future vocal teachers.

To implement professional and pedagogical activities, it is important for a music teacher to manage his or her voice in various types of singing activities, as well as to know the methods, techniques of working with children's voice and apply them depending on the situation. This circumstance allows us to talk about the synthesis of vocal and pedagogical culture in the activities of a music teacher and approach the understanding of the phenomenon of vocal and pedagogical culture of a music teacher as an integrative quality of personality.

In this regard, we understand the vocal and pedagogical culture of a music teacher as an integrative quality of a person, including the value attitude to the heritage of humanity in the field of various activities, competence in the field of vocal pedagogy, own vocal and performance skills, as well as creative activity in vocal and pedagogical activities.

Therefore, the study of current musical trends is a fundamental aspect of professional training for vocal teachers, their advantage in the specialized labour market and a strong impetus for creative and professional advancement. This particular subject necessitates additional professional scrutiny and exploration, as at present, people are more commonly observed on the domestic and editorial levels than in earnest scientific investigation.

Acknowledgement

Author 1 elucidated the neurological mechanisms behind the development of musical skills, underscored the significance and role of competencies pertinent to the examination of current musical culture trends.

Authors 2 and 3 discussed the role and importance of competencies based on the study of trends in current musical culture in relation to a vocal teacher's professional competence.

Author 4 examined the structure of a vocal teacher's competence from a neurobiological point of view.

Authors 5 and 6 presented the experience of forming the technological basis of vocal-sound culture neuroesthetics of academic singing coming teacher and communicative strategies for formation and development of vocal-sound culture of a music teacher.

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