BRAIN. Broad Research in Artificial Intelligence and Neuroscience
ISSN: 2068-0473 | e-ISSN: 2067-3957
Covered in: Web of Science (WOS); PubMed.gov; IndexCopernicus; The Linguist List; Google Academic; Ulrichs; getCITED; Genamics JournalSeek; J-Gate; SHERPA/RoMEO; Dayang Journal System; Public Knowledge Project; BIUM; NewJour; ArticleReach Direct; Link+; CSB; CiteSeerX; Socolar; KVK; WorldCat; CrossRef; Ideas RePeC; Econpapers; Socionet.

2024, Volume 15, Issue 2, pages: 304-319 | https://doi.org/10.18662/brain/15.2/577
Submitted: February 1st, 2024| *Accepted for publication:* May 20th, 2024

Creating a Model of Music Teacher Training by Integrating Distance and Full-Time Modes of Learning: Current Approaches in Education

Ihor SHCHERBAK [1]
Viktoriya GIGOLAYEVA-YURCHENKO [2]
Oksana KRUS [3]
Tetiana KRYZHANOVSKA [4]
Aryna FRUMKINA [5]
Oksana KOMAROVSKA [6]

[1] Candidate of Pedagogical Sciences, Associate Professor of the Department of Musical Art, V.O. Sukhomlynskyi National University of Mykolaiv, Mykolaiv, Ukraine, shcher.i.v@gmail.com, https://orcid.org/0000-0002-4649-6510
[2] PhD in Art Studies, Senior Lecturer of the Department of choral conducting and academic singing, Kharkiv State Academy of Culture, Kharkiv, Ukraine, gigolaeva-vika@ukr.net, https://orcid.org/0000-0001-8137-487X
[3] Rivne State University of the Humanities, Rivne, Ukraine, oksanakrusop@gmail.com, https://orcid.org/0000-0002-9746-5554
[4] Rivne State University of the Humanities, Rivne, Ukraine, kryzhanovska.tetyana@gmail.com, https://orcid.org/0000-0002-9072-5288
[5] Candidate of Science in Philology, Professor, Head of the Department of Germanic and Oriental Languages and Translation, Faculty of Linguistics and Translation, International Humanitarian University, Odesa, Ukraine, frumkina@onua.edu.ua, https://orcid.org/0000-0003-2635-685X
[6] Institute of Problems on Education of the National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine, oksana.komarovska@gmail.com, https://orcid.org/0000-0002-3679-9673

Abstract: *The study is devoted to the problem of the formation of mastery of music teachers based on the integration of distance and face-to-face learning as an aspect of neuropedagogy. This problem has not been studied in the scientific and methodological literature, although digital means of communication have long penetrated the sphere of musical and pedagogical education. The task of designing a model of professional music teacher training, which has changed due to the introduction of distance learning for future music teachers, remains relevant. In the course of the research, theoretical system-analytical methods were used, methodical materials and experience of university teachers were studied in the field of developing a model of teaching music students in conditions of integration of remote and full-time forms of work. In the context of the research, scientific research on neuropedagogy was analyzed, conceptual and categorical components of the research work were determined. The main focus of the study is related to the principles of building a model of professional training of a music teacher based on the integration of distance and full-time forms of education.*
In order to realize the research goal, the method of synthesis and analysis, integration, research, descriptive and scientific methods were applied. The method of generalization was used to determine the results of the research work, which formed an idea about the neuropedagogical essence of the formation of professional competence of a musician.

Keywords: *professional training; music teacher; teacher-musician; distance learning; neuropedagogical approaches.*

How to cite: Shcherbak, I., Gigolayeva-Yurchenko, V., Krus, O., Kryzhanovska, T., Frumkina, A., & Komarovska, O. (2024). Creating a model of music teacher training by integrating distance and full-time modes of learning: current approaches in education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 15*(2), 304-319. https://doi.org/10.18662/brain/15.2/577

©2024 Published by LUMEN Publishing. This is an open access article under the CC BY-NC-ND license

Introduction

Modern information technologies have penetrated into all spheres of our lives, changed traditional ideas about education and opened new perspectives for humanity in the field of self-development, self-improvement and expansion of intellectual and creative potential. Digital media communications contribute to the interaction and interdependence of people from each other, increase the importance of the individuality of each person, a unique creative approach and obtaining a unique experience in any process of human life, the renewal of the ability to think critically, analyze and independently solve problems is of particular value. Remote technologies, which are widely used in education, in particular musical and pedagogical, orient students to constant self-development and self-improvement of their knowledge, abilities and skills, which is becoming an integral part of the modern world. Hence, the increased attention of scientists to practical and personally oriented, individualized and differentiated pedagogical approaches, as well as distance learning. Such processes are caused by neurophysiological features of a person, which is the main essence of the formation of neuropedagogy.

In connection with the introduction of information and computer technologies into the learning process, the paradigm of education as a whole has changed. At the same time, the design and modeling of professional training of specialists in various fields of life based on distance learning remains an insufficiently studied area of scientific and methodological thought. The problems of training future music teachers in the context of integration of remote and traditional pedagogical approaches are also updated.

Many researchers note the importance of design as a condition for improving the quality of education, the use of new information technologies in the professional training of specialists, modern teaching methods, integrative and variable approaches in the process of developing educational modules (Maksymchuk et al., 2020). Despite the wide application of the possibilities of remote technologies in music-pedagogical educational institutions, there is no universally accepted model of professional training of music teachers in the scientific environment, the problem of the design of which is devoted to this study.

To achieve the goal, theoretical system-analytical methods were applied, methodical materials were developed, and the experience of teachers was analyzed regarding the development of a model of teaching music students in the context of the integration of remote and full-time forms of

work as a neuropedagogical approach to the formation of professional competence.

The purpose of the article is to analyze and investigate the psycholinguistic features of discourse in the context of determining the essence of Anglo-American borrowings in Ukrainian youth slang.

Neural technologies in the context of using artificial intelligence in the educational process

The main direction of the development of information technologies in education is the creation of artificial intelligence systems, which are a set of information search, expert, artificial neural networks (ANNs) and other software products that operate on knowledge bases.

The human mind is not adapted to instantaneous deep perception of complete information and cannot extract it from an array of numbers by itself. A machine outperforms a human when it is necessary to develop significant forces and speeds during routine operations that are performed repeatedly. However, humans outperform machines in evaluating large and diverse amounts of information; when working in changing conditions, when you have to make unforeseen decisions; when perceiving complex visual images and evaluating images, when concentration of attention on important parts of incoming information is required; if necessary, control the functioning of the system as a whole and intervene in its activity in case of emergency situations. These advantages are due to the fact that a person has great adaptability, which allows him to quickly learn, work and adapt to different situations.

Consider what allows a person to analyze incoming information with the help of a computer. A key concept - a neural network - was introduced into the terminology of neurogenetics. It is the set of neural networks that form the departments of the human nervous system, which in turn determine all of its activities and give the creature reason and intelligence. The simplest neuron is a data converter that has a single signal at the input, and at the output forms the value of a function that depends on both the input and the parameters of the neuron itself.

ANNs consist of elements whose functionality is structurally similar to a biological neuron - a nerve cell. Neurons are organized in such a way that they can match (or not match) the anatomy of the brain, line up in circuits, and connect. ANNs exhibit many of the properties found in the brain. They learn from experience, generalize from previous precedents and apply them to new situations, and extract important insights from large amounts of information.

Even the most optimistic forecast cannot assume that artificial neural networks will duplicate the functions of the human brain in the near future. The actual "intelligence" demonstrated by the most sophisticated ANNs is below the desired level.

However, we cannot ignore the striking similarities in the functioning of some neural networks with the human brain. This suggests that a deep understanding of human intelligence is not far off. A person will learn to create large networks, combine them into systems and, in the end, get even more perfect ones.

However, the neurogenetic and neurobiological processes of the brain develop strictly according to the biological program of the individual. Nothing can speed them up, but many things can slow them down. In any case, mental development is the development of the brain and all its numerous functions. Knowledge of the differences in the structure and functioning of the brain, their use in education and training is a new direction in pedagogy, which can tentatively be called neuropedagogy.

Currently, there are several approaches to the interpretation of this definition. For example, some consider neuropedagogy as a science of comprehensive study of the student as a biological being (individual, personality) that is formed in a certain society, that is, subject to the laws of development of the psyche as a whole, as well as as a person with his own habits, tastes and character. Knowledge about all sides of the personality will tell the teacher how to help the student find his place in life.

Others understand by neuropedagogy new experimental data on different types of functional organization of the brain, new scientific approaches to learning and education in educational institutions.

Some researchers interpret the concept of neuropedagogy in different ways. According to them, neuropedagogy is the training of artificial neural networks that model the depths of the brain. It is the computer and computer networks that create an extremely information-rich and even virtual environment for communication and learning based on information technologies.

In our opinion, neuropedagogy is based on the classical foundations of pedagogy and cybernetics and reflects a person-oriented approach to education.

An interesting perspective is the use of chips (electronic microcircuits) for researching the functional capabilities of the human brain, monitoring its activity in such areas as sports, military affairs, and in the future in the new field of neuropedagogy - neurodidactics.

On the one hand, trained neural networks from raw data form hidden knowledge, that is, the skill of prediction, classification, pattern recognition, etc. is created, but its logical structure usually remains hidden from the user. When working with such networks, the concepts of psychology and pedagogy become useful, which, in turn, indicates the opening of a new direction in pedagogy, tentatively called electronic didactics. The introduction of electronic technologies using ANNs in the near future will allow the teacher to more purposefully organize his educational activities based on monitoring the student's activities.

On the other hand, information-pedagogical models of the learning process can be built on the basis of traditional methods of non-parametric statistics. This science allows you to reasonably choose a system model in the case of a large array of data and with their relatively uniform distribution in the parameter space. When there is a large amount of experimental data or when it is not possible to obtain enough of it, when it is very noisy, incomplete and contradictory, neural models are better.

To define the subject of the research, we chose the term "educational system". At the same time, offering electronic technologies (e-technologies), the basis of which is electronic didactics (e-didactics), we consider it as a "subtle structure" of the educational system in the unity of the concept of organizing knowledge bases, natural and artificial intellectual systems.

The main goal of research when building an informational and pedagogical model is to reduce the error of generalization, since a small learning error guarantees the adequacy of the model only at preselected points. Drawing an analogy with learning in biology, it can be noted that a small error of learning corresponds to the direct memorization of educational information, and a small error of generalization corresponds to the formation of concepts and skills that allow you to extend limited learning experience to new conditions. . Since the true value of the generalization error is not available, its estimate is used in practice.

Estimation of the error of generalization is a fundamental point in the construction of an information-pedagogical model. At first glance, it may seem that deliberately not using some examples during training can only make the final model worse. However, without a testing phase, the only measure of model quality will be the training error, which, as already noted, has little to do with the predictive capabilities of the model. Multiple independent test samples may be used in professional studies. The stages of training and testing are repeated many times with changes in the initial distribution of neural network weights, its layout (topology) and training

parameters. The final selection of the "best" neural network is carried out taking into account the available amount and quality of data, as well as the specifics of the task in order to minimize the risk of a large generalization error when working with the model.

The analysis of the conducted research shows that the increase in the amount of information in the educational process complicates the main task of the teacher - managing education using student feedback based on the diagnosis of knowledge and skills, identifying the causes of errors and developing ways to eliminate them. Methods of searching, analyzing and presenting information, which are the subject of knowledge engineering, one of the branches of artificial intelligence, can help in effectively solving this kind of tasks. Thus, ANNs serve as a natural tool for building effective and flexible information models of pedagogical systems.

This is confirmed by works aimed at studying the use of neural network models in adaptive computer learning in a subject area characterized by a high degree of formalization, as well as means of developing systematic creative thinking based on information technologies using neural ensembles and pyramidal neurons.

Adaptation of the educational process involves changing the sequence of presentation of theoretical (lecture) material, presented in electronic form and allowing to achieve an optimal result. To solve this problem, it is necessary to identify the relationship between individual elements of the studied material and the degree of their influence on the final result. The criterion of effectiveness is the depth of the student's mastery of the subject, the completeness and strength of the knowledge obtained by him, the level of studying theoretical material and acquiring practical skills.

Development of musical skills in the context of neuropedagogy

The professional activity of a teacher depends on various factors, in particular, the understanding of children in a professional aspect, taking into account the child's psychological and pedagogical condition, as well as the teacher's acquisition of professional skills in working with children (Kornosenko et al., 2021). After all, the developed model should contribute to the formation of competitive, competent specialists in the field of theory and practice. Therefore, the expected learning outcomes, according to the competence paradigm of education, should be general cultural, general professional and special professional competences of a teacher-musician, from general pedagogical to musical performance (Tkachova et al., 2021).

The distance form of education of future musicians corresponds to the same principles that underlie the traditional – face-to-face education:

1) sequences,

2) continuity,

3) personal and practical orientation,

4) continuity of professional growth, that is, a logical sequence in the development of a specialist's skills.

Neuroeducation is important for teachers. They will be able to increase the effectiveness of the educational process through knowledge of the structure of the brain, its ability to remember, process, record, store and restore received streams of information. The teacher is able to influence the development of children's brain in one word, the emotional sphere, the structure of classes, means, methods and styles of learning, the creation of a certain surrounding atmosphere (kindness, diversity, order, design, music, lighting, etc.), feedback, etc.

Training should be aimed at the implementation and improvement of the content characteristics of the activity, its significance for children, development and improvement of the emotional and value orientation of the educational process. The basics of neuropedagogy orient the teacher to the development of new pedagogical technologies based on the study and practical application of children's thinking types, contribute to adaptation processes in the applied technologies, means and methods of learning not up to the level of intelligence of female cadets. , but to their personal capabilities, thereby freeing the body-motor, spiritual-mental components of the body of those who are engaged.

Thus, educational technologies at the current stage of educational development must necessarily be based and built on accounting for brain organization of activity and its individual functional asymmetry.

Peculiarities integration distance and real forms of education

Remote technologies of teaching the pedagogical art of music students make it possible to organize the educational process taking into account the abilities, opportunities, interests and needs of the subjects of education. This approach is the most effective and defines the advantage of the student-centered pedagogical concept. So, in the course of improving teaching methods and searching for the most productive educational technologies, the pedagogical community came to the need to use distance learning along with face-to-face learning (Marshalok et al., 2021). A comprehensive approach also allows solving the problem of

individualization of education for students of creative specialties, including in the field of musical art.

Thus, the design of the professional training model is based on the modern paradigm of education, which is characterized by the following provisions (Palamarchuk et al., 2020).

Currently, distance learning is considered not so much as a methodological novelty, an innovation, but as a necessary condition for the implementation of the modern educational process. There are many models of distance learning, but their functioning is defined a number of specifications, the key of which are the age characteristics of potential customers, subject orientation and achievable goals. These specifications determine the level of integration of remote models into traditional educational systems.

As for the age category of schoolchildren, there is a need for the integration of face-to-face and distance forms of education, especially in the context of subject orientation. However, no matter what subject orientation we are talking about, all distance education models focused on school educational practice are integrated with the traditional learning paradigm, following a number of principles.

First, the principle of independence, characteristic of all distance learning systems: the student gets access to the educational resource regardless of space and time. Of course, the implementation of this principle depends on a number of technical factors: the perfection of computer equipment, the speed of the Internet connection, the cost of Internet traffic, the quality of the host on which the Internet resource is located, etc. the quality of distance learning, such as mobility, since the use of mobile technologies (PDC, tablets, mobile phones) takes distance learning to a new level, but the software that is available to the average user as a teacher does not have time to develop so intensively (Onishchuk et al., 2020).

Secondly, the principle of integration with the traditional system of teaching mathematics. This principle means that the goals of education approved by the traditional education system are considered to be dominant, so the main function of distance education is to support the traditional education system. It is this principle that determines the invariant component of the content of distance learning for high school students and at the same time indicates the difference between distance learning and traditional learning: "all stages of working with content elements should be included in the content structure of an educational distance resource, unlike traditional learning, when all work on knowledge formation is inherent teacher's activities (Lynnyk, 2004).

The question arises about forms of support for the traditional system of teaching mathematics through the use of distance learning resources. Thus, the possibilities of integration, a reasonable combination of face-to-face and distance learning are quite promising, although they require certain organizational and administrative solutions.

Therefore, the support of the traditional system of education by means of distance learning can be expressed in the following forms: preparatory, basic and control-diagnostic. The preparatory form of content mastery through distance learning assumes that students will have the opportunity to study and master knowledge in the subject area according to the logic of a traditional educational course (Kovtun, 2015). The basic form involves deepening or repeating the theory, as well as increasing the level of students' competence in the course of solving problems. This form requires you to fill out a 'remote resource with lots of examples demonstrating correct usage. The control-diagnostic form provides orientation not only on control, but also on self-control of learning the content, and also allows monitoring the educational achievements of students.

Neuropedagogical approaches to the formation of professional competence of the future music teacher

The educational process has now noticeably "rejuvenated". Children who have barely learned to walk and talk attend aesthetic circles, children's art schools and other institutions of additional education. Undoubtedly, this is a great help in identifying and developing the child's abilities. In such institutions, children develop comprehensively: here they learn rhythm, draw, sing, dance, participate in developmental games. Already at this age stage, it is possible to determine with high confidence inclinations to various types of activities, which will help to make a choice in favor of a further profession in the future.

Among all art forms, instrumental playing is one of the most difficult. It combines enormous physical, emotional and mental loads. Therefore, the teacher is required to have a special, careful attitude towards the child-student entrusted to him. Before starting the educational process, the teacher must thoroughly study his ward. Today, for successful learning to play an instrument, simply determining the level of such abilities as musical ear, musical memory and sense of rhythm is clearly not enough. In order to better "know" his student and decide on the choice of work methods in the future, it is advisable for a music teacher to assess not only his physical data and temperament, but also to find out through testing his general functional organization, brain and leading modality.

The general functional organization of the brain is characterized by three types:

1) left hemisphere,
2) right hemisphere,
3) isospherical.

Left hemisphere type. This includes people in whom logical perception prevails over sensual. The dominance of the left hemisphere determines the tendency to abstraction and generalization. The left hemisphere specializes in working with words, conventional signs and symbols; responsible for writing, arithmetic, analytical skills, abstract thinking.

The left hemisphere components of thinking organize any material in such a way that a strictly ordered and clearly understood context is created, which is necessary for successful communication between people. During its formation, a few specific ones are selected from all real and potential connections between objects and phenomena, which do not create contradictions and fit into the appropriate scheme. Thus, a word included in the context acquires only one meaning, although there may be several in the dictionary. Elements of an unambiguous context can be not only words, but also other symbols, signs and even images.

"The main function of the left hemisphere is to select a figure from the general background and work with this information in the focus of attention. The left hemisphere is responsible for conceptual thinking, aimed at one, only correct decision, predicting future events, putting forward hypotheses. It is a "formal" logic that distinguishes false statements from true ones. The left hemisphere is a visual model of the world divided into separate elements. The memory of the left hemisphere preserves perceived stereotypes and a social system of values. In addition, it performs sequential functions. Auditory perception of information is dominant in left-hemisphere people (Kosovych O., 2018).

The environment of continuous education forms a teacher-researcher who freely navigates in pedagogical technologies, in the information space, possesses the basics of innovative and experimental activity and, as a result, offers innovative pedagogical ideas (Jacobi & Manheim, 1959). These difficulties are most clearly manifested in so-called problem situations, when available scientific knowledge is not enough to solve new modern problems of cognition (Gygli et al., 2019).

Right hemisphere type. The dominance of the right hemisphere determines the propensity for creativity, concrete-figurative nature of cognitive processes, thinking aimed at developing as many options as

possible to solve the problem. The right hemisphere of the brain specializes in operating images of real objects and is responsible for orientation in space. Its functioning is caused by visual thinking, which is connected with a holistic idea of situations and changes in them, which a person wants to get as a result of his activity.

"The right hemisphere regulates subconscious processes, analog processing of information, involuntary control of behavior. It produces continuous topological, spatial transformations of information, assessment of symmetry, structure and complexity of the object. He deals not with the figure but with the background, not with the center of attention but with the periphery. Thus, the right hemisphere provides not concentration, but distribution of attention. It is the keeper of a continuous picture of the world, involuntary emotional memory, provides intuitive, sensual, imaginative thinking, hypothesis testing, deals with current time, actions "here and now". The right hemisphere is the organ of the human unconscious, the organ of imitation. It takes everything seriously, it is a hemisphere of resentment and depression."

The function of the right-hemisphere components of thinking is the instantaneous grasping of a large number of contradictory from the point of view of formal logic connections and formation due to this integral and multi-meaningful context. The advantage of this strategy

thinking is manifested in cases when the information is complex, internally contradictory and cannot be reduced to an unambiguous context, that is, in the creative process. If the organization of an unambiguous context is necessary for mutual understanding between people, analysis and consolidation of knowledge, then the organization of a polysemantic context is equally necessary for understanding the internal connections between objects and phenomena. Without it, any creativity would be impossible. The leading modalities of right-hemisphere people are visual and kinesthetic (motor).

The language of right-hemisphere people is emotional, expressive, rich in intonations and gestures. There is no special structure in it; possible hesitation, confusion, unnecessary words and sounds. It is easier for them to dictate a text than to write (left-hemisphere people, on the contrary, write easier than dictate). As a rule, right-hemisphere people are integral natures, they are open and spontaneous in the manifestation of feelings, naive, trusting, suggestive, capable of subtly experiencing and worrying, easily upset and crying, falling into a state of anger and rage, sociable. and sociable. They often act according to their mood. Among the people of the right half of the

hemisphere, there are many writers, journalists, artists, and organizers (Gardner, 1983).

For a differentiated approach to educational activities, it is necessary to take into account the peculiarities of perception, processing of information, intelligence, activity, language, emotions, memory and thinking, depending on belonging to the type of functional organization of the brain (Giddens, 1991).

The main product of the teacher's self-development is his author's pedagogical system as a higher level of development of the teacher's subjectivity. There are now many educational institutions in the world that offer the teaching of differentiation by sex or by the type of the right hemisphere, as opposed to the method of the left hemisphere (Dewey, 1938). As for the use of innovative pedagogical learning technologies, the distribution exists in an even greater range. For effective learning, the so-called synthetic learning should be proposed as the most optimal and productive from the point of view of neuropedagogy (Rumińska-Zimny, 2009). This technology means an appropriate combination of learning methods and techniques taking into account the neuropedagogical characteristics of students. Based on the general diagnostic picture, one should synthesize techniques that allow you to correctly "enter the brain" of the child, activating both hemispheres of the brain differently at different stages of the lesson. If it's always easy, the brain stops working, and, on the contrary, overcoming intellectual obstacles, the brain develops. Creative, searching, heuristic tasks are needed not only right-handed, but also left-handed (Kaplan, 2005). Everyone should have the opportunity to try their hand where it is difficult but possible.

Methodical aspects of the synthesized learning lesson. Based on the principles of humanization of education, the main methodical aspects of the lesson should be formed (Gray, 2008). "Interest in learning appears only when there is inspiration born of success." (Struhanets, 2017).

Creating compositions for working out the line is an opportunity for creativity. Also, a very interesting and productive kinesiological technique, aimed at activating different parts of the cerebral cortex and strengthening interhemispheric interaction through a system of motor exercises, can be actively used in the formation of musical competence. The ratio of activity of the right and left hemispheres is not the same when perceiving artistic and technical texts. (Vuckovic, 2019).

Musical repertoire, including children's, created by composers of XX-XXI centuries. with the use of avant-garde techniques of writing, are unfairly rarely included in the content of educational programs of the music-

pedagogical profile not only in colleges, but also in higher education institutions. The methods of composition used by avant-garde artists in their works, as well as the artistic concepts they embody, are practically not studied by future music teachers. One gets the impression that avant-garde music is being forgotten in the courses of disciplines taught by music teachers precisely because of the complexity of its performance. Hence the problem of mastering the modern repertoire by students of musical and pedagogical higher education institutions. A musician teacher must be able to play works of different eras, styles and directions (De Rosa & McElwee, 2020). The most original music of the 20th and 21st centuries was created on the basis of modern compositional methods.

Today, the most effective methods of practical mastery of avant-garde pieces that use modern writing techniques by students-musicians are listening to the piece performed by recognized masters of performing arts in an audio or video recording, comparing the interpretations of different performers, careful independent analysis of the score and means of artistic expression of the studied piece at the same time as listening. , development of the student-musician's own concept of interpretation of the performed avant-garde work. All this can be provided not by traditional, but distance learning technologies.

Conclusions

In the contradictory and dynamically changing conditions of modern socio-economic life, a specialist in any field of activity must possess. A music teacher must become an independent thinking person in the process of learning.

In the modern world, the problems of improving the substantive foundations of music education pedagogy and methodological developments in the field of training future music teachers must be considered not only from the point of view of traditional forms of education, which have long been established, but have been carefully studied in the works of famous scientists, as well as in connection with new digital technologies. have already firmly entered various fields of pedagogy and culture.

That is why, when developing a modern model of professional training of music teachers in institutions of higher education, special attention is paid to distance learning, which today organically fits into the traditional education system, the effectiveness of which is noticeably increased thanks to the electronic educational system, music and computer technologies. So, modern musicians are systematically engaged in the development of musical abilities, using such programs as EarToner, Tete,

GNU Solfege, InPitch and others. Educators-musicians today adapt educational and developmental programs for their future musical and pedagogical activities. And the simultaneous use of two or three of the above-mentioned programs provides a comprehensive approach and a solution to most problems in the development of musicality in both schoolchildren and students. Most programs allow you to perform exercises in solfeggio and musical performance, both independently and with a teacher, to develop and strengthen tonal and harmonic thinking, intonation and harmonic hearing, and even approach the absolute.

Thus, the study gave strong grounds for asserting that youth slang is a reflection of the postmodern worldview, and not insufficient cultural development.

Acknowledgment

Author 1 analyzed scientific research and determined the theoretical and methodological aspects of the problem of forming the professional competence of music teachers.

Author 2 analyzed methodological approaches to the development of musical abilities and formed research criteria.

Author 3 formulated the main problem of the research and defined the structural components of the research, identified the main topics and ideas of the work.

Author 4 systematized the educational material according to the specifics of the research, formed a categorical conceptual apparatus for determining the basics of the research.

Author 5 critically determined the main content of the research, formed the main concepts, revealed their content according to the requirements of the research work.

Author 6 made a significant contribution to the concept of the study, identified neurophysiological factors determining the musical abilities of an individual.

References

Dewey, J. (1938). Experience and education. Collier-MacMillan Canada Ltd.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. Basic Books.

Giddens, A. (1991). Modernity and self-identity. Self and society in the late modern age. Polity Press

Gray, P., (2008). A brief history of education. To understand schools, we must view them in historical perspective. Psychology Today. https://www.psychologytoday.com/us/blog/freedom-learn/200808/brief-history-education

Gygli, S., Haelg, F., Potrafke, N., & Sturm, J. E. (2019). The KOF globalisation index-revisited. The Review of International Organizations. 14, 543–574 https://doi.org/10.1007/s11558-019-09344-2

Jacobi, J., Manheim. R. (1959). Complex/archetype/symbol in the psychology of C.G.Jung. The International Liberary of Psychology: Analytical Psychology). Princeton University Press.

Kaplan, R. S., & Norton, D. P. (2005). Creating the office of strategy management (p. 22). Boston, MA: Division of Research, Harvard Business School.

Kornosenko, O., Khomenko, P., Taranenko, I., Zhamardiy, V., Shkola, O., Tolchieva, H., Saienko, V., Batieieva, N., & Kyzim, P. (2021). Professional competencies as a component of professional training of a fitness trainer-teacher in higher education institutions. Journal for Educators, Teachers and Trainers, 12(1), 72-81. DOI: 10.47750/jett.2021.12.01.010

Kosovych, O. (2018). Loan-words in the vocabulary of modern French language. Study parameters. Analele Universităţii din Craiova. Seria Ştiinţe Filologice. Lingvistică. XL (1-2), S.77-84

Kovtun, L. YU., (2015). Fishynh yak odna iz form shakhraystva v Interneti. Aktual'na Yurysprudentsiya. http://www.legalactivity.com.ua/index.php?option=com_content&view=article&id=1 075%3A2015-09-15-06-47-15&catid=131%3A5-0915&Itemid=161&lang=ru

Lynnyk, N. V. (2004). Vzhyvannya znyzhenoyi leksyky u movi drukovanykh zasobiv masovoyi informatsiyi ta yiyi vplyv na normy literaturnoyi movy. http://dspace.nbuv.gov.ua/bitstream/handle/123456789/74259/18-Linnik.pdf?sequence=1

Maksymchuk, B., Gurevych, R., Matviichuk, T., Surovov, O., Stepanchenko, N., Opushko, N., Sitovskyi, A., Kosynskyi, E., Bogdanyuk, A., Vakoliuk, A., Solovyov, V., & Maksymchuk, I. (2020). Training future teachers to organize school sport. Revista Romaneasca Pentru Educatie

Multidimensionala, 12(4), 310-327. https://doi.org/10.18662/rrem/12.4/347

Marshalok, M., Melnyk, A., Vasiuta, V., Yatsenko, V., & Saienko, V. (2021). Competitive advantages of small business. AD ALTA: Journal of Interdisciplinary Research, Special Issue 11/02-XXII, 60-65.

Onishchuk, I., Ikonnikova, M., Antonenko, T., Kharchenko, I., Shestakova, S., Kuzmenko, N., & Maksymchuk, B. (2020). Characteristics of foreign language education in foreign countries and ways of applying foreign experience in pedagogical universities of Ukraine. Revista Romaneasca Pentru Educatie Multidimensionala, 12(3), 44-65. https://doi.org/10.18662/rrem/12.3/308

Palamarchuk, O., Gurevych, R., Maksymchuk, B., Gerasymova, I., Fushtey, O., Logutina, N., Kalashnik, N., Kylivnyk, A., Haba, I., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2020). Studying innovation as the factor in professional self-development of specialists in physical education and sport. Revista Romaneasca Pentru Educatie Multidimensionala, 12(4), 118-136. https://doi.org/10.18662/rrem/12.4/337

De Rosa, M., McElwee, G., (2020). Gender differences in adopting rural development policies. Revue de l'Entrepreneuriat. 19(4), 103-123. https://www.cairn-int.info/journal-revue-de-l-entrepreneuriat-2020-4-page-103.htm

Rumińska-Zimny, E. (2009). Gender architecture in the European Union: Achievements, challenges and the future. In A., Grzybek, H., Böll (eds). Gender in EU. The Future of the Gender Policies in the European Union. Foundation Regional Office Warsaw. (pp. 7-15).

Struhanets, L. (2017). Development of the Ukrainian language word stock of the 20th – beginning of the 21st centuries. Analele Universităţii din Craiova. Seria Ştiinţe Filologice. Lingvistică. XXXI, (1-2), 409-414

Tkachova, N., Saienko, V., Bezena, I., Tur, O., Shkurat, I., & Sydorenko, N. (2021). Modern trends in the local governments activities. AD ALTA: Journal of Interdisciplinary Research, Special Issue 11/02-XXII, 112-118.

Vuckovic, T. (2019). The overall goal of education and general purpose. International Journal For Empirical Education and Research, 3(20), 53-66. https://journals.seagullpublications.com/ijeer/assets/paper/IJ0620191784/f_IJ0620191784.pdf