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INFORMATION EDUCATIONAL ENVIRONMENT AS A RESOURCE FOR ADVANCING A TEACHER-MUSICIAN'S SKILLS IN THE ADDITIONAL CHILDREN EDUCATION SYSTEM

EL ENTORNO EDUCATIVO DE LA INFORMACIÓN COMO UN RECURSO PARA EL AVANCE DE LAS HABILIDADES DE UN MAESTRO-MÚSICO EN EL SISTEMA EDUCATIVO DE LOS NIÑOS ADICIONALES

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Suggested citation (APA, seventh edition)

Borisovna Gorbunova, I., & Borisovna Davletova, K. (2020). Information educational environment as a resource for advancing a teacher-musician's skills in the additional children education system. *Revista Conrado*, 16(74), 38-44.

ABSTRACT

Following the development of modern Russian education, updating the system of additional education for children, introducing the Professional standard "Teacher of additional education for children and adults", developing a high-tech information educational environment, new requirements are placed on the professional activity of a teacher: new requirements for educational technologies, the content of the educational process, fluency in modern information technologies, methods of their active use, including various types of distance education. In this regard, the social order for extended education of teachers-musicians, working both in the system of additional education of children and in children's music and art schools using modern computer and computer technologies, is changing. The article highlights the results of a pedagogical study aimed at developing methods and technologies for using informational educational environment capabilities in the professional activities of a modern teacher-musician.

Keywords:

Informational educational environment, information technology, music education, computer-computer technologies, teacher-musician.

RESUMEN

Tras el desarrollo de la educación rusa moderna, la actualización del sistema de educación adicional para niños, la introducción de la norma profesional "Profesor de educación adicional para niños y adultos", el desarrollo de un entorno educativo de información de alta tecnología, se imponen nuevos requisitos a la actividad profesional de un profesor: nuevos requisitos en materia de tecnologías educativas, el contenido del proceso educativo, el dominio de las modernas tecnologías de la información, los métodos de su utilización activa, incluidos diversos tipos de educación a distancia. A este respecto, está cambiando el orden social para la ampliación de la educación de los maestros-músicos, que trabajan tanto en el sistema de educación adicional de los niños como en las escuelas de música y arte para niños que utilizan tecnologías informáticas y de computación modernas. En el artículo se destacan los resultados de un estudio pedagógico encaminado a desarrollar métodos y tecnologías para utilizar las capacidades del entorno educativo informativo en las actividades profesionales de un profesor-músico moderno.

Palabras clave:

Entorno educativo informativo, tecnología de la información, educación musical, tecnologías informáticas, profesor-músico.

INTRODUCTION

The educational potential of the modern high-tech informational educational environment (IEE) provides the possibility of its use as a constantly changing and updated information resource, as a communication environment that creates new opportunities for interaction. Our task is to develop methods and technologies for using the IEE capabilities for the educational purposes of a teacher-musician.

Despite the increased number of studies on various aspects of preparing for the professional activity of the teacher of the system of extended education for children (EEC), there are no special studies aimed at preparing the professional activity of the *teacher-musician* in IEE.

The development of the system of modern Russian education and the changing requirements for the professional activity of a teacher-musician, on the one hand, and the current state (change) of IEE, on the other hand, have revealed many contradictions, among which the main ones are:

- Contradictions between the social order for the introduction of IEE in various types of activities of a teacher-musician and the lack of qualified teachers working in this field;
- The contradiction between the demand for educating teachers-musicians who use IEE and music computer technologies (MCT) in their professional activities (Gorbunova & Kameris, 2019), and the insufficient scientific substantiation of the content and technology of such education;

The reasons for these contradictions are due to many circumstances:

- Insufficient preparedness of teachers for the development of MCT.
- The insufficient motivation of teachers-musicians to increase professional competence in the development of MCT and electronic musical instruments (EMI).
- Insufficient provision of developments on the methodology of using MCT and EMI in EEC.
- Insufficient amount of teaching materials on the development of opportunities and use in practical activities of MCT and EMI (Gorbunova & Davletova, 2017).
- Insufficiently developed methods for educating teachers-musicians based on the use of MCT capabilities as the main component of their professional activity in high-tech IEE.

The article describes the methodology of preparing an EEC teacher-musician for professional activities in IEE.

The theoretical basis of preparation for the teacher's professional activities in the IEE was created by the work of Russian (Gorbunova & Plotnikov, 2019) and foreign scientists (Crawford & Southcott, 2017; Gorbunova & Hiner, 2019). Practical issues, the possibilities of adult education, using various technologies, educational firms, workshops, etc. are widely studied (Berger, et al., 2015). The issues of modern pedagogical technologies and principles of teaching using IT are considered in the scientific works of Sosnevas (2018), Gorbunova and Kameris (2019).

Various aspects of professional education and extended education of EEC teachers today become one of the most popular and discussed in pedagogical science in Russia. A special place among the studies revealing the essence of IEE, issues of theory and teaching methods in IEE are occupied by works (Berger, et al., 2015). The authors analyzed the essence of IEE, its functions, characteristics, didactic properties and the theory of teacher education in IEE. Of great interest is the research of scientists preparing for the teacher's professional activity as a process of developing the ability to solve professional problems in a constantly changing IEE.

Of great importance for our research are the works of scientists dealing with the specifics of using information technologies (IT) and MCT in the system of modern music and information education (Gorbunova & Davletova, 2017; Gorbunova & Plotnikov, 2019; Gorbunova & Petrova, 2019), works that reveal the principles and priorities of the competency-based approach in the cultural space of science and education (Gorbunova & Zalivadny, 2019).

METHODOLOGY

The education of teachers-musicians is based on the integration of substantively related methodological approaches in various areas of the professional activity of EEC teachers-musicians, the development of IEE for teachers-musicians.

The systematic approach determines the understanding of EEC as an independent educational system and a subsystem of general education, in the organization - the presentation of education as a subsystem of additional professional education, the IEE of a teacher-musician as part of an open, multi-level, multi-component system. A systematic approach is a fundamental methodological guide in the education of teachers-musicians.

The basis of *the integrated approach* is the leading idea of understanding EEC as a system of integrated development of the child's personality, in the organization - understanding of education as a set of professional impacts on the personality of the teacher, in the IEE of the

teacher-musician - understanding of education as the effect on the teacher of IEE structurally interconnected components and the interaction of subjects.

The personal approach in the content of education is focused on the personality of the teacher. Self-determination of professional opportunities and the role of pre-school education in the formation of the child's personality take place in the field of extended education. IEE of the teacher-musician has the possibility of choosing the forms and methods of preparation for professional activity; there is also an exchange of experience between teachers. The advantages of this approach are the ability to consider the individual characteristics of the teacher-musician related to their occupation emotionality, communicativeness, organizational qualities, artistry, etc.

The activity approach allows for considering the content of the organization of education as a set of practice-oriented actions of a teacher, active professional activity in IEE, forms an idea of EEC as a system of practice-oriented education. It is in the process of activity that the necessary level of formation of any personality traits is achieved, in the choice of methods, forms, and technologies (Berger, et al., 2015).

From the position of *the competency-based approach*, the basis of the preparation content is the formation of a teacher's professional competencies, understanding of pre-school education as a sphere of forming a child's life competencies, IEE contributes to the formation of a person who can solve problems using existing knowledge and skills.

When developing ways to prepare for the professional activities of teachers-musicians, one should rely on the provisions of the competency-based approach, since it is focused on achieving a specific result of professional activity. *The synergetic approach* predetermines the idea of EEC as a self-developing subsystem of education; its organizational basis is the process of the teacher's self-development, the idea of the IEE of a teacher-musician as constantly changing and developing. Synergetics allows for a new approach to the development of problems of the development of pedagogical systems, considering them, first, from the position of "openness", focus on self-development.

RESULTS AND DISCUSSION

The IEE of a teacher-musician is a set of conditions for the implementation of professional activities, which includes certain forms and contents based on the use of MCT and EMI. The strategy for the formation of IEE is a scientific and methodological, informational support of the

professional activity of the teacher-musician, the exchange of experience, continuing education, and professional interaction.

The professional activity of a teacher-musician in IEE is a special integrative complex based on acquired knowledge and skills, solving problems, the ability to create innovative and socially-demanded creative products (authoring programs and methods for musical development of children using MCT and EMI tools; creating and record of multifaceted electronic arrangements, author's compositions; electronic educational curricula in music, multimedia didactic tools, and educational systems, presentations, videos, and other creative projects.).

IEE arises because of the interaction of the subjects of the educational process and the information space, allows you to realize the didactic capabilities of IT, organize various forms of activity, and provide an independent cognitive activity for the student.

To ensure the effective functioning of the IEE of a teacher-musician, to create new conditions for professional and personal education and self-improvement of a teacher, a methodology for advanced education for a teacher-musician based on the use of MCT in the modern musical educational process has been developed.

The results of the surveys and questionnaires revealed the following: most teacher-musicians are prepared to increase their knowledge of the use of MCT. However, more than half of the respondents (68%) noted the lack of relevant knowledge and experience in the practical application of MCT. Almost all respondents expressed interest and readiness to receive knowledge in this area and to master the teaching methodology (94%). Teachers noted the importance of advanced education with the use of MCT (100% of respondents).

In this regard, the authors note the importance of implementing advanced education courses that make it possible to use a fundamentally new approach to educating and preparing teachers for professional activities, introducing new forms and technologies of education, and developing and implementing modern curricula.

The developed educative curricula for EEC teacher-musicians can improve the education quality of a teacher-musician for professional activities in the IEE, which is confirmed by the results of a scientific experiment that was conducted from 2012 to 2019 at the St. Petersburg City Palace of Creativity for Youth, and the learning and teaching laboratory "Music and Computer Technologies" at the Herzen State Pedagogical University of Russia.

The IEE model for the EEC teacher-musician is developed:

- The Internet portal “Tribune of a teacher-musician” was developed – an educational platform that contains materials from the City Educational and Methodological Association (CEMA) of methodologists and teachers of state educational institutions in the area of “Electronic Keyboards”, methodological and informational materials of continuing education courses, methodological developments teachers, and didactic materials with recommendations that are successfully used by teachers in their professional activities.
 - Since 2012, the CEMA of methodologists and teachers of state educational institutions in the direction of “Electronic Keyboard Instruments” has been operating in the St. Petersburg City Youth Creativity Palace.
 - The methodology of preparing for the professional activity of the EEC teacher-musician in IEE is presented, theoretically substantiated, and successfully tested.
 - Teaching aids for teachers and students of advanced educative courses are published, among which the authors especially note the series of collections of “Music and computer technologies” (issues I-VII (Gorbunova & Davletova, 2017) – fundamental teaching aids that reflect various aspects of professional the activities of the teacher-musician in the IEE with the use of MCT, including the possibilities of inclusive.
 - Since 2012, the section “Electronic Musical Instruments” is working as part of the International Scientific and Practical Conference “Contemporary Music Education”, organized by the learning and teaching laboratory “Music and computer technologies” of the Herzen Russian State Pedagogical University, and is held annually in conjunction with the Rimsky-Korsakov St. Petersburg State Conservatory.
 - The city conference “Experience, problems and prospects for the development of playing the keyboard” has been held annually within the CEMA framework since 2015.
 - All-Russian Conference “Musical Dialogues” (held annually within the CEMA framework since 2013).
 - Educational seminars for teachers with leading experts in this field with the support of Yamaha, Casio, and Rolland corporations (since 2014).
 - All-Russian competition of electro-acoustic music “DEMO” (since 2009, annually).
 - All-Russian competition “CLARINIS of the XXI Century” (since 2017, held twice a year);
 - All-Russian contest “Musical Dialogues” - annually;
 - City festival “Baby EMI” - annually;
 - City forum-competition “Teacher-master and their class”;
 - The educational and publishing project “By teaching I learn” - a series of teaching aids recommended by the Committee for Education of St. Petersburg as didactic material for students of advanced educative courses was developed and published jointly with the St. Petersburg publishing house “Union of Artists”;
 - *Etc.*
- The authors consider the IEE model as a combination of components that are basic in organizing the preparation for the professional activity of a teacher-musician:
- **The technological component** includes a combination of hardware and software tools: PC, MPC (Cubase Pro 9 from Steinberg an active 2-channel type studio monitor, Band-in-a-Box, etc.), keyboard, EMI, speakers, flashcards, connection cables, interactive whiteboard, multimedia projector;
 - **The content component** includes the educational system - advanced educative courses;
 - **The competency-based component** includes a system of multilevel education ensuring the continuity of professional development of teachers: city educational-methodical association, conferences, educative and practical seminars, contests, master classes, publishing activities;
 - **The diagnostic component** includes tools for monitoring and evaluating results.
- The IEE of a teacher-musician performs the following functions:
- Scientific and methodological support of preparation for professional activities;
 - Informational and methodological support of the process of preparation for professional activity;
 - Accumulation and dissemination of pedagogical experience, advanced education of teachers;
 - Organization of virtual pedagogical communication of teachers.
- This structure of the IEE model provides free access to the necessary information; informational support for preparation for professional activities; allows for meeting the needs of subjects of the educational process: (administration, teachers, parents, children); the openness of the model implies the possibility of its constant development, considering the changing external and internal conditions.
- The main provisions of the developed methodology for preparing for the professional activity of the EEC teacher-musician in IEE are described in many published works (Gorbunova & Davletova, 2017).

Characteristics of the Methodology Model

Active and interactive methods are used:

Education is used for the active involvement of teachers in the educative process;

Seminars include discussions, educative, thematic seminars, forming the knowledge, experience, practical joint participation in the discussion and solution of the problem;

The method of working in small groups has its goal of deeper assimilation of the studied material;

A round table to activate each listener, the opportunity to express his or her opinion;

Master classes by leading experts in this field; the project method is used to achieve the educational goal through a detailed study of the material resulting in the creation of a practical creative product.

The main condition was to attract the capabilities of technology, planning independent work of students - assignments, didactic materials, and algorithms for performing practical work were formed in the form of cases and open on the cloud; materials from students' work were saved using cloud technologies (Gorbunova & Plotnikov, 2019; Gorbunova & Petrova, 2019). Particular attention was paid to the work of the "Teacher-musician tribune" platform.

When developing the content of continuing educative curricula for the formation of IEE, the authors highlight many principles:

1. **The principle of compliance of the educational content with social order.** The content of the curricula is based on the professional standards of the extended education teacher.
2. **Sufficiency principle.** Introduction to the educational content of a limited amount of educational information: the development of information, knowledge in the field of MCT and EMI for the implementation of practical activities in this direction and self-development - independent study, expansion and deepening of professional knowledge and skills in this field.
3. **The principle of unity of education and learning.** Ensuring the possibility of preparing for the professional activity of a teacher-musician in IEE due to the developed educational and methodical complex in the field of modern music technologies, as well as organizing practical independent activities for mastering the skills of artistic and creative activities using EMI.
4. **Responsiveness principle.** Introduction of new topics, the development of new models of different classifications (variable topics of courses) to the content.

5. **Integration principle.** Creation of a meaningfully connected unified educative system based on the interconnections of disciplines: mastering the technical parameters and artistic and performing abilities, work on creating a musical project; mastering the methodology of working on a musical project.

Criteria for the selection of educational content:

1. The formation of knowledge and skills of a teacher-musician in the field of mastering MCT tools and methods of teaching MCT in EEC institutions. This criterion is the key and is implemented through the study of the social order of society, as well as the individual needs of teachers and the analysis of professional standards of the EEC teacher to identify the necessary competencies.
2. The effectiveness of the educative process, the development of the curricula content, and the main results.
3. Accounting for the introduction of MCT in the EEC facilities: development and implementation of additional general educative developmental curricula (individual education, ensemble, etc.), and the creation of new structural units.
4. The expansion of the use of EMI in the professional activities of a teacher-musician in demand in various subject areas: in musical education groups at preschool, cycles of theoretical disciplines, the introduction of EMI in children's orchestras, musical and theatrical productions, etc.
5. Accounting for the organization of the learning process in the courses: education mode; filling in groups according to the level of teachers' preparedness; material and technical base; selection of qualified teachers, etc.

The proposed methodological approaches allow us to develop the content of preparation for the professional activities of the EEC teacher-musician in IEE.

The result of mastering the curricula is the creation of own educative product:

- Created and recorded author's project of a versatile arrangement of a musical work (designing a project, selecting expressive means, working with a toolbar, creating a multifaceted electronic arrangement, recording a musical composition with a detailed commentary, etc. on a sequencer).
- A teacher-musician's IEE was built, where informational, methodological materials, didactic teaching aids, electronic educational resources, assignments for independent work, video courses, video materials for seminars and master classes, a forum, etc. are placed.

The basis of the methodology for conducting continuing educative courses for teachers-musicians is made up of

provisions that include *substantive, organizational, and reflective blocks*.

The content of the education is based on professional competence, which includes the special knowledge of teachers-musicians, their professional, life experience, and their pedagogical values. Based on the results of the diagnosis of professional competencies in the field of MCT. Moreover, the set of tasks takes into account the development trends of modern EEC. When solving groups of professional tasks, teachers form the willingness and ability to implement a new direction of professional activity for them in IEE.

Educational technology, the forms, methods, and conditions represent the organizational part of education for educating teachers in IEE, which the authors consider to be a systematic way of organizing activities that allow for the successful formulation of professional, didactic, methodological and personal education of teachers-musicians. Education technology for preparing teachers requires a phased implementation: immersion in an activity, problematization, goal setting, solving professional problems, and reflection.

The reflective part presents the developed criteria for educating teachers-musicians in four indicators.

A pedagogical experiment was conducted to test the effectiveness of the methodology.

- A. *The preparatory phase* (2007-2013), which allowed for identifying the main reference points in the process of teaching many educational disciplines and advanced educative courses in various educational institutions of St. Petersburg. Beginning of the IEE formation.
- B. *Results of the ascertaining experiment* (2014-2015) allowed for diagnosing an insufficient level of knowledge and practical skills in the application of IT and MCT in their professional activities among teachers in advanced educative courses.
- C. *At the search stage* of the experiment, a set of criteria was developed that characterize the quantitative and qualitative indicators of preparation for professional activity in IEE to assess the effectiveness of the implementation of the methodology. Diagnostic methods, tests, tasks for practical activities and assessment criteria were developed to identify the level of preparedness of the teacher-musician.

At this stage, the IEE of the EEC teacher-musician is formed. Conditions for the professional interaction of teachers in IEE were created.

The following were identified as indicators of the criteria for the effectiveness of preparation for the professional activity of a teacher-musician:

test results, the ability of teachers to work independently with functions, the results of control and practical tasks, the presentation of a creative product; questioning.

D. *The formative stage* of the experiment (2018-2020) implemented the developed methodology in practice during classes and educative seminars as part of advanced educative courses based on the St. Petersburg City Palace of Creativity for Youth and learning and teaching laboratory "Music and Computer Technologies" at the Herzen State Pedagogical University of Russia.

EEC teachers, teachers of children's music schools/ children's schools of arts, music teachers of secondary schools, participants in scientific and practical conferences, competitions and festivals from various regions of Russia, students of advanced educative courses: "Electronic musical instruments", "Electronic musical synthesizer", "Improving the professional activities of music teachers", "Traditional and modern methods of teaching solfeggio", "Innovative methods and technologies in modern musical education", "The art of arranging on digital synthesizers", "The art of performing skills on an electronic musical instrument", "Teaching an electronic keyboard synthesizer", "Methods of teaching musical disciplines with using music and computer technologies", "Improvisation and arrangement on digital keyboard instruments. Theory. Practice. Methodology" participated in the experiment. More than 350 people participated in the experimental work at the last, final stage (formative experiment).

CONCLUSIONS

The developed model of the IEE for the EEC teacher-musician considers quite fully the interconnections between the subjects and participants in the educational process of the teacher-musician and allows for formulating the ways to solve the research problem. The analysis of the existing approaches to the preparation for the professional activity of the EEC teacher-musician allowed for developing effective ways of educating in IEE:

A methodology has been developed for preparing an EEC teacher-musician for professional activity in the IEE based on the application of the capabilities of the ICT. The methodology is based on the developed curricula for the professional development of teachers-musicians. Curricula are based on a practice-oriented principle of selecting the content of education using modern technologies and various forms of education, allowing for expanding the educational capabilities of the methodology. The

necessity of expanding the content of additional professional curricula based on the study and application of the capabilities of MCT and EMI is substantiated.

Within the framework of the developed methodology for educating the EEC teacher-musician for work in the IEE, curricula of advanced educative courses in this direction are being implemented, based on a context-oriented selection of the content of education.

The effectiveness of the developed methodology for preparing for the professional work of a teacher-musician was experimentally verified - in the EEC system, advanced educative curricula based on the study and application of the capabilities of MCT and EMI are introduced and are being implemented. Analysis of the data obtained in the course of the experimental work confirms the effectiveness of the developed methodology.

The developed methodological materials that were used in the experimental work showed the effectiveness of the proposed methodological, pedagogical and organizational conditions for preparing for the professional activity of the EEC teacher-musician in the IEE.

The constructed model of the IEE of the teacher-musician ensures the continuity of education affects the process of preparation for professional activity and determines its characteristic features, being a determining factor in the preparation process.

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