Information and Communication Technologies as the Factor of a Professional Musician Training

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Abstract: The study from the perspective of the current conditions of information considers the issues of a professional musician training improvement from the perspective of the current information system development conditions. According to the researchers, a quick update and the obsolescence of information and communication technologies and computer resources in society is accompanied by a slow adaptation of a musical education system to their use. In order to resolve this situation, the researchers suggest the ways to improve the training of a professional musician which are based on the integration of methodological approaches: a design and technological, a competence-based, a contextual and other ones taking into account the development of computer technologies. The study offers the principles of integration, reflection, subjectivity and productivity. The researchers teaching experience is offered concerning the creation of tutorials that focus on the effectiveness of a professional musician training in terms of information-communicative educational environment.

Key words: Professional musician training, design and technological approach, integration of methodological approaches, professional musician training content, information and communicative educational environment

INTRODUCTION

The modern system of musical education was faced with the problem of conceptual and philosophical nature, the essence of which is shown by the contradiction between the demands developed by the information society to an expert musician and the current system of pedagogical training at educational institutions which is manifested in a slow dynamics of methodological approaches change in relation to the increasing role of Information and Communication Technologies (ICT). A dynamically developing musical information and communicative educational environment encourages the search for new methodological approaches to the training of a professional musician.

The actualization of the problem is that the content of music education demonstrates the backlog of acquired knowledge from the real problems of application and solution of social and professional issues. The information and communication technologies are invaded increasingly in a real professional career becoming an important factor for a musical expert preparation.

MATERIALS AND METHODS

The solution of this contradiction raises the problem of some innovative approaches search concerning the music education within the terms of information society in general and the improvement of an expert musician training in particular. The dynamic update of information technologies, computer tools and a slow introduction to their use and an effective application in the educational environment prompted us to consider some aspects of an expert musician training. As the methodology that responds to the challenges of our time, we consider the integration of different methodological approaches a design and technological, a competence-based, a contextual, a learner-centered filling in of the content and the structure of a professional musician training.

The use of information technology issues within the educational environment were investigated by Gershunsky (1987) and Kirilova (2012) the computerization issues of musical education were considered by Taraeva (2005), Fisher (2005) and Kharuto (2009).

Despite the fact that information and computer products are widely introduced in the educational environment, it should be noted the lack of research in terms of its quality, efficiency and the methods of use for the training of a professional musician. Our teaching experience in this area suggests that the use of information and communication technologies may have different results in different educational environments. The researcher Anisimov notes that "Information technologies mainly do not have an ontological, a

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metaphysical, a culture reflective "technique" for reflexive and strategic objectives solution. Only a reasonable management of an integrative process "may create a mental activity environment". Therefore, "the creation of a mental activity environment" is the task of a teacher which may be implemented successfully during the preparation of an expert musician taking into account the creative nature of a professional musician.

RESULTS AND DISCUSSION

Let's consider the design and technological approach which is presented in Novikov (2002)'s studies. Let's note that these studies did not address the issues of methodological approaches integration, taking into account the rapidly developing information and communication educational environment during the preparation of an expert musician.

We consider the project as a "completed cycle of productive activity" (Novikov, 2002). The design and technological approach during the preparation of a professional musician is manifested in an integrative, technological, performance and research aspects. The project activity of a musician integrates the use of knowledge from various scientific fields (music, physics, pedagogy, psychology), the use of information and communication technologies, intensifies the interdisciplinary of knowledge acquisition. During the use of information and communication technologies a future musician is involved in the conditions under which he is forced to perform a variety of activities. A computer project activity with a specific goal catalyzes the importance (value) of actions and develops the responsibility not only for an outcome (product) but also for the process that is based on the desire to be a creative person. Thereby the research competence is developed.

The use of information and communicative technologies in a musical education allows you to apply an individual activity pace and style to fill this activity with the psycho-emotional content and personal meaning which is consistent with the creative nature of a musician professional activity.

The main purpose of design and technological approach use during the preparation of a professional musician is the formation of his readiness for the design and construction of a musical product, the modeling of processes and situations with the use of information and communication technologies. This willingness presupposes the presence of four competence groups for an expert musician: the designing, information, reflexive and executive ones.

According to the essential characteristics of a design and technological approach and the results of our experience, we identify the following specific principles of its implementation during the process of an expert musician preparation.

The principle of methodological approaches integration is manifested at the level of content and the process of an expert musician preparation, allows to use various forms during the development of information and communication technologies to take into account the subject content conservatism and the relative dynamism of music and computer technologies. The principle is based on culture continuity laws. The information and communication educational environment develops the experience under which a personal growth of a student takes place. During the traditional methods the educational environment is more artificial. It is different from a real professional and social environment where a graduate, facing with the realities of a professional activity is not able to adapt. Therefore, the preparation of an expert musician, based on the integration of a design and a technological competence-based approach, integrates the educational and socio-professional environment, introduces the student into a natural professional environment and thus solves the problem of the uncertainty overcoming. The results of this training are adequate to the situations that appear in their professional activity.

The pedagogically optimal use of info communications in music education allows you to "draw up such a set of today experience which would allow to live tomorrow fruitfully and creatively" (Dewey, 2000). The above mentioned principle is focused on the removal of an objective contradiction between the objective nature of a training and the complexity of the tasks that have to be solved by a future musician during his social and professional activities. The design as a form of an expert musician preparation enables to provide a real passing of a development phase concerning the knowledge which are related to their application in a real professional environment. The application of a design and technological approach, combined with a competence-based one in information and communication educational environment creates a situation of searching the ways and means to achieve the set objectives. The independent search of the tools for a musical project performance with the use of information and communication technologies encourages a student to delve into the essence of a subject knowledge, to identify its practical aspect to disclose the new and unexpected aspects. Such a knowledge embodied in a real product becomes a personal knowledge.

The principle of training efficiency (performance) makes the students to focus on the completion of research and creative activity phases with the use of information and communication technologies, the result of which is a practically significant product. It should be emphasized that the concept of "productivity" was introduced into a scientific use by the philosopher Erich Fromm who understood it as an efficient use of the abilities for the benefit of society as the antipode of destructive activities (Fromm, 1998). The basis of this principle is the determinancy of results for an expert musician training by the nature of students' activity and communication.

During the modern period, the results of training are not only the subject knowledge and skills but also the general professional and a professional musician competences that manifest as the ability and the willingness to deal with not only the professional but also the social problems. Of course, the domain knowledge music informatics, music theory are the foundation, the reference of readiness to solve professional problems. The changing of subject knowledge role and place necessitated the changes to the content of activities and the communication of students. Therefore, the preparation of an expert musician is the most effective one when it is combined with a project activity which manifests itself in practical computer skills, a digital audio record, a set of notes, the independent use of MIDI-editor programs, etc.

The principle of subjectivity is realized by creating the conditions that take into account the self-determination and the intelligence of an individual, the value of a personal point of view, an individual approach of problems solution. As a result, the creative activity is dynamized, the motivation of a goal achievement is increased, the formation of intellectual, professional and social competencies is catalyzed.

We believe that this principle also provides the fundamentalization of music education. Namely, the selection for the education content of the basic and the relevant components for the future. The subjectivity is a property of an individual and is a conscious activity that is directed to the external environment. At the same time, the goal-setting and planning is not possible without an appeal to your own past experience, the critical reflection and the inclusion of reflective mechanisms.

The principle of reflection is implemented in a conscious activity and serves as the basis of a creative experience acquisition. The implementation of projects using the information and communication technologies becomes the part of a personal experience in terms of reflection, the meaningfulness of a project activity

manifestation. "Reflection is the revealing of sequence of events meaning" (Polivanova, 2008). Musical creativity makes the relation of a plan, a goal setting and a musical product creation is very important one. Therefore, reflection is a platform of creativity and the condition of new knowledge and skills increase. It is the principle of reflection that allows you to make the process of a musician thinking activity preparation, the meaningfulness of a professional work creative nature. It should be emphasized that the abovementioned principles are interrelated, interdependent and interpenetrative ones.

Let's refer to the problem of methodological approaches integration. If the design and technological approach to a professional musician training within the information environment directs and enables the creation of a creative product, then the competent approach is focused on a professional musician training to a practical orientation, enhances the relation with the life experience, enhances the communicative component in the activity (Auhadeeva, 2014). In this context, the idea of the teacher Dewey (2000), who believed that the experience is the source of education also becomes relevant today. This is manifested in the ability to create a new musical product in the creative activity, the use of info communicative techniques and technologies of a future professional activity for an expert musician.

According to the abovementioned things, the following competencies that are interdisciplinary in nature shall be revealed:

- In the field of psychology: the ability to communicate in a virtual environment
- In the field of information technologies: the knowledge of internet communication means, network tools, network services

The general cultural competence in the field of professional activity:

- To use the information and communication technologies in order to improve the professional activity (general cultural competences 5)
- To be focused on a frequent change of technologies in professional activity (general cultural competences 9)

Professional competences: The use of the technical audio record means during the executive activities, to conduct rehearsals and recording in a studio (Professional competences 1.5).

Information competence is the ability to work effectively in a team, the ability to work with the large volumes of unstructured information, the ability to

structure the information logically and consistently, the ability to take initiative, the commitment, the mobility and dynamics, the systemic thinking, the readiness to set new accents and priorities; the ability to determine the results of activity; the ability to determine an optimal amount of information.

The implementation of methodological approaches integration within the information and communication educational environment requires the creation of innovative teaching aids. We realized this attempt within the example of the training manual "Fundamentals of studio recording" (Mitrofanov, 2014). In this tutorial, the principles of the abovementioned approaches are implemented with the use of information and communication technologies. Of course, the tutorial also implements the activity, problematic, modular and contextual approach. The content of the training material meets the requirements of the federal state educational standard for a higher professional education. The structure of the teaching material within the course is divided into a theoretical and a practical section. The theoretical section is arranged in the way ensuring the integrity and the continuity of knowledge. The practical material for the course is divided into the problematic clusters which are focused:

- On the development of design-constructive abilities taking into account the information and communication technologies
- On the development of the performing abilities
- On the development of the reflexive abilities

The problems of clusters are related according to the complexity of the material and taking into account the information, logical and communicative relationships.

The structural content of a training manual is united by the unity of methodological approaches. The computer projects are presented as a complete result of productive activity. The structure of a textbook contains such elements as the goal setting, the actualization, the theoretical material, the methods of application, the ordering, the independent works, the additional literature and the links to electronic resource.

The actualization is focused on the use of previously learned knowledge and skills by the students. This knowledge and skills are the foundation for a new product creation. Since the course "The basics of studio recording" is studied after the studying of the course "Computer technology in music education" by the students insofar the teaching method of actualization encourages the students to recall the reference material relating to these topics and the corresponding situation.

The theoretical section covers the current level of a state, the trends of information and communication technologies development in the music industry. The methodological basis for this study inclusion is a practice-oriented approach, according to which the theory must be combined with practical actions. Depending on one's own tastes and criteria, the degree of validity a future expert musician is able to use the information and educational portals, the network shells, the web forums to carry out the synthesis of sound and music in a studio. On the other hand such an approach will contribute to the implementation of a textbook educational function the formation of musical and aesthetic tastes among the students.

The questions and tasks for the students are not aimed at the reproduction of knowledge in the field of information technologies but on their interpretation and their application within the actual practice of the learning process, referring to the own experience. The tasks are formulated in such a way that they encourage the students to reflect on their efforts concerning the creation of a new musical product, the development of professional competencies. The students are offered to identify the influence of the studied educational material on the development of professional readiness, the activity motivation, the formation of the psycho-emotional sphere, the personal growth, etc.

Each section has the systematization which reflects the relationships of educational material and practice that allows to identify the significant elements in the studied material. At the same time, the students acquire the ability to synthesize the musical information using the information and communication technologies.

The independent works contain the tasks the content of which requires the students to work not only with the text of a textbook but also the analysis of practice activity during the training and the creation of a musical product: sound synthesis, the arrangements of a musical work in a studio, etc. A student may choose the tasks in accordance with their interests, tastes and possibilities. For example, the study of modern software for the processing and writing of music the sequencing and the creation of simple effects, the acquisition of skills for the operation with MIDI interfaces, the virtual instruments and synthesizers. This teaching method allows to form the important basic competences.

The manual contains a list of recommended literature. It provides the modern literature, the classic literature, revealing different aspects of information and communication technologies use for the future career in the music industry, contains the links to internet sources.

It should be noted that the proposed development of the course "The basics of studio recording" content is essentially a model of an expert musician training which involves taking into account the complexity of educational material the individual route of development with an extensive use of information and communication technologies.

The integration of methodological approaches during the preparation of an expert musician requires the fulfillment of all stages concerning the productive activity a purpose, a plan, a reflection, a realization of a musical product. We understand that a student may not always perform all the activity phases by himself as this requires an appropriate training. But, this is the main goal: to create a professional commitment to the implementation of all phases.

Therefore, the performance of a number of tasks, the stages of productive activity is accompanied by the help of a teacher, whose role is gradually shifted to counseling. It is necessary to say about the reasonability of peculiarities for the educational process organization. If we aim to achieve the productivity of information and communication technologies application during the training of professional musicians, then we should enforce the value, transformation and communication components in the learning process. This achievement of this is supported by the inclusion of creative research practical training sessions, the gaming simulation and the performance of the assignments on an interdisciplinary basis, the performance of creative contests, etc. The most complicated task during an expert musician preparation is the access to the creative level, the awakening of a student creative activity. This is supported by music projects with the inclusion of a student own experience. Such projects may be implemented during a teacher training.

Our experience showed that there are certain features during the implementation of developmental possibilities concerning the use of information and communication technologies during the training of a professional musician, depending on the content basis of the educational activity and the implementation of professional material. As the practice showed it is necessary to increase the proportion of independent, creative activity of students, enhance the relation with the real life and professional practice.

CONCLUSION

In the research, we found out that the information and computer technologies have a great didactic potential for the preparation of an expert musician. Let's determine the most important aspects:

- The continuous training is related to the rapid change of computer equipment and technologies
- The structure of the learning process: the sequential arrangement of courses, taking into account the logic and complexity
- The structuring of educational material content: goal setting, actualization, theoretical material, methods of application, systematization, independent works, additional literature and the links to electronic resource
- The integrity of principles: integrative methodological approaches, productivity, reflection, subjectivity
- The development of such qualities as the readiness for self-development, self-control and self-esteem among future musicians

The presented experience of an expert musician training with the use of information and communication technologies is the attempt to bring the system of education in line with the modern requirements concerning the future professional activities. We believe that the content and the process of an expert musician preparation based on the principles of methodological approaches integration corresponds to the contemporary culture dynamics (music, business, information, etc.). This implies the willingness of future musicians to the productive information and communication activities, the integrity and the self-fulfillment of operations (goal-setting, self-development, self-control and self-esteem).

This approach to the preparation of an expert musician contributes to the fact that the students learn during the process of upcoming professional problems solution. They gain the experience of working with a variety of databases that require the ability to choose to take different solutions based on non-standard situations. They form a critical thinking, the responsibility for an independent search to resolve the situation.

The account of the developing information and communication educational environment during the preparation of a professional musician requires the performance of further research to improve the content, the methods, the forms and the means of training and the monitoring of results.

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