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MODEL OF DEVELOPMENT THE MUSICAL GIFTEDNESS OF SCHOOLCHILDREN IN COMPUTER MUSIC STUDIO

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Abstract

Teaching children and teenagers in a computer music studio is a relatively new activity, the appearance of which is due to the wide spread of relevant artistic practice. And to make this training as effective as possible, aimed at the development of musical giftedness of schoolchildren, becomes an actual pedagogical task. The proposed model for solving this problem is based on the interaction of a number of pedagogical conditions arranged in a hierarchical structure. The key pedagogical condition is to stimulate students' interest in music and computer creativity and attach them to this activity, developing their musicality on its basis. A number of pedagogical conditions are directly related to the above key condition (the priority of musical and creative activities in relation to the development of knowledge, skills and abilities; selection of appropriate software; reliance on high-quality musical material; a gradual increase of the pupil's contribution into the musical entire in the process of interaction with computer programs). Other conditions have an indirect effect on the musical and computer creativity of schoolchildren (the competence of the teacher in this activity; the presence of this or that educational and methodological support and digital equipment). The model described in the article can serve as a basis for the wide distribution of music and computer creativity in general and additional education institutions.

Keywords: Schoolchildren, computer, music, activity, musicality, giftedness.

1. Introduction

The development of musical giftedness of schoolchildren as a system of mental qualities that ensure a high artistic level of musical creativity, is determined primarily by their involvement in relevant activities. The main obstacle on this path is its operational component, which in any art, including in music, quite complex. This circumstance inhibits the development of children's interest in artistic creation. A pupil of a general education school, facing difficulties and doesn't receiving a worthy, in his opinion, product of his efforts, often decides negatively whether it is advisable to apply efforts in this field. - In his plans there is no professional development in the field of art, and what he succeeds in, for example, playing a musical instrument, doesn't inspire him. And the pupil decides for himself: "As I can play, I don't want to." In the conditions of the termination of musical practice, there is no need to speak about any development of his giftedness.

Appeal to digital technologies in many respects makes it easier to involve children and adolescents in the artistic, including musical creativity. After all, activity based on these technologies is carried out in conjunction with a computer program, which often assumes its routine component. And the fact that novice musicians unable to do, it may well be made up for it.

True, relying on interactive templates will not add to the sound of originality. But at first it is important to cause pupils interest in this activity, and a fully sounding result of their efforts may well provide a solution to this problem. Increasing the originality of the musical product can be postponed to subsequent stages of training.

In addition to facilitating various operations, digital technologies provide accession not only to performance, but also to elements of composition, sound direction and sound synthesis, which harmonizes the development of pupil' musical abilities. For advanced computer users, the possibility of various sound transformations, which allows them to create bright and original artistic images, becomes especially relevant.

Thus, musical work at the computer turns out to be interesting for the most diverse categories of students, from beginners to advanced, and the most attractive prospects open up for the educational activities associated with this work. It is no coincidence, therefore, that the great attention that teachers and students of Russian children's music schools and schools of art show to it, is widespread in these institutions based on the using the digital technologies in educational disciplines, including the "Computer Music Studios".

2. Problem Statement

Music and computer activity is a relatively new type of activity, which has become widespread in general education. The works of a number of domestic and foreign researchers is devoted to various aspects of the problem of schoolchildren being engaged to it. In particular, schoolchildren' musical development is studied in the process of this activity (Chosky, Abramson, Gillespie, Woods, & York 2001; Chung & Wu, 2017; Eilon, 2010; Fang, 2017; Krasilnikov, 2017; McCoid et al., 2013; Mednikov, 2002; Yan & Zhou, 2017); the development of pupils in traditional specializations using a computer (Bullock, Coccioli, Dooley, & Michailidis, 2013; Ouyang, 2016); pupils with visual impairments

(Filatov-Beckmann, 2015; Gorbunova & Voronov, 2015); discusses the features of modeling musical creativity of schoolchildren on the basis of digital technologies (Gorbunova, 2017; Wu, 2016); attention is paid to rare types of musical creativity of pupils - for example, creating a sound landscape using a computer (Jeffery, 2010; Bullock et al., 2013) and others.

The problem of the development the artistic giftedness of schoolchildren is also in the field of view of many modern researchers. In particular, they consider: a model of children's musical giftedness and the interaction between giftedness and their abilities in various fields of activity (Getmanenko, 2016; Veas, Castejon, O'Reilly, & Ziegleret, 2018); features of the development the schoolchildren' giftedness in the framework of the three-tier music education system existing in a number of countries (Nogaj & Bogunovic, 2015); peculiarities of the teachers' work with gifted children (Russell, 2018), the problem of the validity of methods for determining the degree of giftedness of pupils (Benson & Kranzler, 2018; McBee, Makel, Peters, & Matthews, 2018) and others.

However, in the works of researchers, the problem arising at the junction of these two areas of psychological and pedagogical research is not affected: how to effectively develop the musical giftedness of schoolchildren at the lesson in a computer music studio?

The development of the posed problem is related to solving the following main research objectives: determining the pedagogical conditions for the development of musical giftedness of schoolchildren at these classes and integrating these conditions into a single pedagogical model.

The relevance and practical significance of the solution the posed problem is due to the rapid process of introducing digital technologies into general and additional education and the prospect of a significant expansion of the circle of children, adolescents and young people involved in computer music making.

3. Research Questions

To develop a research problem and solve the above-mentioned main tasks, it is necessary to answer the following questions:

- what psychological qualities of schoolchildren underlie the development of their musical talent?

- What are the features of musical activity of schoolchildren in a computer studio, contributing to the development of their giftedness, and ways to stimulate their interest in this activity?

- what are the key competencies are necessary for the teacher to conduct classes in this studio?

- what material and technical equipment and organizational conditions are optimal for these classes?

- What are the prospects and conditions for the development of musical creativity of pupils on the basis of digital tools in classes in secondary schools?

4. Purpose of the Study

Development a system of pedagogical conditions that make up the model of development the schoolchildren' musical giftedness in a computer music studio.

5. Research Methods

The study of psychological and pedagogical literature on the research topic; analysis of computer programs for musical education and creativity; pedagogical supervision of the school music activities using computer; generalization of the materials collected during the research process.

6. Findings

Musical giftedness - a multi-component concept. Modern researchers identify such intrinsic components as musicality and creative thinking, special abilities, motivational component, personal component (Getmanenko, 2016). Catalysts such as natural abilities, early musical experience, increased opportunities for creativity and motivation for success, support from others, cultural knowledge and values (Ho & Chong, 2010) are associated with the development of giftedness. There is a widespread view that the absence of any of the elements of giftedness leads to its leveling (Simonton, 2000).

That is, modern researchers consider musical giftedness as a complex concept with system integrity, which is hard to disagree with. What is the basis of this system, and what pedagogical conditions, acting on it, determine the development of this giftedness?

The central structure-forming element of musical talent should be recognized as musicality, understood as the capacity for intonation activity, which forms the core of any musical activity and represents the process of integrating the elements of form and content, "sound" and "meaning". In this definition, we proceed from the Asafiev (1971) concept of musical creativity as a manifestation of intonation - the activity of musical-sound objectification of the image-thought and distribution - the comprehension of the content of musical sound.

In accordance with the proposed point of view at musicality, a hierarchy of musical abilities is logical. Central among them is that musicality consists of two components: creative and perceptual, and those, in turn, rely on a multitude of particular abilities.

And if we take into account that this main ability develops in the process of various types of musical activity, subject to their intensity, it becomes clear how much computer music creativity has a beneficial effect on it. It deepens the pupils' understanding of the sound material of musical activity and its imaginative structure, expands its front, facilitates its operational component, and, therefore, effectively develops the musicality of the widest masses of pupils and enriches their creative potential, which is so significant today for self-actualization. It follows that the first and leading pedagogical condition for the successful development of musical giftedness of schoolchildren in a computer studio is primary attention to the improvement of their musical and creative activities and the subordination of academic work on the development of various musical knowledge, skills and abilities of this primary task.

Auxiliary educational and musical tasks can also be solved with the help of digital tools. What is the most diverse arsenal of computer tools for: video simulators for mastering the game on a musical keyboard; interactive simulators for obtaining experimentally certain musical knowledge (about musical notation, various timbres, instrumental compositions, musical works, etc.); musical jigsaw puzzles to recreate the musical form of the fragments of the composition in the form of notes or / and sound fragments; musical encyclopaedias, quizzes, tests for the acquisition and verification in the form of a

game the knowledge of students and many others, etc. But all these programs should be in addition to the leading programs in the computer studio designed for musical creativity: designers, auto-arrangers, MIDI-sequencers, audio editors, etc.

Hence the second pedagogical condition for the successful development of musical giftedness of schoolchildren - reliance on a variety of software tools with the obligatory presence of those that allow you to engage in musical creativity (musical design and composing, arranging, instrumentation, sound engineering, sound synthesis, etc.).

The third condition should be recognized reliance on high-quality musical material in the performance of educational work of pupils on computer arrangement. In addition to creative tasks, the principle of the fundamental in general education involves solving educational tasks in music classes. Therefore, the most relevant in these classes are folk and classical works, the best works of modern music of academic and mass genres. This approach to the formation of the training repertory allows you to create a good musical taste of children and adolescents as an important element of their musical giftedness.

Among the programs for musical creativity, we can distinguish those in which the user's role is modest enough when pre-set texture patterns dominate (for example, constructors, auto-arrangers) and where it gradually increases (MIDI-sequencers, audio editors), displacing these patterns from the resulting product. And the next, fourth pedagogical condition is the forming the training based on a gradual increase in the role of the pupil in creating a musical entire when interacting with these programs.

This is also important at the initial stage of training, when with minimal skills a pupil can get a decent sound result using textural patterns that stimulates his interest in musical education, and at subsequent stages, when mastering complex means of creating music leads to the achievement of greater originality of the creative product. Thus, this pedagogical condition allows to ensure the development of such an important component of giftedness as an interest in the computer music creativity of schoolchildren throughout the entire period of study.

The four pedagogical conditions described above directly affect the pupil's musical and creative development, therefore they constitute the core, the central elements of the pedagogical system for the development of musical giftedness of schoolchildren in a computer studio. The following conditions have a mediated effect on this development, what, however, does not diminish their value at all.

The fifth of them should recognize the presence of the necessary competencies of the teacher. In addition to his experience in teaching music, he must be able to use a computer, to be located to work in music and computer programs and possess the appropriate creative skills, as well as be able to "infect" students with his passion for this work.

And finally, the last two conditions are organizational. This is ensuring the regularity of classes (at least once a week) on the basis of appropriate curriculum and teaching aids (for example, the following: Krasilnikov, 2005; Krasilnikov, 2017). As well as the presence of digital equipment (computer, MIDI-keyboard, sound card or virtual synthesizer, speakers or / and headphones) and software for musical creativity of schoolchildren.

The characterized model of development the musical giftedness of schoolchildren in a computer music studio can be represented as the following scheme (see Figure 1):
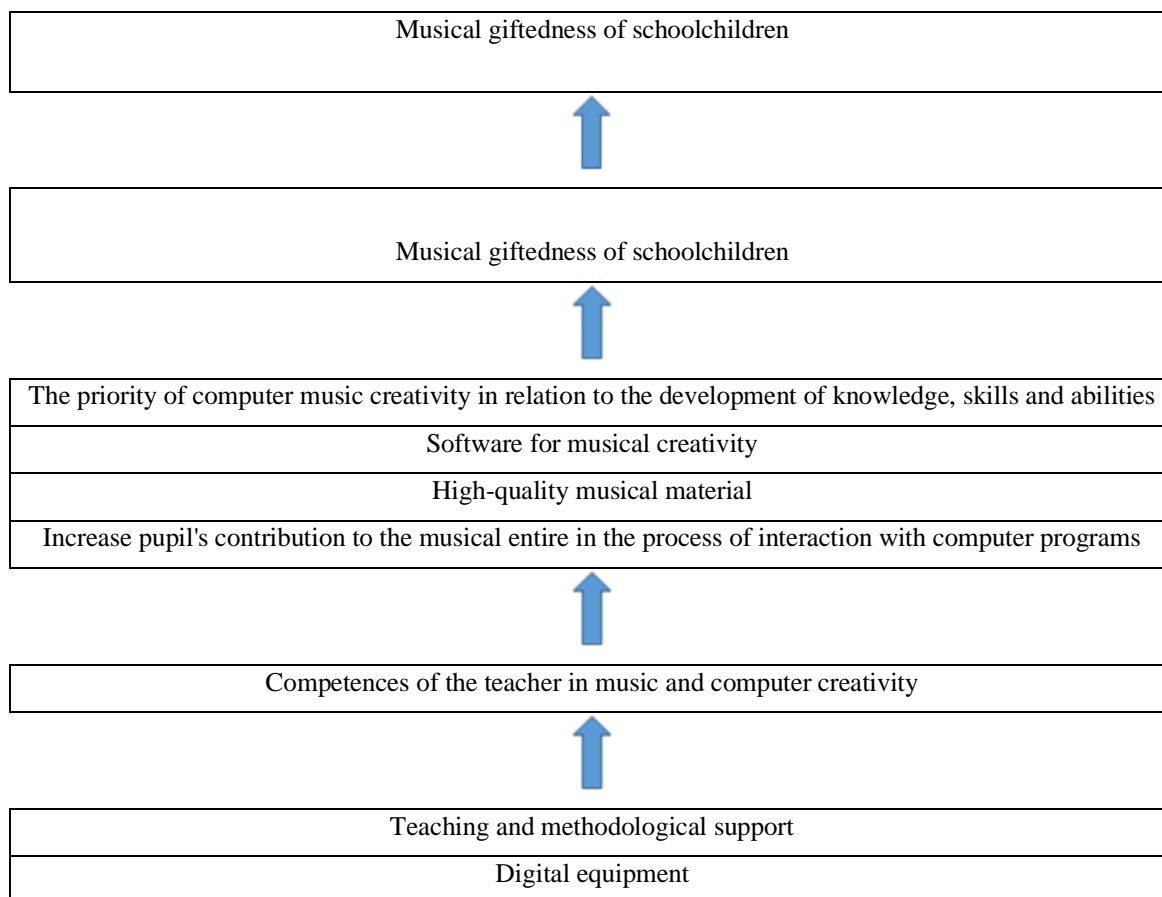
Musical giftedness of schoolchildren

⬆

Musical giftedness of schoolchildren

⬆

The priority of computer music creativity in relation to the development of knowledge, skills and abilities
Software for musical creativity
High-quality musical material
Increase pupil's contribution to the musical entire in the process of interaction with computer programs

⬆

Competences of the teacher in music and computer creativity

⬆

Teaching and methodological support
Digital equipment

Figure 01. Model of development the musical giftedness of schoolchildren

7. Conclusion

The model of development the musical giftedness of schoolchildren in a computer music studio is a system of pedagogical conditions that is responsible for this development, the most important of which is the provision of music and computer creativity for schoolchildren aimed at developing their musicality. This condition is directly related to the group of pedagogical conditions that specify the nature of the learning activities and promote the development of pupils' interest in it: the priority of computer musical creativity in relation to the development of knowledge, skills and abilities and the availability of appropriate software, reliance on high-quality musical material, a gradual increase in the contribution of the pupil into a musical entire in the process of interaction with computer programs. The pedagogical conditions that have an indirect impact on the nature of the pupils' learning activities are also significant: the level of teacher's competence in music and computer creativity, the presence of a particular teaching and methodological support and digital equipment.

The scientific novelty of the characterized model is determined by its system building, the hierarchical structure of its constituent elements - pedagogical conditions, and also its reliance on the author's interpretation of musicality, which is based by Asafiev's (1971) theory of intonation and assuming the equivalence of the fundamental components of musicality - creative and perceptual.

The practical significance of the described model is due to the fact that it can serve as the basis for the wide dissemination of music and computer creativity, not only in supplementary education

institutions, but also in general education. Of course, with a number of additional conditions: an increase up the number of pupils in the study group to 15 people, access to the school computer classroom and providing each of them with a computer, additional hardware and software (including sound cards or virtual synthesizers music editors, headphones, a projector, a screen), adjustment of teaching and methodical support, additional training for music teachers, help of a laboratory technician, access to the Internet, etc.

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