

Music computer in teaching the “Listening to Music” course

Computadora de música en la enseñanza del curso “Escuchando música”

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Summary

The “Listening to Music” course is an important link in the music education of a child. The “Listening to Music” course fosters love and interest in music, teaches to understand its language, and develops emotional responsiveness in children. The article considers new opportunities in teaching the “Listening to Music” course, which appeared along with a music computer, and which is more often used in the children's music school and meets the requirements of modern pedagogy. The article describes the capabilities of music and computer programs aimed at developing creative abilities of children. The authors examined new forms of work in the classroom using a music computer. The article proves that using a musical computer opens up broad prospects for employing creative tasks at children's music and art schools.

Keywords: Music Education; Music and Computer Technologies; Music Computer; Listening to Music.

Resumen

El curso “Escuchar música” es un enlace importante en la educación musical de un niño. El curso “Escuchar música” fomenta el amor y el interés por la música, enseña a comprender su lenguaje y desarrolla la capacidad de respuesta emocional en los niños. El artículo considera nuevas oportunidades en la enseñanza del curso “Escuchar música”, que apareció junto con una computadora musical, y que se usa con mayor frecuencia en la escuela de música para niños y cumple con los requisitos de la pedagogía moderna. El artículo describe las capacidades de la música y los programas informáticos destinados a desarrollar las habilidades creativas de los niños. Los autores examinaron nuevas formas de trabajo en el aula utilizando una computadora musical. El artículo demuestra que el uso de una computadora musical abre amplias perspectivas para emplear tareas creativas en las escuelas de música y arte para niños.

Palabras clave: Educación Musical; Música y Tecnologías Informáticas; Computadora Musical; Escuchar Música.

Introduction

The “Listening to Music” course, taught in children's music and art schools during first 3 years, can be considered as the initial stage of the “Musical Literature” course. A Musical computer (MC) provides for invaluable help in solving the problem of early familiarization of children with the musical art (Belov, Gorbunova, & Gorelchenko, 2006; Gorbunova, 2011; Gorbunova, 2007). This is because modern children have huge interest in computers. Using music and computer technologies (MCT) (Gorbunova, 2019; Gorbunova & Hiner, 2019) in the “Listening to Music” course allows for solving the main tasks of music education more effectively and fruitfully: this is, first of all, teaching love and interest in music, understanding of musical art, developing musical abilities of students, and much more. Nevertheless, the main distinguishing feature of the “Listening to Music” course using MCT is the student's ability to become an active listener: the introduction of an MC in this course only improves the traditional school education.

What does a child hear when (s)he listens to a music piece? Children perceive music as a kind of sounding musical fabric. They still do not hear the forms, elements of musical speech, they cannot always share the sound of the melody and the accompaniment, but they are already able to respond emotionally to the sounding music, enjoying the sensations that have arisen.

An MC allows for making the process of immersion in music emotionally exciting; it helps to develop skills of independent auditory observation. In the class, children expand their musical horizons, develop musical thinking and memory, and develop auditory analysis skills necessary for educating a competent and interested listener. Using multimedia systems, children have the opportunity to collect information, share, process, play, visualize, argue, criticize, and

convince. Thanks to these types of actions, the student reaches deeper levels of own understanding.

Methods and approaches

A multifunctional tool - MC - allows for introducing new elements that open up new opportunities for children's creativity and arouse great interest during class work. The development of children's creative abilities is of great importance in the musical education. Developing imagination, associativity of thinking, sensitivity, and other components of a creative personality is an extremely important task. This music course based on the use of an MC can actively contribute to solving this problem. Mastering a new musical instrument will allow a student to realize own potential as an arranger or a performer, a composer or a sound engineer. MC allows students to acquire independently knowledge, search for information in software, perform on virtual instruments, compose melodies in certain genres, record voice through a microphone, perform vocal examples of musical themes to the "minus" phonogram, as well as draw musical themes and move to music, imitating playing a musical instrument. All these and much more allows for developing different models of perception and using all types of memory during the lesson: visual, auditory, motor, imaginative, and associative.

A specially equipped classroom is required for lessons using an MC. Each student should have own workplace to let all the students complete the tasks in the same time. The main hardware of the MC is a monitor, a processor, a keyboard, and a mouse allow the child to operate freely on theoretical and practical material. Additional equipment, such as a sound card, ready-made sets of timbre collections (instrumental banks) can significantly expand the possibilities of learning and musical creativity, thus turning an MC into a full-fledged musical instrument, a MIDI keyboard, thanks to which an active form of activity in the lesson is used - making music. A dynamic microphone is used for voice recording. Closed-type headphones allow the entire group of children to work in the classroom simultaneously, without interfering with each other. The teacher's computer must be equipped with additional equipment for reading and outputting music information in any format. Visual information is displayed on a wall-mounted screen. All computers are connected via a mixing console to a Hi-Fi amplifier and studio speakers for joint listening to completed tasks and ensembling music. All computers must have high-speed Internet access, where students can find a large number of specialized music interactive educational programs (Goncharova & Gorbunova, 2016; Gorbunova & Pomazenkova, 2015; Gorbunova & Heiner, 2014). This equipment allows for using lesson time as efficiently as possible.

The software of an MCT-educational complex is selected considering the age characteristics of students. At primary school age, didactic tasks are most naturally solved in a playful way. All educational programs can be grouped into the following classes: educational games, experiment games, fun games, and diagnostic games. MCT-educational programs include electronic textbooks, which are a bank of texts and musical material, electronic music encyclopedia - a data bank with a rich video series, library information retrieval systems, computer programs for knowledge control, etc. All these software pieces help the teacher to create a vivid and imaginative lesson.

Literature review

Belov, Gorbunova, and Gorelchenko (2006) introduced the concept of a "musical computer" in Russia. Later, this concept was widely used by composers, teachers, musicians, researchers, scientists, and experts in sound and music programming, musical informatics, computer programmers, etc., among are such Russian and foreign scientists as Alieva, Gorbunova, and Mezentseva, (2019); Gorbunova, and Zalivadny, (2018; 2019); Gorbunova, Kameris, and Bazhukova, (2019); Gorbunova, and Kibitkina, (2010); Korolev (2008); Polozov (2002); Semenova, (2019); Haruto,(2019); Gorbunova, and Chibirev (2019).

The possibilities of an MC and MCT are invaluable in teaching music to children with special needs - children with severe visual and hearing impairments, with diseases of cerebral palsy, autism, hyperactivity, various forms and types of deviant behavior, in the system of modern inclusive education (Gorbunova & Govorova, 2018; Gorbunova & Voronov, 2018; Semenova, 2019).

MCT is of great importance in teaching musical literacy, musical writing, reading and understanding (comprehension) of musical text in the process of music education (Gorbunova & Gorelchenko, 2007; Gorbunova, 2016), which takes on special forms and relevance precisely in the initial period of study, and due to the use of an MC can be actively included in the process of teaching the “Listening to Music” course.

Results and discussion

The first period of study is the most difficult and responsible for both the teacher and the student entering the complicated world of music. The main task of a teacher is to captivate the child, make the process of immersion in the world of music emotionally exciting, interesting. An MC provides great assistance to the teacher in this. The range of questions and tasks can be the most diverse:

- Choosing a suitable illustration for the sounding music;
- Choosing a poem from the options proposed by the teacher;
- Creating a name for the heard play and typing it on the computer;
- Filling in a table;
- Determining the nature of the sound of the musical piece;
- Finding a description of a musical hero in an excerpt from a literary text;
- Changing the pace of the play;
- Given the features of the genre, trying to compose a march (polka) in the lesson;
- Recording voice through a microphone;
- Determining the name of the dance by means of musical expression;
- Composing the form of a musical work from marked elements;
- Performing a musical work with virtual instruments on a MIDI keyboard;
- Singing to the “minus” phonogram;
- Drawing a melody;
- Physical activity break;
- Finding specific information in the program themselves.

In addition to the main components, an active MIDI keyboard (more conveniently 5-octave), a dynamic microphone, and closed-type headphones are introduced into the MCT educational complex to organize such activities. The teacher can actively use the individual-group form of classes, adjusting the actions of each student; effectively use MCT-programs in music lessons in all junior classes, selecting curricula considering the age-related interest of students, their preparedness for the perception of the material presented and the level of computer use by them. Therefore, a music library, phonograms, educational and game courses (when using their individual elements) are mainly suitable for students of the first three years.

These forms of activities suit any stage of the lesson: when checking the material passed, setting out a new topic, fixing the material in the lesson. An MC will perform the functions of a player and a video recorder, hold a quiz, help in exploring the features of various musical genres, means of musical expressiveness, and structure of works in a fascinating and accessible way, introduce to instruments of a symphony orchestra, wind instrument, orchestra of folk instruments. The use of an MC changes the nature of educational activities: the teacher can no longer spend time on tedious repetitions of information, but focus on individual assistance to students. MCT-equipment allows for experimenting and discovering the creative abilities of a student.

The “Listening to Music” course allows the child to realize the world of sounds like a special reality, that is, learn to understand music, learn to hear, and listen to music. A musician should be not only an excellent performer of musical works of various styles and genres, but, first of all, a true conductor of musical art, capable of correctly assessing one or another phenomenon of musical culture from the point of view of its humanistic orientation, universal significance, degree of aesthetic, and artistic value. MCT begins to play a large role in teaching the “Listening to Music” course. An MC does not change the educational process, but improves it, which best affects students' learning, attendance, and further education in the field of music.

To conduct lessons using an MC, it is necessary that each student has own work for the simultaneous completion of tasks by all students. The software of the MCT-educational complex is very diverse and is selected considering the age characteristics of students. These programs help to create a vivid and imaginative lesson. The amazing features of an MC allow for creating *an active lesson*.

The authors offer the following topic as an example: “*Seasons in Music. State of nature at different times of the day. Morning, day, evening, night*”. Studying the topic at the very beginning of the curriculum is directly related and in tune with the subject studied in the elementary grades of the comprehensive school - environmental studies. A child learns and observes nature from birth. Therefore, music surrounds people throughout life. Therefore, there is nothing more natural than starting a study of the musical art with music pieces on images of nature. The study of the topic is to take 6 hours.

The main task of studying this topic is to develop the observation of children, the desire to describe in words their life impressions of the surrounding world of nature, the phenomena of the seasons, changes in the state of nature during the day. The main form of training for the initial period of study is built in the form of conversations. Before listening to a piece of music, the teacher gives new information, briefly talks about composers and their music, constantly involving children in various kinds of questions and tasks. Listening musical examples are small, programmatic and clear in form. Starting to listen to musical material, the authors suggest using the “music collections” game, collecting sound images, memorizing the nature of music, and choosing for each child the most liked pieces of music for themselves. To use this form of work in the lesson, there is no need to record in a notebook. There is a computer screen for this purpose. The authors can create a special page where the authors will enter the name of the composer, the musical work, which they listened to, make illustrations of portraits of composers, performers of their works, and selects drawings for music.

The authors recommend using the game form of work on the principle of “collective mind” to develop the vocabulary, that is, each of the children should name one word that is suitable for determining the nature of the music and carefully listen to those who called it comrades, so as not to be repeated. The authors propose to write down all the named words not on the whiteboard and in the notebook, but into the computer. A useful form of work in the initial period of training can be the creation of associative series using pictorial reproductions, poems, and drawings.

After listening to the play and finding out the emotional content of the music, the teacher draws the children’s attention to how the composer achieved such a result, using any means of expressiveness.

In the final lesson of this topic, children demonstrate their collections of musical impressions and associative series: musical play - verses - painting - picture. A quiz from unfamiliar music pieces is held; the children themselves must offer the names and choose verses and illustrations from pre-prepared by the teacher. If the group is large, a teacher can differentiate the work of children: some of them guess the name of a musical work, another part selects verses, a third selects suitable pictures; and then the authors propose to change tasks in groups. After

listening to music, the teacher clarifies the names proposed by the children, reports the names of the authors of music, poems, and paintings, and gives brief biographical information about them.

The capabilities of an MC allow for using additional forms of work necessary for the development of a full-fledged creative personality in the “Listening to Music” course: composition, playing music, and solfeggio elements. Working with solfeggio elements in the lesson allows for absorbing complex theoretical material in a playful and memorable way. This is possible thanks to solfeggio MCT programs.

The composition occupies an important place in the educational process of the child. The development of creative abilities is one of the main tasks of musical pedagogy. However, teachers of theoretical disciplines do not have time to devote a sufficient amount of study time to this important form of work. Using the creative form of work in the lesson allows for revealing the creative potential of each student. Using the creative form of work in the lesson allows for revealing the creative potential of each student.

“Movement in music. Marches and dances” topic. The children’s attention is taken by the purpose of music in everyday life and the role of everyday genres, such as marches, dances. Children are shown different types of marches - children's, military, sports, mourning. Studying dances, the teacher acquaints children with the most famous European dances, such as minuet, waltz, polka, shows the most vivid examples of various national dances - Russian (Kamarinskaya, Trepak, Barynia), Ukrainian (Hopak), Caucasian (Lezghinka), Polish (Lezghinka and Polonaise). When studying dances, the teacher shows the students pictures depicting costumes, dance movements and videos of the dances themselves. In these classes, children's musical impressions become more vivid and stored in memory for a long time.

When listening to marches and dances, children's attention is drawn to the nature of the movement created by the music, and the genre signs of the dance or march (size, pace, rhythm). When fixing the material of this topic, the Auto-Arranger program will help (for example, Band-in-a-Box). Children with the help of a teacher harmonize the T-D;D-T period, “loop” the period and, using the MIDI keyboard, each student in headphones tries to compose a march. Such a multifunctional tool – an MC - allows for introducing new elements that open up new opportunities for children's creativity and arouse great interest in classes. The development of children's creative abilities is of great importance in the musical education of the child.

The “Folklore” topic. Studying folklore with children, one should recall folk holidays, customs, rituals, show examples of decorative and applied art, images of folk costumes, tell about crafts. The main task is to create a sense of unity and continuity of generations, to raise interest in the history of their land, a kind of pride in their homeland and love for its national cultural heritage. Learning with folklore takes place as a journey through the folk calendar. It begins with winter folk rites and songs (Christmas-tide, Christmas, and Maslenitsa); Spring (a meeting of spring, the arrival of birds, spring calls); Summer holidays, rituals and songs (St. George's day, the feast of seventh Thursday after Easter, St. John Baptist's day); and Autumn (harvest time). When studying this topic, we can teach children to record voice through a microphone. Spring songs, counters, teasers, nursery rhymes, jokes are very close for children of this age. The colorful interface of the program allows students to navigate it easily. Using an MC children have the opportunity to collect information, share it, process it, play with it, visualize it, argue, criticize, and convince. Thanks to these types of actions, the student reaches deeper levels of own understanding. The variety of software products allowed us to diversify and improve the educational process of the “Listening to Music” course.

Conclusion

The “Listening to Music” course teaches to understand classical and modern music, and it enriches the student’s auditory background as much as possible. Raising a genuine interest in

musical art, creating such conditions under which a child will forever remain a true admirer of classical music is the main objective of the “Listening to Music” course.

The “Listening to Music” course allows the child to realize the world of sounds like a special reality, that is, learn to understand music, learn to hear, and listen to music. A professional musician should be not only an excellent performer of musical works of various styles and genres, but, first of all, a true conductor of musical art, capable of correctly assessing one or another phenomenon of musical culture from the point of view of its humanistic orientation, universal significance, degree of aesthetic, and artistic value. An MC does not change the educational process, but improves it, which best affects students' learning, attendance, and further education in the field of music.

The goal of MCT-courses is to teach the child to play (sing or play a musical instrument) the notes that (s)he sees on a musician. All these forms of work make it possible to fulfill best one of the main tasks of this subject - the implementation of inter-subject communications in the process of musical education and training.

A variety of educational material that is used in teaching the “Listening to Music” course becomes more accessible to young children using an MC and a MIDI keyboard, which allows them to enter the big world of music more easily and naturally. The use of MCT-courses allows for revealing widely and fully the richness of the world of nature and human feelings through musical sounds. The main points of the problems considered in this article necessitate the development of a program of the “Listening to Music” course using MC for Children's art and music schools, and institutions of additional musical education for children.

References

- Alieva, I.G., Gorbunova, I.B., & Mezentseva, S.V. (2019). Music Computer Technologies as a Worthwhile Means of Folklore Studying, Preserving and Transmission. *Utopia y Praxis Latinoamericana*, 24(S6), 118-131.
- Belov, G.G., Gorbunova, I.B., & Gorelchenko, A.V. (2006). *The musical computer. A new instrument of a musician: Methodological manual. The winner of the competition for the creation of a new generation of educational literature for secondary schools, held by the NTF - the National Training Foundation and the Ministry of Education of the Russian Federation*. Saint Petersburg: SMIO Press.
- Goncharova, M.S. & Gorbunova, I.B. (2016). Tablet (mobile) technologies in professional music education. *Media Music*, 6, 3.
- Gorbunova, I.B. (2007). *Musical computer: monograph*. St. Petersburg: The Herzen State Pedagogical University of Russia.
- Gorbunova, I.B. (2011). *Information technology in music. Volume 3: A musical computer: A manual for students of higher educational institutions studying in the direction of “Pedagogical education”*. St. Petersburg: The Herzen State Pedagogical University of Russia.
- Gorbunova, I.B. (2016). Methodological aspects of the interpretation of the functional-logical laws of music and computer-music technologies: systems of musical notation. *Society: sociology, psychology, pedagogy*, 10, 69-77.
- Gorbunova, I.B. (2019). Music Computer Technologies in the Perspective of Digital Humanities, Arts, and Researches. *Opcion*, 35(S24), 360-375.
- Gorbunova, I.B. & Chibirev, S.V. (2019). Modeling the Process of Musical Creativity in Musical Instrument Digital Interface Format. *Opcion*, 35(S22), 392-409.
- Gorbunova, I.B. & Gorelchenko, A.V. (2007). *Technologies and teaching methods. Music computer technologies in the system of primary music education*. St. Petersburg: The Herzen State Pedagogical University of Russia.
- Gorbunova, I.B. & Govorova, A. (2018). *Music Computer Technologies in Informatics and Music Studies at Schools for Children with Deep Visual Impairments: From the Experience*.

- Lecture Notes in Computer Science Proceedings*. In: Pozdniakov, S. and Dagienė, V. (2018). Informatics in Schools. Fundamentals of Computer Science and Software Engineering. ISSEP 2018. *Lecture Notes in Computer Science*, 11169. Springer, Cham
- Gorbunova, I.B. & Heiner, E. (2014). Interactive network technologies for teaching music in the digital age school: program "Soft Way to Mozart". *Bulletin of the Oryol State University. Series: New Humanitarian Studies*, 4(39), 104-109.
- Gorbunova, I.B. & Kibitkina, E.V. (2010). Music programming: issues of specialists' education. *Art and Education*, 5(67), 104-111.
- Gorbunova, I.B. & Pomazenkova, M.S. (2015). Music-computer and cloud-oriented technologies in the system of modern music education. *Scientific opinion*, 3-2, 68-82.
- Gorbunova, I.B. and Voronov, A.M. (2018). *Music Computer Technologies in Computer Science and Music Studies at Schools for Children with Deep Visual Impairment*. In Prof. Dr. Ahmadi, R., Prof. Maeda, K., Prof. Dr. Plaisent, M. (2018). 16th International Conference on Literature, Languages, Humanities & Social Sciences (LLHSS-18). Budapest, Hungary. *Int'l Conference Proceedings*, 15-19.
- Gorbunova, I.B. & Zalivadny, M.S. (2018). The Integrative Model for the Semantic Space of Music: Perspectives of Unifying Musicology and Musical Education. *Music Scholarship*, 4, 55-64.
- Gorbunova, I.B. & Zalivadny, M.S. (2019). Leonhard Euler's Theory of Music: Its Present-Day Significance and Influence on Certain Fields of Musical Thought. *Music Scholarship*, 3(36), 104-111.
- Gorbunova, I.B., Kameris, A., & Bazhukova, E.N. (2019). Music Computer Technologies and Musical Informatics Training Course for Students. *12th international conference on informatics in schools Situation, evaluation and perspectives proceedings*, 96-98.
- Haruto, A.V. (2019). *Musical informatics. Theoretical basis*. Moscow: Editorial URSS.
- Korolev, A.A. (2008). *Free computer software for a musician*. St. Petersburg: Kompozitor.
- Polozov, S.P. (2004). *Educational computer technology and music education*. Saratov: Publishing House of Saratov State University.
- Semenova, D.A. (2019). *The development of the cognitive activity of students with cerebral palsy in musical activity through digital educational media resources. Dissertation of the Candidate of Pedagogical Sciences*. Moscow.