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COMPUTER TECHNOLOGY IN MODERN MUSIC EDUCATION

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ABSTRACT

The article contains educational and musical computer programs that can be used in the lessons of the musical culture of secondary schools.

Keywords: music computer programs, MIDI format, files, interface, editing, multimedia players, virtual synthesizers, music editors.

INTRODUCTION

At the current stage of development of education in the world, one of the priorities of school development is to update the content of education through the use of modern technologies in the formation of the child's personality. Unfortunately, many schools today lack the necessary specialists or teachers do not have enough knowledge in this area, schools are not fully equipped with ICT, and for some other reasons, the educational process is limited. They use mainly traditional technologies, forms and methods of education. Computerization of education is an objective process. Nowadays, the number of students in the education system, the amount of information that needs to be mastered, is growing. These requirements cannot be met by extensive methods. Therefore, modern didactics is looking for ways to motivate education. One of them is the computerization of education.

LITERATURE REVIEW AND METHODOLOGY

Computerized learning creates a unique learning environment that results from the interaction of teacher, computer, and student. This relationship forms a "teacher-computer-student" system. This relationship is characterized by the introduction of computer programs in the educational process. Nowadays, the computer has become firmly entrenched in our lives and has become one of the main attributes of education. Music-computer programs are one of the most advanced branches of computer science. There is many years of experience in linking the needs of children, adolescents and young people with existing technical, methodological and methodological capabilities. The use of information technology in music lessons in

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the education system can be the basis for the creative development of the child, the growth of artistic taste and the formation of a holistic personality.

RESULTS AND DISCUSSION

According to the rating, such music lessons are among the first subjects in the school cycle. Significantly, such surveys involve not only students but also their parents. Nowadays, the number of programs designed to work with music and speech signals is growing exponentially as the power and capabilities of computers increase. Below we look at some of the modern computer music technologies.

1. Sound processing programs (music editors). The following sequence of tasks shows the main features of the program.

- operations with files (recording, broadcasting, importing and storing music.);
- editing (copying, cropping, raising or lowering the volume, mixing, reversing, reversing, etc.). The editing operation can be used to increase or decrease the tone of the work for the choir to adapt the works to the children's voices.

CPU processing (reverberation, echo, chorus, diley, flange, vibrato, equalizer, compression, pitch change, etc.); We can use this operation to add charm to the performer's voice at concerts.

- MIDI - interface (MIDI - code synchronization with the sequencer, MIDI - data entry on the keyboard, the presence of a virtual MIDI keyboard, etc.);
- sound synthesis. Allows you to change the style of the work, find new tones, timbres.
- work with video files, etc.

The above features of these programs include the ability to connect additional modules (plug-in) that allow you to restore recordings and create virtual three-dimensional sound fields (modules from Steinberg, Sonic Foundry, Waves and others).

All of these programs are compliant with the single Direct X standard, which allows all music editors to work with them. Sound Forge, WaveLab, Cool Edit Pro and others are the most widely used programs in this group today.

2. Multichannel recording and editing programs are analogous to tape recorders. They allow you to record, mix and process multiple independent sound tracks with effects. There are several benefits to writing to a hard drive: instant access to any fragment, selecting a sequence of fragments to listen to, and a wide range of editing options. Examples of such programs are Samplitude Studio, Cool Edit Pro, Solware Audio Workshop, and others.

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3. Audio and MIDI format in one window, including virtual studios

4. (synthesized sound). Each of them has a large selection of effects - processors, digital mixers, synthesizers, which allow you to use special MIDI editing techniques (quantization, transposition, timbre change and selection of instruments) and can work with any MIDI device. Examples of such programs are: Cubase VST SX, Cakewalk Sonar, Nuendo, Logical Audio Platinum, Reason and others.

5. Virtual synthesizers: imitates different types of synthesizers by programming (for example, analog). They use special constantly evolving mathematical algorithms that allow you to synthesize complex sounds of different timbre and melodic sequences, export the synthesized sound to a standard audio file, record and play it. Such programs typically use recorded samples in addition to synthesis. Examples of such programs are: Reality, Audio Architect, Mellosoftron, Seq-303, MouSing, Gigasampler and others.

6. Software for creating MIDI compositions: these include primarily MIDI sequences - programs that allow you to record, edit and present MIDI messages as tracks. As with hardware sequencers, they store all management information. Such sequencers can edit MIDI messages (list editor, note editor, tempo control editor, mixer remote control, etc.), import and export MIDI files, work with external MIDI equipment allows arranger, has a logical editor, digital recording capabilities, editing audio files, etc. provides Examples of such programs are: Cubase Audio VST, Cakewalk Pro Audio, Logic Audio, Music Time 3.0, Digital Orchestrator Plus, Consertware, Power Chords Pro, Recording Session, Studio 4, and more.

This group includes programmers who can create musical parts based on a chord scheme given in different genres and styles (Visual Arranger, Band and Box, Jammer Pro, Easy Keys, etc.).

7. Note editors perform the following: provide audio information in the form of notes, taking into account the generally accepted musical symbols; open multiple track lines at the same time; use different music keys; export note text to a graphic file; Listen to the text of the note using MIDI; convert the MIDI file to the text of the note, etc. Such programs may include: Encore, Finale, Sibelius, Score, and others.

8. (audio recorders, MIDI-players) is designed for listening to various audio and MIDI files, audio CDs, etc. designed to release various audio and MIDI files, audio CDs, etc., at the same time, they provide control over the playback process, change performance settings, search for the desired files, create albums. (c and x.z).

9. Educational music programs that are actively developing today, designed to solve various problems: teaching music theory, developing listening skills (Piano

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Professor, Music Lessons, Music Tutorial, etc.), reading music literature. learning (Midisoft Sound Explorer, Music Mentor, Music Magic, etc.), teaching to play any musical instrument (Midisoft play Piano, The Jazz Guitarist, Chord Wizard) and vocal training (Singing Tutor) and others.

CONCLUSION

There are also a variety of programs that allow you to work with music files. Thus, modern computers equipped with a special set of programs provide technical means for creating, writing and editing musical works, as well as a new type of musical instruments. The emergence of such opportunities is the basis for the development and creation of new directions in the art of music (electronic or computer music), as well as for the development of scientific and technical research in the field of musical acoustics. The beginning of the XXI century is marked by the formation of a synthesis of the art of music, musical acoustics and computer technology, which allows us to expect radically new discoveries in these areas.

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