

# Use of Innovation and Information Technologies In Music Lessons

Tetiana Potapchuk<sup>†</sup>, Olga Fabryka-Protska<sup>††</sup>, Liubov Gunder<sup>†††</sup>, Violetta Dutchak<sup>††††</sup>  
[t.potapchuk73@gmail.com](mailto:t.potapchuk73@gmail.com), [olgafp4@ukr.net](mailto:olgafp4@ukr.net), [liubov.gunder@unipo.sk](mailto:liubov.gunder@unipo.sk), [violetta.dutchak@pnu.edu.ua](mailto:violetta.dutchak@pnu.edu.ua)

Yaroslav Osypenko<sup>†††††</sup>, Kateryna Fomin<sup>†††††</sup>, Nataliia Shvets<sup>†††††</sup>  
[osipenko555@gmail.com](mailto:osipenko555@gmail.com), [kateryna.fomin@pnu.edu.ua](mailto:kateryna.fomin@pnu.edu.ua), [natalia.shvets@gmail.com](mailto:natalia.shvets@gmail.com)

<sup>†</sup>Faculty of theory and Methods of Preschool and Special Education, Vasyl Stefanyk Precarpathian National University, Ukraine

<sup>††</sup>Educational Scientific Institute of Art, Vasyl Stefanyk Precarpathian National University, Ukraine

<sup>†††</sup>Faculty of Philosophy, Institute of Music and Art, Department of Music, Slovak Republic

<sup>††††</sup>Doctor of Arts, Professor; Vasyl Stefanyk Precarpathian National University, Ukraine

<sup>†††††</sup>Educational Scientific Institute of Art, Vasyl Stefanyk Precarpathian National University, Ukraine

<sup>††††††</sup>Department of Primary Education, Vasyl Stefanyk Precarpathian National University, Ukraine

<sup>†††††††</sup>Department of Theory and History of Culture, National Music Academy of Ukraine named after P. I. Tchaikovsky, Ukraine

## Summary

The processes of informatization of the modern educational space are inextricably linked with the active introduction of innovative information technologies, which diversify the forms of education and upbringing. The use of these technologies in education due to their specific properties significantly enhances the clarity of learning, emotional impact on students, helps to deepen interdisciplinary links, intensifies students' work, and improves the organization of educational activities. Innovative information technologies offer new opportunities for the use of text, audio, graphic, and video information in lessons, enriching the methodological possibilities of the lesson. Today, the use of these technologies is becoming an integral part of the study of any subject. Using multimedia presentations, publications, and websites created by students in the learning process, they can develop learning skills. According to researchers, there are many multimedia programs for working with a computer in a music lesson, namely: a music player, a program for singing karaoke, a music constructor, music encyclopedias, and training programs. The introduction of innovative information technologies in the system of music education allows expanding learning opportunities.

**Keywords** innovative information technologies, music art lessons, multimedia means, musical culture, abilities.

## 1. Introduction

Today in music education there is an active search for new pedagogical methods, which include innovative information teaching technologies. Musical art serves the child as a process of formation of an artistic image through various forms of artistic embodiment (literary, musical, fine Art). A music lesson becomes not just a lesson of the development of sensory musical abilities, but also an art lesson, when all mental processes are developed: perception, thinking, memory, attention, etc.

Analysis of recent research on the problem. A number of works of domestic and foreign teachers and psychologists

are devoted to the problem of application of the newest technologies (computerization, informatization) in the course of training: I. Vetrova, V. Verbunko, P. Halperin, B. Gershunsky, A. Gurzhiy, Y. Mashbyts, and many others. The basics of the theory of musical development are revealed in the studies of E. Abdullin, V. Beloborodov, V. Vetlugin, T. Doroshenko, etc. Researchers have identified various aspects of the problem of musical culture development: their nature, components, criteria, and indicators of development, methods, and techniques of development. Most of these issues, however, remain debatable, indicating the complexity and ambiguity of the problem under study.

Specific features of music, such as variability of images, the abstractness of language, integrative connections, heuristic landmarks, favorable for the formation of image-associative thinking, imagination, fantasy, artistic perception of primary school children were studied by E. Pecherska, L. Radkovska, O. Rostovsky.

The article theoretically substantiates the use of innovative information technologies in music lessons.

## 2. Presenting main material.

The introduction of innovative information technologies in the system of art education, including music, allows expanding the learning environment, which improves the quality of education and helps to meet and develop the cognitive interests of primary students. The use of innovative information technologies and multimedia in music lessons means the emergence of new forms of mental, creative activity, which is considered as several different levels of training [1, p.119].

A modern lesson is a combination of traditional technologies and new information sources, which include the use of television and radio broadcasting, periodicals, archival materials, Internet resources, etc. This is the use of additional material used for different categories of students.

The use of innovative information technologies (multimedia) is a normal lesson, only more technically equipped. The use of multimedia (innovative information technologies) allows you to organize educational material taking into account different means of teaching. The following levels of teaching material are implemented here:

1. Illustrative-descriptive - a visual series that illustrates traditional storytelling. This visual series is used during testing and summary. Visual images can be used along with audio (musical) material, which plays the role of introduction tuning to the style (era, school, and composer), background, illustrations, and demonstrations (perception of musical-didactic works and their fragments).

2. Schematic - the basis of training is the construction of reference notes or structural and logical schemes. The training material becomes visual, bright, supplemented by motor elements.

3. Interactive. Combines elements of illustrative and schematic approaches. The only difference is that the use of various visual material, schemes, and animations is combined, supplemented by the involvement of documents, excerpts from various sources. Elements of animation, illustration on a multimedia board allows students to get not only the initial idea when studying a particular piece of music, but also to systematize the learned information [2, p.366].

The modern method of development of musical culture of primary schoolchildren recommends the following sequence of components of a lesson of musical art of multimedia type:

1. Entrance of students to the class to music. Musical greetings.
2. Introducing the topic, purpose, objectives of the lesson, motivation of students' learning; discussion of the topic of the lesson.
3. Discussion and listening to music.
4. Singing, work on vocal and choral exercises.
5. Work on singing.
6. Learning and performing a song.
7. Playing elementary musical instruments.
8. Movements to music: dancing, plastic intonation, conducting, staging, playing.
9. Musical creative tasks, pictorial and literary creative tasks.
10. Musical literacy as a necessary component of structural elements.
11. Summary, home task; leaving the classroom to music [3, p.11-12].

The use of innovative information technologies becomes an integral part of the study of any subject. The introduction of innovative information technologies in the system of music education allows expanding learning opportunities, which improves the quality of education and helps to satisfy and develop the musical culture of primary students [4].

We can assume that the music art teacher, who introduces multimedia technologies in the classroom, significantly expands the methodological arsenal. First, he/she has the opportunity to quickly prepare for the lesson, and come to class not with a bunch of notes, banners, and notes, but with a disk or flash drive, which will store all that information, but in a digital form. Secondly, the advantage of multimedia technologies is their ability to get students interested in musical material. Third, the use of the latest information technology in various fields of human activity cannot but affect the active use of multimedia technologies in the learning process. Without computer technology, neither the teacher nor the student feels comfortable in the educational process today. It has been practically proved that these technologies have a strong influence on the effectiveness of the lesson and the interest and development of the musical culture of primary school children [5, p.299 -300].

Multimedia tools are effective educational technologies due to their qualities, namely: interactivity, flexibility, and integration of various types of educational information, as well as due to the ability to take into account the individual characteristics of students and help increase their motivation. The introduction of innovative information technologies to music lessons provides solutions to the problems of comprehensive development of music culture, creative abilities of primary students, namely:

- the sense of space, shape, contrast, dynamics, color palette;
- associative perception and thinking based on artistic and musical materials;
- fantasy and artistic imagination;
- appreciating the value of musical art;
- the sense of rhythm in nature and art;

The use of multimedia tools in the learning process allows:

- to increase the efficiency of the educational process;
- to develop personal qualities of the student (ability to self-education, self-learning, self-development, creative abilities, ability to implement the acquired knowledge in practice, cognitive interest, etc.);

- to develop communicative and social abilities;
- significantly expand the possibilities of individualization and differentiation by providing each student with a "personal educator" whose role is performed by a computer;
- to create attractive forms of education, to activate students' cognitive interest;
- to master the skills of working with modern information and communication technologies, which contributes to their adaptation to social conditions that are changing rapidly, for the successful implementation of their professional qualities [6, p.71-77].

The use of multimedia technologies involves involving students in various activities, namely: a research study of folk art, Ukrainian music culture, works of world composers, creation of creative works, design of the results of their research in the form of project methods on certain topics. Using multimedia presentations, publications, and websites created by students in the educational process, they can develop such learning skills as a presentation (orally or in front of an audience), the ability to summarize their opinions; learn to perform quality search work, etc. [7, p.36].

According to researchers, there are many multimedia programs for working with a computer in a music lesson, namely: a music player, a program for singing karaoke, a music constructor, music encyclopedias, and training programs.

The introduction of multimedia technologies in music lessons makes it possible to use the pedagogical software "Music". Microsoft PowerPoint presentations, allows you to use a computer as a means to demonstrate visual objects (paintings, portraits of composers, etc.), listen to music in various formats, the performance of karaoke songs, demonstrate video fragments, conduct a group, individual survey of students (testing, crossword puzzles, quizzes, etc.).

The use of multimedia presentations of Microsoft PowerPoint at music lessons allows you to organize demonstrations of lesson content, tasks, results of lessons, demonstrations of notes, tables, diagrams, results of group projects, fragments of musical works, and portraits of composers [8].

With the help of multimedia, you can create test tasks, templates, puzzles, crossword puzzles, as additional material for students.

The use of multimedia technologies provides a wide range of didactic opportunities and is impossible without modern technical means of teaching.

The main purpose of creating didactic materials is to manage the process of students' acquisition of knowledge on a specific topic, summarizing their research, or creative activities.

Didactic materials will help students understand the research problem, as well as acquire the necessary knowledge, skills, and abilities. Microsoft Excel is a powerful tool for processing, analyzing, and displaying data using tables. This can be different data, for example:

- duration of notes, dynamic shades, mode;
- information on the biography or musical works of composers;
- statistics on the popularity of Ukrainian folk songs.

In addition, with the help of a table, students can store and analyze information, learn song material faster, solve various practical tasks, anticipate changes, evaluate results, view data in various forms, follow certain music trends and display them in graphs, organize and classify objects, etc.

Thus, in comparison with traditional, computerized music education is a progressive trend in the system of modern music education. Multimedia allows you to facilitate and prompt analytical and systematic work with software. Therefore, one of the most important tasks of education is the formation of primary students' active attitude to the perception and transformation of visual material. It is important not only to be able to perceive the given visual information, to rethink it taking into account the educational task but also to recode its content. This requirement is because, working with multimedia, primary students are constantly dealing with a variety of visual information, moving from the use of some types of conditional images to others [9].

The lesson of musical art necessitates the use of a wide range of examples of artistic performances of musical works in combination with works of other arts. One of the obvious advantages of a multimedia lesson is the widespread use of visual aids (which is also relevant today because schools usually do not have the necessary set of tables, diagrams, reproductions, illustrations). Teachers do not always have the appropriate level of performance, not every school has the appropriate tools for the high artistic performance of musical works. Therefore, the introduction of multimedia technologies in the educational process will

significantly affect the level of primary students' musical culture; will help meet their creative needs.

This innovation is specific and quite complex, requiring special knowledge, skills, and abilities. Innovative pedagogy embodies the creative essence of the educational process in many ways [10, p.2].

The use of multimedia technologies can significantly increase the level of efficiency of the educational process. Computer technologies allow new opportunities for art pedagogy. Subjective factors of their application depending on the level of teachers' computer literacy.

Every teacher today must carry out computer self-education, use a computer to facilitate his/her work, save time and improve the quality of education. A music teacher must master the program of working with text (Microsoft Word), the program of sound recording Audio CD (Ahead Nero), the program of music typing and typesetting (Finale), the program of recording and sound processing (Adobe Audition, Sound Forge), the program of preparation presentation graphics (Microsoft PowerPoint) [11, p. 21]

However, along with the obvious advantages of multimedia technologies, there are difficulties namely: creation and using multimedia material requires personal computer knowledge and skills of working with special software, which, unfortunately, not every teacher or student has. Design of multimedia products is a long process requiring time, knowledge from various scientific fields, and a sense of proportion in the use of information and special effects, the overuse of which can be distracting in the learning process, etc. [12, p.227].

Scientists believe that the use of computers promotes the development of mental abilities, creative non-standard thinking in solving problems, increases interest in learning, promotes the acquisition of knowledge and skills, and reveals the attractive aspects of various branches of science. Thus, the computer provides new opportunities for the development of students' abilities actively includes it in the learning process, and increased interest promotes better learning.

The introduction of innovative information technologies in secondary schools today is a confirmation of one of the essential theses of modern pedagogy - the better, brighter, more information-intensive teaching, the better training of primary students; the higher is the level of their motivation to learn.

Thus, the introduction of innovative information technologies in the practice of modern school allows

combining the didactic functions of the computer with traditional teaching aids. At the same time enriching and providing the educational process with new forms of work, variable use of game forms, creating innovative methods of teaching music in school education, and also promoting the more effective acquisition of musical knowledge and their implementation in musical and creative activities [11, p.43].

Multimedia tools allow teachers to make the processes of forming new knowledge, skills, and abilities, learning concepts, generalization, and testing of knowledge interesting and productive.

Thanks to the introduction of innovative information technologies at music lessons, there is an opportunity to conduct "non-standard" lessons at a high-quality level.

If you consistently and systematically use computer technology in music lessons, it becomes easier to control students' creative development, form musical abilities, to develop the musical culture of primary school students. In a general sense, innovation and information technology is a way of combining different forms of information on a single medium, while video, audio; graphics, text, animation, etc. are the main components of a multimedia system.

There are many multimedia programs for working with a computer at a music lesson, namely:

- Music editors;
- Encyclopedias;
- Game programs;
- Programs-tests and quizzes;
- Presentations;
- Karaoke;

From the point of view of didactics, the use of multimedia technologies gives teachers the opportunity to:

- to make teaching more intensive and, effective due to the realization of the advantages of multimedia educational systems during the visual presentation of educational material;
- differentiate teaching for the maximum number of students with different learning styles and perceptions,

students with special educational needs, and students living in remote areas;

- to create a favorable atmosphere for communication, exchange, and interaction of both individual students and groups of students studying in different educational systems while preserving the national and cultural characteristics of the country.

Any of the presented computer programs allow to solve the basic problems of the art training and can be used by the teacher at various stages of training.

The music editor is one of the most common in terms of building the educational and developmental process at music lessons in high school classes. The main features of the music editor used during lessons are:

- play music from a computer or media
- music recording;
- processing of melodies;
- work with notes;
- work with various musical instruments.

Working in this editor, students learn not only to record familiar melodies but also to compose their own, selecting tempos, fragments that match the style, number of voices, etc. It is interesting for students to perform songs in English accompanied by a computer.

The last is used as a music editor. The following methodological aspects of using this program in the learning process can be identified:

- creation of rhythmic parts, rhythmic scores;
- creation of scores of vocal works;
- scores for vocal and instrumental music;
- development of musical working material for the lesson;
- test tasks;
- creation of vocal-repertoire collections.

The note is a symbol of music. The use of musical text will give positive results when the notes are not the purpose of the content of education or illustrative material at the lesson, but a means of musical activity. Students' reference to musical symbols cannot be sporadic. Musical signs as symbols of music should become a familiar tool for students to use musical texts productively.

The music editor is very important for improving and facilitating the learning process at music lessons because it can be used in many ways.

First, when learning a new song. You can also use a music editor with a text editor. Students will simultaneously listen to the song (hear it) and see its lyrics on the screen.

Students quickly work on the topic, because they have the visual possibility, and then practically change the position of the notes, while listening to the pitch of their sound.

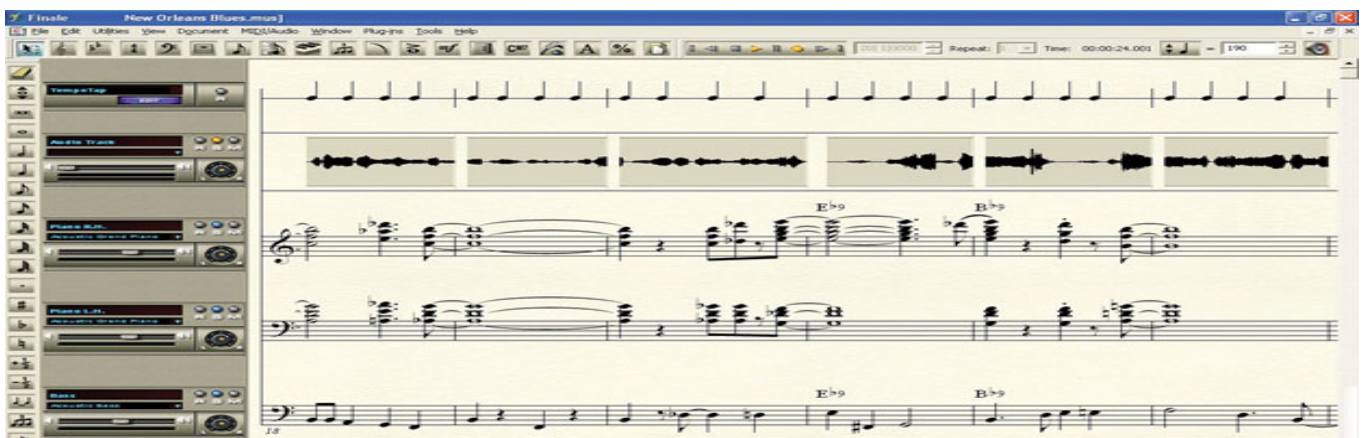


Fig. 1 Finale music printing programs



Fig. 2. AIMP3 song player

These are just the main features of the editor. Other didactic opportunities are revealed in computer programs that can be used at music lessons to develop students' cognitive interests.

Music editors allow students to experiment with electronic sounds.

Working with a music editor, students will learn not only to record familiar melodies, but also to compose their own, choosing the tempo, fragments that match the style, number of voices, and more. It should be noted that it is interesting for students to perform songs in English accompanied by a computer.

Of particular interest for the educational process are game music programs, very diverse in meaning, structure, and form. For example, the recently created site LearningApps.org is a Web 2.0 service to support learning and teaching processes through small interactive modules. These modules can be used directly as learning resources.

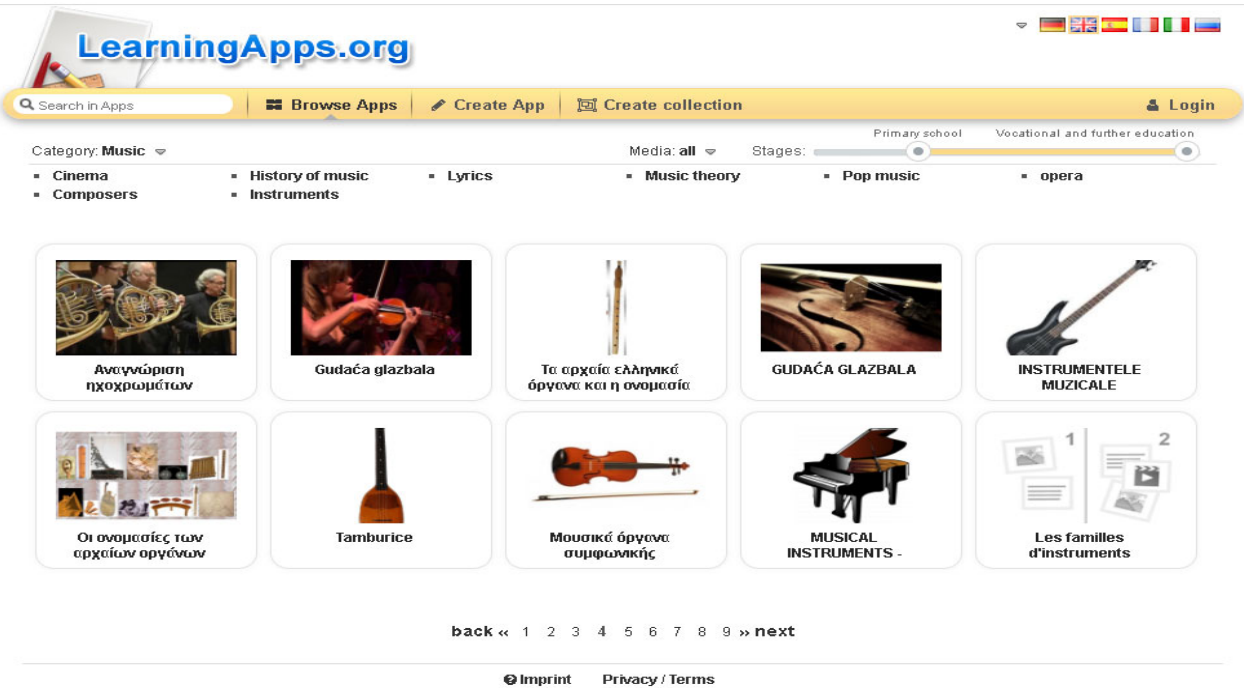


Fig. 3. LearningApps.org

Crosswords can also be used at different stages of the lesson. With the help of a crossword puzzle, you can check homework, for example, at the lesson on the topic "Musical Instruments", we set homework: Prepare notes and interesting information about different instruments. At the

next lesson "Music and Instruments", checking homework, each student is asked to solve a crossword puzzle on the computer, where each question is special and some even have musical fragments.

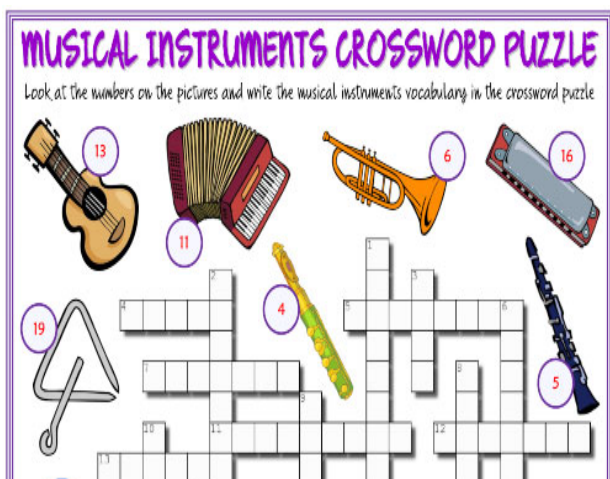


Fig. 4. Game program "Crossword"

According to the results of the research, such programs help to activate students' attention, listen to different music more, navigate in epochs, styles, and the game element, which is presented in the program, allows to make it interesting and intriguing. Using game programs in teaching, we help students to develop such mental operations as analysis, synthesis, and generalization, to specify the classification of data.

These programs have allowed us to better develop communication skills, such as the ability to formulate tasks that require ambiguous answers, as well as to remember, reproduce and interpret information; discuss, evaluate and self-evaluate.

**Presentations.** The teacher has very wide opportunities to use multimedia technologies when teaching new material. The use of presentations has become quite common in the modern school, the use of which, thanks to multimedia tools,

allows effectively illustrate the teacher's story or to become a source of new knowledge during independent work.

The essence of such a presentation is that the teacher accompanies his/her story with slides. These images can be easily edited in the future - to make corrections according to the change of educational tasks, it becomes clear that the use of computer tools gives the teacher unique opportunities to create their own set of methodological support, which is easily transformed according to each

lesson. Electronic tools effectively replace various tables, diagrams, and cards for individual work, drawings, portraits, and more. Storage of educational materials on the school server allows providing a high level of compactness, accessibility to teachers and students, the possibility of duplication, copying and reproduction, and quick search. When studying the topic "Jazz" we used a presentation using video and audio files, as well as graphics and information on the topic.



Fig. 5. Presentation "Jazz"

**Karaoke.** Singing in karaoke mode is one of the structural components of a multimedia lesson.

This multimedia tool allows listening to performances of musical works (voice with accompaniment), to perform songs in karaoke mode. If necessary, the musical text of the song is displayed on the screen, which allows students to follow the "graphics" of the melody:



Fig. 6. Karaoke

This form of work is one of the most popular among students. In addition, singing in karaoke mode helps to show their vocal skills in solo or ensemble performance, which requires the teacher to take into account the need to alternate solo and group forms of singing in class. When working on a piece of music, preference should be given to the expressive performance of a song on a phonogram or accompanied by a musical instrument or an orchestra of musical instruments. Modern Internet resources allow teachers to find ready-made videos for singing karaoke.

### 3. Conclusions

Thus, using multimedia teaching aids, students learn deeply, they have an increased interest in the lesson, they work more actively with educational and reference books. Watching video images, computer graphics, listening to music relieve stress; contributes to the aesthetic perception of educational material. In addition, the use of a computer allows both the teacher and the student to control the progress of teaching new educational material, and the formation of the necessary skills. Students develop skills of self-control, group work, identification of errors, correcting them, and even preventing making them



Information and computer technologies, together with well-chosen teaching technologies, create the necessary level of quality, variability, differentiation, and individualization of teaching and education. In addition, because of mastering the field of "Art" students develop artistic imagination, the ability to perceive works of art through the development of the language of art (including tolerance for different cultures, the so-called "incomprehensible" author's works). They usually gain skills of artistic practice, the ability to analyze and synthesize the ability to generalize and comprehend the whole picture of the world in its sound-plastic images.

The introduction of multimedia educational technologies in secondary school today is a confirmation of one of the essential theses of modern pedagogy - the better, brighter, more information-rich is teaching, the better is the professional training of students, the higher their level of motivation to learn becomes.

## References

- [1]. Pivneva N. Y. (2008). Information technology in music lessons. Voronezh, 2008, 360 p.
- [2] Gorol P.K., Gurevich R.S. (2007). Modern information teaching aids. K, Education of Ukraine, 536 p.
- [3] Huminska O.O. (2010). Music lessons in secondary school. Ternopil: "Bogdan", 104 p.
- [4] Bazelyuk O. (2008). Multimedia technology is an art. *Art and education*. №3. pp. 16–18.
- [5] Gurevich R.S., Kademiya M. Y. (2005). Information and telecommunication technologies in the educational process and research: textbook. Vinnytsia: "Planer", 366 p.
- [6] Bordyuk O.M. (2011). Methodical bases of realization of information and communication technologies in art education. K. Univ. Dragomanova, 370 p.
- [7] Turishcheva L.V. (2006). Age aspects of students' education. *Educational work at school*. №8. pp. 36–41.
- [8] Gorol P.K., Gurevich R.S. (2007). Modern information teaching aids textbook. Education of Ukraine, 536 p.
- [9]. Dmitrieva L.O. (2013). Information technology in music lessons. *Art at school*. №1. pp. 2-5.
- [10] Dementievskaya N.P. (2005). How computer technology is being used to develop students and teachers. K: Millennium, 238 p.
- [11] Taracheva O. (2007). Computer technology in music lessons. *Art at school*. №6. P. 43.