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INFORMATION AND COMMUNICATION TECHNOLOGIES IN ADDITIONAL ART EDUCATION OF CHILDREN

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Abstract

The relevance of the study is due to the need for competent psychological and pedagogical support for the use of information and communication technologies in the additional art education of children of preschool and primary school age. The purpose of the article is to systematize and determine the developmental capabilities of information and communication technologies in additional art education of preschool and young children, as well as to identify principles and conditions for the successful implementation of these opportunities in the artistic and creative development of children as part of a multi-artistic approach. The main research method was a survey of teachers of children's art schools and parents of children of preschool and primary school age, there was subsequent analysis and systematization of data. Empirical data on preferences in the use of information and communication technologies by additional education teachers with the aim of developing children's artistic creativity are presented. The problem of the scientific substantiation of the choice of digital educational resources and information and communication technologies for the artistic and creative development of preschool children and primary school children in the modern information space is disclosed. The means of information and communication technologies, the most popular among teachers of additional art education, are found out, the conditions conducive to the successful artistic and creative development of children are identified: increasing the information, communication and technological competence of participants in the educational process, coordinated pedagogical interaction, the formation of cultural and family values.

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1. Introduction

Currently, there is an early inclusion of children in the information space. The process of informatization was organically introduced into the education of preschoolers and primary schoolchildren.

This determines the transition in the education system from traditional ways of presenting and processing information to innovative and high-tech. Using the wide capabilities of computer-aided learning tools, telecommunication networks, distance learning and multimedia technologies opens up new possibilities for the development of additional artistic education for children. It is aimed at revealing the abilities of each child to have an artistic-figurative, emotional-value perception of works of art, ensuring that children understand the interconnectedness of various types of arts and learning how to express one's attitude to the world in one's own creative works. Thanks to the use of information and communication technologies, children can get acquainted with the works of the best museums in the world, enter into online communication with the creators of modern art, immerse themselves in the world of music or theater remotely, create the art of new reality, process music fragments in audio editors and much more.

However, the widespread adoption of ICT in the practice of education has both constructive consequences (individualization of learning, integration of knowledge, increasing the level of motivation and cognitive activity of children, continuity and continuity of education) (Nikolopoulou, Akriotou, & Gialamas, 2019) and destructive consequences (clip thinking, cyber-aggression, advertising, and promotion for children to use entertaining content of a destructive nature) (Williford & DePaolis, 2019).

In addition, this process is associated with such problems as the lack of a safe information space for the artistic and creative development of children, the formation of information competence of participants in educational relations (teachers, parents and children), the choice of innovative ways, methods and means of creative development of the child's personality in artistic activity.

Among researchers, there is the controversial question about the relationship between the main properties and functions of ICT. Firstly, there is the excess of information distributed by all types of screens that occupy a significant mental space and often exceed the child's cognitive and emotional ability to analyze incoming information, and secondly, there is a new form of virtual relationships promoted by modern technology (Davou & Sidiropoulou, 2017).

The presence of these problems is complicated with the early-uncontrolled use of information and communication technologies (ICT) by children of preschool and primary school age. In a study by Dolgova et al. (2019), every fifth preschooler uses ICT uncontrollably and does not cooperate with their parents in this matter. Foreign researchers note the problems of the early start of using various ICT tools: poor criticality of children in the choice of information sources, insufficient abidance by the rules of cybersecurity during communication on the Internet.

For example, preliminary data from our sample indicate that in 84% of families, children of preschool and primary school age are allowed to use a smartphone, tablet and computer, with access to the Internet. Other studies indicate that 17% of children started using social networks at the age of nine or younger, 40% accepted friend requests from people they did not know, and 40% reported that their parents did not control their use of social networks, which requires cyber security education (Martin, Wang, Petty, Wang, & Wilkins, 2018).

At the same time, foreign studies (from 21 European countries) show that children who start using a computer at a later age (after seven years) show significantly lower competence and independence in the field of ICT in adolescence (Juhaňák, Zounek, Záleská, Bárta, & Vlčková, 2019).

In this regard, a contradiction arises between the need for competent psychological and pedagogical support of the creative development of the child's personality in the modern information space and the lack of scientific justification for the choice and digital educational resources and ICT means in additional art education of children and the unity of scientific approaches.

2. Problem Statement

The fundamental goal of additional art education both at the initial stage of its formation (late XIX - early XX centuries), and at the present stage of development in the context of digital pedagogy is to preserve and enhance the traditions of individual and collective artistic creativity of children.

The mission of additional art education is to form a holistic view of the diversity of art forms, to study national and world culture, to develop a special artistic and aesthetic perception of the world, to reveal the basics of the artistic-figurative language of art to children, and to master artistic literacy.

Its implementation can be facilitated with the use of advanced educational technologies, teaching methods and tools, including information and communication technologies.

Here under ICT in art education we understand the methods, processes, software and hardware included in the process of art education in order to process, store, disseminate, display and use a variety of information. ICTs in art education include various software and hardware tools and devices that operate based on computer technology, i.e. modern means and systems of information exchange, providing the collection, accumulation, storage, production and transmission of information. We have proposed a classification of ICT tools that can be used for the artistic and creative development of children. Among them, hardware and software were highlighted. The hardware can include information processing devices (computer, tablet, smartphone, MP3 player, etc.); printing devices (printer, 3D printer, 3D pen, etc.), image output devices (monitor, video wall, projector, 3D sandbox, etc.); devices for entering textual and graphical information and manipulating screen objects (keyboard, mouse, stylus, graphic tablet, etc.). In addition, it includes devices for recording (inputting) visual and audio information (scanner, camera, video camera, recorder, etc.); virtual (VR) and augmented (AR) reality devices (virtual reality helmet (VR), VR glasses, virtual reality gloves, motion capture devices, etc.). There are electronic musical instruments (EMI); complex devices that combine several of the above functions (interactive whiteboard, smartphone, tablet, etc.); communication and telecommunication devices for access to local and global information networks.

Among the teaching aids, the use of which is possible in the system of additional education for children of an artistic orientation, we can name software (operating systems, graphic, audio, video editors, players, systems for designing, interactive modeling and virtual designers, digital laboratories, etc.). Also we name electronic didactic materials (electronic textbooks, manuals, electronic encyclopedias and reference books, multimedia presentation, non-standard computer lesson, multimedia lecture, etc.); interactive training courses; simulators and testing programs (game music simulator); Internet sites; information on physical media (illustrations, audio and video materials).

The above tools have such useful qualities as visibility, involvement, focusing the attention of the child on the subject of study, although they also have drawbacks such as a small amount of developed material for training, high cost, low functionality (for example, for VR applications).

Among domestic studies that reveal the peculiarities of the use of ICT in the art education of preschoolers and primary schoolchildren, we identified both the author's methodological development of lessons, textbooks for children and teaching aids for teachers (Krasilnikov, 2018), and attempts to generalize this process in a methodological structure (Krylov, 2011). Foreign researchers also compiled materials on the use of digital media in music and art education (Calderón-Garrido, Cisneros, García, & de las Heras, 2019; Huerta & Dominguez, 2018; Nizam, Malek, Ramli, & Hussin, 2017). The materials enrich the methodological content of the implementation of ICT in general and art education, but in general, the solution to the above problem is complicated with the lack of scientific substantiation of the principles and conditions that positively affect the process of introducing ICT into the artistic educational environment.

3. Research Questions

3.1. What are the perceptions of teachers about the process of introducing ICT tools in additional art education of children in the modern information environment?

3.2. What are the possibilities of using various ICT tools for the artistic and creative development of children in additional art education?

3.3. What are the principles and conditions that ensure the successful implementation of the capabilities of ICT tools in the artistic and creative development of children as part of a multi-artistic approach?

4. Purpose of the Study

The aim of the study is to identify the ideas of teachers about the possibilities of ICT tools used in additional art education and determine the conditions of psychological and pedagogical support for their use for the artistic and creative development of children in the practice of additional art education.

5. Research Methods

The methodological basis of the study is a polyartistic approach, involving a synthesis of various types of arts and the artistic and creative activities of students. This allows children to go beyond the scope of academic art and provides a passion for activity. The implementation of the poly-artistic approach in modern supplementary art education is based on the use of ICT in the creative activities of children.

To achieve the goal of the study, the following methods were used: theoretical analysis of scientific psychological, pedagogical, scientific and methodical literature on research issues; the study of relevant experience in the field of additional art education of children; questioning.

The study was conducted on the basis of children's art schools in Moscow, Solnechnogorsk, Ivanovo, Prokopyevsk in Kemerovo region. The study involved 50 teachers of additional art education, 67 parents of children of preschool and primary school age.

6. Findings

6.1. Use of ICT tools in additional art education

Questioning of teachers of additional education of an artistic orientation showed that the most popular of the means of ICT used by them are: Internet resources (87%); electronic educational resources (57%); electronic equipment (43%); multimedia presentations (34%); travel lessons (34%). In addition, they are test programs (21%); electronic didactic materials (21%); film lessons (14%); game simulators (7%); interactive modeling tools (7%); multimedia lectures (4%); virtual laboratories (4%); non-standard computer lessons (3%).

These ICT tools are the most accessible for teachers and meet the level of their ICT competency. It should be noted that mainly teachers teaching temporary and spectacular arts use most often ICTs in their activities: playing musical instruments (synthesizer, piano, electric guitar), pop vocals, theater art, improvisation with an image.

Teachers note the potential of ICT in acquainting children with outstanding examples of performing art, broadening the horizons of students, emotional development, and the formation of motivation for learning and creativity. According to respondents, the experience of using multimedia ICT tools has a positive effect not only on the overall artistic and creative development of children, but also contributes to the development of their special artistic abilities. So, for example, the use of electronic musical instruments in music education significantly affects the development of high-pitch hearing, sense of rhythm, listening to music, musical perception, and memory. Music educators note that the use of processing of musical fragments in audio editors (FreeAudioEditor, Audacity, Cubase, AdobeAudition, etc.) not only facilitate the writing process, but also increase children's interest in composer art as a whole. Special processing of music contributes to the development of musical literacy of students.

Some educators not only use well-known ICT tools, but also develop them. The interactive and multimedia possibilities of the Internet that are now available for general use can help the teacher in the individual organization of the project activities of students, and provide children with freedom in choosing the content and distribution of study time.

Questioning of teachers of additional art education showed that at present, far from the whole range of ICT tools is used for the artistic and creative development of children. There is no consistency in their use between participants in the educational process. Teachers often find it difficult to answer how the use of certain ICT tools in additional art education will affect to the development of specific general and special artistic abilities of students.

6.2. Prospects for the use of ICT in additional art education of children

The questionnaire showed that the majority of teachers (57%) see the prospects of using ICT in additional art education of children, including: the synthesis of various ICTs; creation of innovative projects based on various types of art. For example, teachers of music and photography can come together to create multimedia projects: children write music on the EMI, and the people from the photography studio pick up a visual series for it and mount a short film. The results of this collective creative work can be jointly viewed and evaluated at an open final event for children from different studios and their parents.

For visual-plastic arts, ICT tools can be used, including for the development of general and special artistic skills. So, for example, through the use of information retrieval and reference tools, it is possible to form theoretical knowledge about art. Training simulators, graphic editors, game tools allow you to create compositional, graphic skills and general intellectual skills necessary for artistic creation.

The use of ICT demonstration tools makes it possible to raise interest in the artistic heritage, in artistic creation, and in students to form theoretical knowledge about art and the analytical skills necessary for artistic and visual activity.

A survey of teachers showed that the main reasons hindering the inclusion of ICT tools in the practice of additional art education are the teachers' lack of understanding of the variety of these tools and their capabilities in the artistic and creative development of children. There are fears that with uncontrolled use, these funds can bring the child not only benefit, but also harm.

Along with a survey of teachers, there was a survey of the parents of children involved in additional art education. As a result of the study, the most popular ICT tools (Internet, tablet, smartphone and TV) that are used in the child's family for the purpose of art education have been identified. Internet content used by parents is quite diverse and can be characterized as informative. However, the use of ICT "for entertainment" exceeds their use for the artistic development of children.

6.3. Principles and conditions for the use of ICT in the artistic and creative development of children

The artistic and creative development of children in additional art education presupposes the support of the following principles. First, there is the principle of anticipatory influence (the ability of teachers and parents to predict negative child development options and find positive means and methods of creative development of children in the modern information environment based on information competence). There is the principle of complexity (analysis problems of interaction between the child and the information environment based on the position of each participant in educational relations) and prognosticity (introduction of diagnostic procedures of the individual characteristics of a particular child to build an individual trajectory of his creative development). Then, there is the principle of continuity (continued support of the child and his family throughout the child's maturation and formation of his personality), reflectivity (involves a conscious approach on the part of adults significant for the child to the process his training in a modern educational environment), individualization (direct consideration of the child's capabilities and abilities for implementing the individual trajectory of his creative development).

These principles allow the most efficient use of the functions of ICTs in a polyart environment. Thus, the integration of different types of art with the help of software technology helps to expand information flows for the perception and acquaintance with the best examples of world art in conjunction with appeal to the regional art culture. This allows the child not only to be a spectator, but also to act as a creator, build an artistic image, improve performing skills and evaluate the perceived object of art.

The use of ICT tools for the artistic and creative development of children will be successful if the following conditions are met:

- coordinated pedagogical interaction of the child and adults (teachers, parents), which is manifested in the reflection and analysis by adults of the individual artistic needs of the child;

- -actualization of cultural and family (generic) values, their coordination in the mode of value-semantic self-government with the educational tasks of preschool educational organizations and additional education organizations, ensuring the formation of an individual child development path (Skvortsova & Georgievskaya, 2018);
- increasing ICT competence of participants in the pedagogical process.

7. Conclusion

During the study, a classification of ICT tools was proposed, the possibilities of their use in additional art education of children were revealed.

The study showed the need to expand the perceptions of teachers about the possibilities of artistic and creative development of preschoolers and primary schoolchildren using ICT tools.

The principles and conditions for the use of ICT tools in the artistic and creative development of children are determined. The principles are formulated as part of a multi-artistic approach to the use of ICT tools: anticipatory impact, complexity, predictability, continuity, reflectivity, individualization. Based on the principles formulated, it is possible to create such psychological and pedagogical conditions in which the process of integrating modern technologies into art education will be effective and constructive: coordinated pedagogical interaction of a child and adults (teachers, parents); updating cultural and family (generic) values, their coordination; increasing the ICT competence of parents.

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