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Digital Educational Materials for the Organization and Conduct of Fine Arts Lessons in Uzbekistan

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Abstract: Today digital technologies find their place in all spheres of society, including in the education system. In particular, the use of digital technologies in organizing and conducting fine arts lessons will not only improve the qualifications of teachers in working with technologies and new methods but will also play an important role in shaping students' competencies in accordance with modern requirements.

It should be noted that digital technologies are effective only if they are used purposefully and effectively. This article describes the general classification of digital technologies and their use in organizing art classes, depending on the form and purpose of the lesson.

Keywords: Fine arts, design, digital technologies, teaching materials, education, competence, knowledge of the future.

Introduction.

The teaching of fine arts is the process of enriching a person with the means he uses to express ideas, feelings, impressions, and attitudes about the visible and invisible things around him. As with the content of other forms of education, art shapes a person's life and helps them find their place in society and succeed in their future endeavors. It improves the artistic, mental and spiritual aspects of human life and helps to unite people in society. Hence, in the XXI century, which is the age of technology, one of the most important tasks today is to integrate technology, especially digital technologies, into the teaching process of fine arts in order to keep pace with life. However, art education in secondary schools in Uzbekistan consists of only five main activities: perception of being, artistic construction, basics of art criticism, depiction of nature, and compositional activities, and requires the integration of models into the content of education that shape skills in contemporary art.

Like the visual arts itself, its teaching is evolving day by day and the scope of its activities is expanding. Over the years, new tools, methods and materials have been integrated into the teaching process.

Art education is education based on theory and practice. The use of technology in this process enhances the quality of the lesson and ensures that the teacher uses a variety of methods to gain a broader understanding of the topic in a short period of time.

It should be noted that there are not enough books on art education in secondary schools in Uzbekistan. The reason is that they need to be enriched with colored illustrations, and it is usually expensive for teachers to print a book and for students to buy them. As a result, it is difficult to find the right source, and this has a negative impact on the mastery of the subject. The school library has a limited selection of books on the fine arts, but even in their presence, the information is often basic and general, and there is a lack of information beyond the materials provided in the curriculum.

This process is seen as an important issue around the world. In particular, Pepper, who has conducted research on the integration of new technologies into art education, argues that while there are several solutions to these expanding educational gaps, there is a need for methods actively engage students in learning in order to prepare young people with critical thinking competencies in the XXI century (Peppler, 2010).

In this process, the use of digital technologies, especially the Internet, mobile applications, multimedia products, is important, which allows teachers and students to find the information they need in the shortest possible time and provide the lesson with additional resources. In addition, if the participants in the fine arts class have an Internet connection, they will have the opportunity to share books and other resources with each other at any time.

It is also possible to develop student's skills in using technology in secondary schools through the organization of art classes using media products and computers, which are part of digital technologies. This gives the teacher the opportunity to demonstrate a new artistic approach and style. The presence of computers in art classes can help teachers plan lessons and introduce new techniques that impossible to demonstrate to students in a typical classroom.

Researchers point out that the use of technology in the classroom at different levels and on different topics is important in enhancing teaching and learning. Technology can add additional opportunities to the entire learning process that affects teachers, students, and curricula. (Alawad, 2013)Take, for example, the emerging field of "media art" (also known as digital art or new media). The professional field of media art encompasses all creative practices that involve or refer to the art of using electronic equipment, computing, and new communication technologies. The formation of knowledge about this art in the student will undoubtedly prepare him for the future. While the art of media largely driven by young people's interest in new media, it can then be an effective way to strengthen the link between school and extracurricular education and serve as an active learning tool (Charles C. Bonwell and James A Eison, 1991).

Keeping pace with technology helps to design and create methods that connect young people with culture, encourage critical thinking in students and engage them more actively in the learning process than the models traditionally offered in schools.

Digital technologies also serve to increase interactivity in the classroom. The concept of interactivity becomes a key feature when we think about learning in this new environment. Education theorists have in the past placed great emphasis on interactivity in the classroom, but mainly on learning strategies such as group problem solving, group discussion, short demonstrations, or short, unreasonable writing, exercises; then discussion and used feedback, debate, problem-solving models, and role-playing games.(Braun, 1988; BonwellvaEison, 1991). Nowadays, along with these methods, the role of interactivity and its connection with active learning is being studied through new tools.

Digital technologies can be seen as a new solution in this process. Because they provide new tools for use and reshape some of the foundations of applied processes in the fine arts. According to the International Society for Educational Technology, technology enables students to work with information technology, solve problems and make decisions, be creative and effective users of digital tools. (ISTE, 2000)In this regard, digital drawing or painting seems like another tool in the palette of artists. However, this process is relevant with working on computer software. Learning computer software is often an important part of being able to "teach software" or create new user interfaces with a computer. Researcher Reas points out that "software is a tool that controls the flow of bits that orbit the air and

surface of our planet. Understanding software and its impact on culture is the foundation for understanding and contributing to modern society" (Reas, 2006).

Based on the above, it should be noted that the demand for the integration of digital technologies in all areas of modern education, including the visual arts, is growing. In particular, the authors of the Fine Arts Curriculum for Grades 1-8 in Ontario, Canada, recommend the introduction of digital technologies in the Fine Arts Curriculum. The problem is that there are no clear guidelines on this. The authors of the created manuals do not provide information on what technology to use or how teachers should integrate the technology(Joanna Black, Kathy Browing, 2011).

Therefore, in this study, we have systematized the State Educational Standards in Uzbekistan, the content of education and the experience of digital technologies based on best practices.

Methodology.

These analyzes examined scientific articles, dissertations and literature on the subject.

In particular, Abir Alavad'sresearch article "Technologies in the art classroom: Using technologies in art classrooms to overcome cultural limitations to support teaching and learning", Pamela G. Taylor and B. Stephen Carpenter's "Mediating Art Education: Digital Kids, Art, and Technology", "Digital Technology in the Visual Arts Classroom: An [un]Easy Partnership" of Judith Wilkes, Alexandra Catcher and Susan Wilkes articles provided valuable information on the interrelationships between digital technology and fine arts classes and their importance in student activities.

RESULTS

When considering the use of digital technologies in the teaching of fine arts, it is important to keep in mind that their function is relevant to the content of education and the competencies that need to be formed in students.

In particular, according to Peppler, there are three broad concepts that are important for the creation of Media Art, which is an integral part of digital technology:

- Active participation in the learning process;
- Personal connection of young people with their work, which evokes a general love for learning and based on previous experiences;
- creating projects that are important to the public(Peppler, 2010).

They connected not only with the socio-cultural theories of constructivism, but also with the theories of art and aesthetics (Greene, 2011).

Art educator Robert Sweeny focused on three tactical forms of originality in the digital culture that is lead to the practice of art education: the three target areas or the aesthetic approach:

1) Has social significance

2) Technologically important

3) To help you think in a very short time. (Sweeny, 2004)

Another study found that the choice of technology based on age. In particular, if general knowledge of animation developed in the primary grades, it recommended develop skills in working with video materials in the upper grades (Cuadra, 2019)

It is also important to take into account the characteristics of digital technology. The

definition of digital technology includes all electronic means, automated systems, technological devices, and resources that produce or store data. The difference between analog and digital technologies is that in analog technology, data converted into multi-amplitude electrical rhythms, while in digital technology; data converted into a two-digit system, zero and one.

Given that the requirements for fine arts classes in secondary schools are the correct and targeted organization of lessons and the formation of appropriate competencies in students (Isakov, 2021) (KhujamberdiyevaShahnoza and Isakov Abduvokhid, 2021), this the application of digital technologies can be classified as shown in Figure 1:

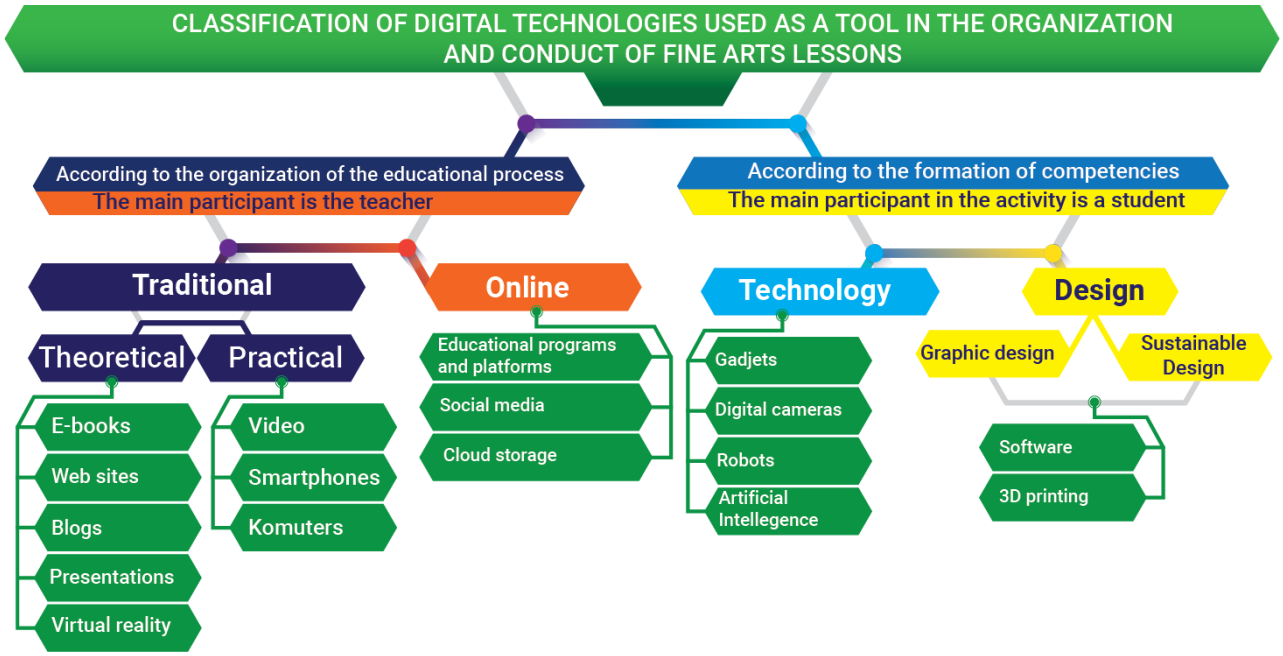

Fig 1. Classification of digital technologies used as a tool in the organization and conduct of fine arts classes

Digital technologies for use in theoretical lessons.

E-books. The basic definition of e-books differs in its nature and level. In "Oxford's Advanced Reader's Dictionary" (2011), an E-book is "a book that is displayed on a computer screen or on a hand-held electronic device instead of being printed on paper. It's available in several electronic formats"(Abd Mutallib Embong at all, 2012).

There are a number of studies involving the use of e-books in the classroom as a teaching tool (Tan, 2009; Kristin, 2007; Karti, 2000; Springer, 2007). Most studies emphasize the effectiveness of E-books in improving the learning process.

WEB PAGES. Most web pages today run-on Web 2.0. Examples of Web 2.0 tools are familiar to many, as such tools are used everywhere for recreation and personal communication: YouTube, Skype, Face book, Google Docs, Word Press, Blogger, Wikipedia and Pad Let (former Wall wisher).Web 2.0 helps us interact with features such as sending comments, sending real-time text, audio or video discussions. This allows us to share data in small groups or around the world in real time and provides two-way communication (Weller, 2013).

Another advantage of web pages can be seen in our many years of experience. For example, we usually prepare a presentation or video on a topic and share it with students using a

computer. However, in most cases, it is not possible to open our files due to the variety of applications that read them during the presentation or presentation of the video. The materials posted on the WEB PAGES opened and shared in a short time, which helps us to save a lot of time.

BLOGS.A blog is a type of diary that written on a regular basis and can address one or more topics. The Britannica Encyclopedia defines the term blog as an "online journal" that provides information about the activities, opinions, or beliefs of an individual, group, or corporation (Britannica, n.d.).

Uniqueness of blogs - Interaction and conciseness are two important words for online learning. Asking questions through blogs or inviting them to participate in a discussion is an effective strategy for communicating with students (Gorąca-Sawczyk, 2015)

PRESENTATIONS. Presentations with the help of special applications have become an integral part of the educational process today. Research in this area has also shown that teaching methods using presentations are effective. In particular, FatemeSamie points out that "it can be used as a tool to facilitate teaching and learning" (Lari, 2014).

Another high-performance digital technology for theory lessons is Virtual Reality. Virtual reality (VR) is the use of computer modeling and simulation that allows a person to interact with an artificial three-dimensional (3-D) visual or other emotional environment (Lowood, 2021). The advantage of VR over conventional methods is that it allows students to perform or visualize a subject in their own experience when it is impossible to describe or detail it. The use of this technology is especially effective in explaining topics related to the history and theory of art, as well as in introducing the life and work of artists. Schools have always strived to give students real experiences of technology through field trips, lab sessions, and a variety of extracurricular activities. Santrock points out that student creativity enhanced through positive examples such as excursions to museums and galleries (Santrock, 2004) and VR provides the opportunity to take virtual tours of the world is leading Museums and Fine Arts Galleries.

The range of subjects and topics taught in VR is very wide: from the natural sciences and mathematics to history, archeology and cultural heritage. VR allows us to visualize both the macroscopic world and the microscopic world, thereby teaching concepts that achieved by traditional methods (Christou, 2010).

These technologies used simultaneously in the introductory and reinforcing stages of theoretical lessons.

Digital technologies recommended for use in practical classes.

Video. Properly organized fine arts practice requires twice as much work on the part of the teacher. This is because 45 minutes of time is allocated in secondary schools for one practical lesson, which is not enough to explain the essence of a single practical work (for example, landscape composition), the order of execution and the complete completion process and create it in practice. The use of video materials in this regard is a great help. In particular, the accelerated presentation of the work done in the video materials allows provide more information in a short time, and as a result, students have more time to do practical work.

During the experiment, such videos on several topics were prepared and posted on YouTube video hosting. (Isakov, youtube.com, 2020) Such learning materials are convenient for students to use not only during the lesson, but also after class: in their spare time, they can see and complete a topic that has not been mastered during the lesson. Video tutorials are suitable for the introductory part of the lesson.

Given that in the education system of Uzbekistan, the curriculum and practical lessons in the curriculum of fine arts mainly aimed at the formation of knowledge and skills in traditional fine arts, the strengthening part of the lesson requires students to perform. Therefore, for this stage of the lesson, it is better to use traditional visual aids than digital technologies.

Two important elements - assessment and feedback - have a significant impact on the growth of students' knowledge and skills. Indeed, feedback recognized as one of the important aspects that help students develop their knowledge. (Black P. and Wiliam D., 1998). Smartphone's and computers are the best tools to organize this process. Mireille Bikanga, who conducts research on the use of mobile technology in feedback, emphasizes the importance of mobile applications "... as a key area of the environment that facilitates the use of relevant devices for feedback (Ada, 2018).The use of smartphones and computers in the organization of this process is very effective. As an experiment, our work with a group of students in grades 6-7 on a social network to provide feedback on the teaching of fine arts at the Presidential School in Namangan confirmed our opinion. In particular, the students were placed in the group after completing the task at home, and were given feedback on the work done. As a result, students were able to correct mistakes made at home without the involvement of the teacher and ultimately improve the quality of learning. In addition, the use of this method allows you to permanently store the prepared training materials and use them in future activities.

Optimal digital technologies for organizing online classes.

The pandemic, which has spread around the world, has increased the need for online lessons for everyone. Especially practical performance lessons, especially online teaching of fine arts, require more knowledge and creativity from the teacher.

Online learning ... understood as the evolution of traditional distance learning practices. Rather, it is a learning method that incorporates and improves digital, face-to-face, online, or hybrid (online and face-to-face) learning methods (Tatiana Rossini at all, 2021)

Currently, **Moodle, Google classroom** and **Zoom**, which are part of the LMS-Learning Management System, are widely used in Uzbekistan. The basic principles of the work he does seen in the acronym itself.

Learning. With LMS, you create a unique database of e-courses and training materials. Such a database is a treasure trove of real knowledge on your topic. With its help, you will maintain and grow the internal control of the company.

Management. In addition to the courses at LMS, learners managed.

System is an electronic system. Even if your employees are located in different cities, you can train them all without leaving your office. In addition, LMS automates all the tedious and always the same tasks: testing tests, compiling statistics, and preparing reports.

The obvious advantages of using LMS are that such a system saves time and money, helps to create individual development plans and get clear statistics of mastery.

Another integral part of an online education system is cloud storage. Cloud storage is a cloud-computing model in which data is stored on servers that accessed from the Internet or the cloud. They stored and managed by a cloud storage service provider on storage servers created based on virtualization techniques. Its uniqueness in art education is that it used for long-term practical work by storing the training materials prepared for the lessons in this cloud memory and monitoring the prepared work for an indefinite period. In addition, the division of cloud storage into personal, popular and hybrid types allow you to manage data security as desired. Several providers today recommend their cloud storage:

- Apple iCloud
- Drop box
- Google Drive
- Amazon Cloud Drive
- Microsoft Sky Drive

There are many examples of educational institutions today that embrace virtualization and use cloud storage in education. Many researchers are exploring ways further enhance the student experience based on a centralized virtual data center (Munjal, 2014).

The digital technologies used in the education system we have considered above are mainly an acceptable tool for organizing the educational process, and its main manager and organizer is the science teacher. The use of these technologies and their application in the preparation of teaching materials for lessons forms the competence of the teacher to use modern technologies.

At this point, a pertinent question arises: what done to form competencies in digital technology in the process of teaching fine arts another participant in the educational process and the main object-students.

International best practices show that the requirements for the content of the study of fine arts are set in the formation of students' knowledge of technology competencies and future knowledge. In Finland, for example, students introduced to architectural photography, landscape art, materials processing, architecture, mobile technology, and robotics design (PS) in fine arts classes (Khujamberdiyeva Shahnoza and Isakov Abduvokhid, 2021).

Therefore, the digital technologies used by students in the classroom divided into two structures, depending on the formation of appropriate competencies in students:

- technology
- design

Optimal digital technologies for the formation of technological competencies in students.

The formation of modern and future competencies in students remains one of the main tasks of today's society. This highlighted in the Education for Sustainable Development Program, defined by UNESCO in 2015 as part of Education 2030. In particular, Irina Bokova says about the educational process aimed at achieving the goals set in the program: "When we think about the role of education in global development, we need radical reforms, because they have a significant impact on the well-being of individuals and the future of our planet", he said. … Now, education is responsible for nurturing the types of values and skills that are more prepared than ever for the challenges and aspirations of the XXI century, leading to sustainable and inclusive growth and peaceful coexistence" (UNESCO, 2017).

Given the spread of digital technologies around the world and their growing importance in the development of society, we can now understand that students also need to develop the knowledge, skills and abilities related to these technologies. The process of fulfilling this task should include the subject of Fine Arts, as well as all subjects taught in secondary schools. This is because the design areas associated with digital technology, which are widespread today, and the basics of working in multimedia educational tools, which closely related to technology, directly related to the science of fine arts.

The art of design began to take shape and taught as a separate type of fine art in the twentieth

century because of the development of industry. Teaching design elements and principles not as Arthur Wesley Dow did initiate a content of artistic criticism in a university setting, but as perception and creative ability in studio practice. Dow's theory and method also influenced Bell Boas 'practice of art education through "Art at School"(Kim, 2006).

Even in today's world of technology, design and related concepts are expanding. From the available design skills, it is advisable to take into account, first, the most demanding ones when choosing the types that need to form in students. According to a survey conducted by design studio Prism, the list of the most popular services includes Web applications, Branding, Mobile applications and Analytical control panels (Rodriguez, 2017).

Depending on the age of the students, use the technical conditions at the school, and the opportunities for future use of the knowledge learned, the following types of digital technology in art classes.

Graphic design is the art and profession of selecting and arranging visual elements such as typography, images, symbols and colors to convey a message to an audience. Graphic design sometimes referred to as "visual communication", a term that refers to the task of preparing a form of information, such as a book, advertisement, logo, or website design (Meggs, 2021). The formation of graphic design as an activity and profession closely linked to technological innovation, social needs, and the imagination of art masters.

Web design (from English web design) is a web development department and a type of design whose functions include designing user web interfaces for sites or web applications.

Web designers:

- design the logical structure of web pages;
- development of the most convenient solutions for the presentation of information;
- decorates a web project.

Sustainable design.

The concept of sustainability related to the longevity of a society, a set of social institutions, or social practices. In general, sustainability understood as a form of intergenerational morality in which the environmental and economic actions taken by modern people do not diminish the opportunities for future humanity to enjoy similar levels of wealth, benefits or prosperity (Meadowcroft, 2020)

Sustainable design is an integral part of Sustainable Development, which focuses on the efficient use of natural resources in the production process, their conservation, and economic and energy efficiency.

Developing students' Sustainable Design skills is of great social, spiritual and material importance. The theoretical model (SDI model) developed at the college at the Menominee People's Institute for Sustainable Development provides the concept of sustainable development as a process of balancing sustainable development between six dimensions and reducing specific conflicts: land and sovereignty; natural environment (including human); institutions; technology; economy; and human perception, activity and behavior (Dockry, Michael J. at all., 2016).

In general, there are a number of reasons. Why art teachers should be interested in incorporating digital technology Based topics into school curricula and teaching them to students.

Thus, the targeted selection of digital technologies as a tool in the organization of fine arts

lessons plays an important role in increasing the effectiveness of the lessons. This means that in the process of systematizing the learning materials prepared for the lesson, depending on the type of form of education. In addition, what competencies need to formed, it will be possible to increase students' mastery and develop the necessary knowledge or skills.

Conclusion.

Encouraging active teaching of fine arts based on digital technologies offers many unique opportunities. In the process, young people find their place among their peers in the local (as well as online) community and gain their own audiences by preparing works on video games and other interactive arts. Previous research has shown that having an audience provides additional motivation to create jobs for young people (Sefton-Greene & Buckingham, 1998).

In teaching, the science of using technology by a teacher or working with a computer usually focuses on narrow technical activities. On the contrary, the use of digital technology in fine arts classes allows young people to learn all the features of the computer as an artistic tool.

However, some shortcomings of the use of technology in this regard taken into account.

First, when using technology, some teachers and students may become overly attached to it.

Second, the availability of equipment and the possibility of their sudden failure means that teachers always need to come up with alternative plans.

Third, learning new technologies is very time consuming and requires clear costs to use the technology.

However, despite this, the advantages of using technology often outweigh the disadvantages. Nevertheless, in the development of teaching and learning materials, it is important to consider the appropriate use of technology by students.

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