Digitalization of the Educational Process in the Field of Culture and Art: Challenges and Prospects

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Received: August 10, 2023 Accepted: September 10, 2023 Online Published: October 15, 2023

doi:10.5430/jct.v12n5p82 URL: https://doi.org/10.5430/jct.v12n5p82

Abstract

The aim of this article is to assess the challenges and opportunities presented by the digitalization of the educational process within the realm of culture and art. To achieve this objective, a range of analytical methods such as analysis, synthesis, prognostication, systematic examination, and comparison were employed. The findings underscore the favorable impact of digitalization on the educational landscape of culture and the arts. A key innovation lies in the potential widespread integration of cutting-edge solutions into the educational framework, as well as the utilization of virtual and augmented reality, facilitating the development of essential competencies required to mold a new generation of digital-savvy professionals. The conclusions consolidate strategies for surmounting the primary challenges encountered by digitalization in the field of cultural studies and the arts within the Ukrainian context. The study highlights several pivotal areas crucial for the advancement of digital education in culture and the arts. These areas encompass the establishment of a digitalized educational environment, the cultivation of digital and informational proficiencies, the exploration of innovative digital learning modalities and techniques, and the fostering of virtual engagement with artistic creations. To ensure the progression and effectiveness of art education in the digital era, it is imperative to strike a harmonious balance between traditional pedagogical approaches and the imperatives of contemporary digital society. The central emphasis should revolve around aligning the organization of art education with the evolving demands of the modern world.

Keywords: culture and arts, digitalization, education, innovative technologies, globalization

1. Introduction

1.1 Research Problem

The modern development of the information society demonstrates new paradigms in the development of educational processes, as the integration of the latest digital technologies into the education system has moved to a new stage. The global COVID-19 pandemic and related quarantine restrictions have demonstrated the effectiveness of distance learning, which, together with the use of traditional methods, allows for the continuation of educational services even in extremely unfavorable circumstances without significant losses.

Researchers have been studying this issue. In particular, Bondaretal (2019) analyzed the combination of modern digital learning technologies with the fashionable educational trend of design thinking, which is an extremely important aspect in the reality of training in cultural studies and art history. Kárpáti (2019) highlighted the processes of evolution of art teaching on the example of several universities in Central and Eastern Europe. A similar study for African educational systems through the prism of borrowing European experience was conducted by Mutibwa

(2021). The renaissance of digital learning technologies was traced by Conte, Habowski, and Rios (2019). Marner and Örtegren (2014) identified the potential of digitalization on the example of European educational models, teaching features, and relationships between students and teaching staff. This study is also relevant because it was compiled before the pandemic, which means that it highlights a vision of the development of modern teaching of culture and arts without taking into account extraordinary factors. A similar study is Rak-Młynarska (2022), but the researcher identified the impact of COVID-19 on modern educational paradigms. Sapiński and Ciupka (2021) tried to determine the future development of digital education, expressing a number of important hypotheses. Mathew, Abduroof, and Gopu (2021) addressed similar issues. Schafer (2020) also identified the main trends in the education of the future, but his assessments of digitalization are more restrained, especially in the humanities. Semenets-Orlova et al. (2021) researched the main features of using emotional intelligence as a foundation for leadership development in educational institutions. Woodbury (2020) defined the role of art, culture, and creativity through the prism of employers' interest in the modern labor market. At the same time, the problems of integrating digital technologies into the Ukrainian educational space in the field of culture and arts remain poorly understood.

For example, in medical education, case-based learning has garnered significant attention due to its student-centered approach, which immerses students in real-world scenarios, requiring them to apply their reasoning skills and prior theoretical knowledge. The primary objective meta-analysis, conducted by Tsekhmister (2023), was to assess the effectiveness of case-based learning in medical and pharmacy education. Random effects models indicated a significant difference in academic performance between case-based learning and traditional teaching methods, suggesting that case-based learning enhances both academic achievement and the ability to analyze cases for medical and pharmacy undergraduate students.

1.2 Research Focus

The further evolution of the education sector will require a more detailed study. This trend is also relevant for the field of culture and arts, which has been particularly affected by digitalization, so studying this aspect will require additional attention. First of all, it is about overcoming inertia in the teaching environment, which is focused on the use of traditional teaching methods, and which has been emphasized in the scientific literature. Special attention is also paid to the positive aspects of integrating the teaching of cultural studies and art history with digital technologies. This also allows us to trace the prospects for the development of this important area, which is also associated with possible difficulties. Particular emphasis is placed on the challenges that need to be addressed and to which little attention has been paid in scientific research in Ukraine.

1.3 Research Aim and Research Questions

Therefore, the purpose of the article is to analyze the challenges and prospects of digitalization of the educational process in the field of culture and art.

To realize this goal, the following hypotheses will be considered:

1. Advantages of using information technologies in the training of specialists in the field of culture and arts.

2. Challenges of digitalization of the educational process and indicative ways to overcome them.

2. Method

2.1 General Background

The basis of the proposed research is theoretical general scientific methods. In particular, based on the analysis, the main subjects of research attention (the use of digitalization in the training of specialists in the field of culture and arts) are highlighted through the prism of studying such issues as the special characteristics of the introduction of digital technologies in world education, highlighting the main advantages and disadvantages of using digital platforms in teaching cultural studies and art history, etc. Comparison is a fundamental research method that helps researchers understand the relative attributes, advantages, or disadvantages of different options or groups As a result of the active use of synthesis, these individual problematic aspects are combined, based on which the author formulates her own conclusions and possible recommendations for the future development of the field. Using the systematic method, the processes of digitalization of education are considered as a certain integrity that is in constant dynamics and transformation and therefore requires research with an indication of the likely further results of this process. In research, the systematic method is used to design and conduct studies in a methodical and rigorous manner. It includes defining research questions, selecting appropriate methods, gathering and analyzing data, and drawing conclusions following established protocols. Based on the axiological method, the author made a transition

from general theoretical statements to the formation of her own generalizations about the use of digital technologies in the field of culture and arts, the theoretical definition of modern value orientations of students and teaching staff. As a result of the use of the prognostic method of research, further prospects for the adaptation and application of digital technologies in cultural studies education have been traced. These methods are valuable tools in research and problem-solving, and their selection depends on the specific objectives and nature of the study. Researchers often employ a combination of these methods to address complex research questions comprehensively. Properly applied, these methods contribute to the depth and quality of research outcomes, aiding in decision-making, problem-solving, and the generation of new knowledge.

2.2 Data Analysis

The proposed theoretical study was carried out in several stages. At the first stage, using analysis the relevance and controversial issues that need to be actualized were identified, and a content analysis of modern scientific and pedagogical literature was performed. The second stage characterizes the peculiarities of the use of digital technologies in modern education in the training of specialists in the field of culture and arts. On the basis of synthesis it was pointed out the advantages and disadvantages in the system of active introduction of digital methods and special technologies. At the third stage (in preparation for the discussion), using the systematic method, the challenges of digital educational environments that exist when they are used in the training of a new generation of specialists were identified and described in detail. At the last stage, the results obtained were thoroughly analyzed, the main conclusions on the topic were formulated, and some recommendations for the use of digital technologies in the system of training future specialists in culture and arts were proposed. For preparing results it was used axiological method. Of particular importance was the use of the comparison method, the scientific value of which was manifested in comparing the advantages and disadvantages of digitalization, opportunities, and threats of using digital technologies in the field of art education and cultural studies.

3. Results

3.1 Digitalization as a Modern Element of Teaching Cultural Studies and Art History: Progressive Aspects

Digital technologies help to make life easier, optimize routine processes, and transcend the boundaries of the educational space, which goes beyond the borders of one country or even one continent (Sapiński and Ciupka, 2021). On the other hand, such a comprehensive introduction of digitalization raises the requirements for the level of special training of future specialists in the field of culture and arts, increasing the competitiveness of specialists in the labor market. In particular, it is important to form highly qualified specialists who have sufficient competencies, are able to work effectively, show leadership and activity, be responsible, perform their professional duties persistently and creatively, solve problems individually and in collaboration with colleagues as part of a team (Almås, Bueie and Aagaard, 2021; Semenets-Orlova et al., 2020).

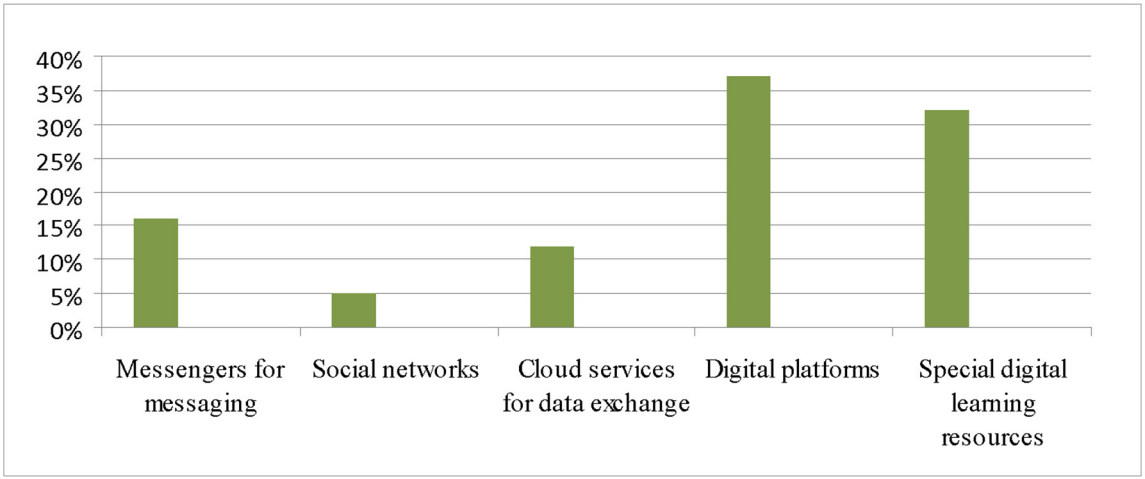

Figure 1. The Most Popular Resources for Using Digital Learning Tools

Source: *article authors' development*

In contemporary works, researchers understand the digitalization of teaching culture and arts as a reflection of the paradigms of modern society, which requires updated knowledge of an important area of cultural studies. Digitalization makes it possible to simplify the educational process, make it much more flexible, and adapted to the requirements of the present, which will ensure the creation of competitive workers of the future. During the twentieth century, the modernization of the education sector was primarily focused on the gradual updating of its content and content (Mathew et al., 2021). At the same time, since the twenty-first century, such evolution has become insufficient, as there is a growing need to further improve organizational forms, methods, and teaching methods, and to form effective digital educational spaces through the use of elements of digitalization of education (Rak-Młynarska, 2022). The most common digital tools used in modern universities are cloud services, social networks, messengers for digital communication, distance learning platforms, and individual resources for organizing digital learning (See Figure 1).

The digitalization of education in the field of culture and arts involves the widespread introduction of innovative solutions, the emergence of updated requirements for specialists, including the development of key competencies, and the formation of a new digital generation of specialists with special socio-psychological characteristics.

Given the careful organization of the digital environment, learning has become more accessible and comfortable, which is possible given the minimal costs, both in terms of time, financial and human resources. The digitalization of education has shown that students of cultural studies and artistic disciplines are actively involved in such learning, realizing their own individual potential and opportunities for further comfortable innovation (Trach et al., 2020).

Important positive factors of the digital transformation of the educational process are the improvement of general conditions for various aspects of learning, in particular, the development of independent learning skills, the ability to emphasize the main, most valuable materials for independent development, the promotion of personal mobility, skills of quick adaptation to conditions that change unpredictably and quite often in modern professional realities, etc. (See Figure 2).

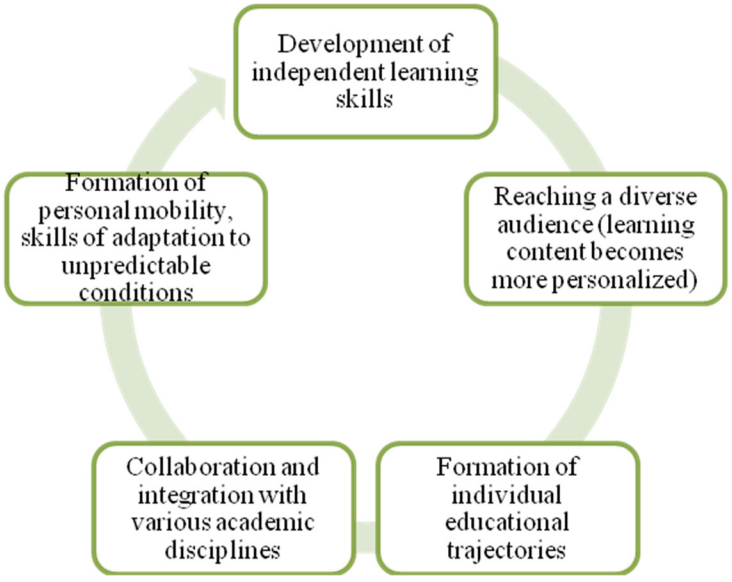

Figure 2. Factors for Improving the Digital Transformations of Education

Source: *authors' development*

At the same time, taking into account the above factors of digitalization development, it is necessary to guarantee training in the most optimal and convenient conditions, at a comfortable pace, but with the ability to set limits on the time required to complete certain tasks. Digital tools offer artists new avenues for experimentation and innovation. Digital art forms, interactive installations, and multimedia creations allow artists to explore novel artistic expressions and push the boundaries of traditional art forms. Also, digitalization aids in research and preservation efforts in the cultural and artistic domains. Digitizing historical artifacts, artworks, and cultural heritage materials contributes to their preservation and facilitates scholarly investigations. Digital tools facilitate timely assessments and feedback on

artistic projects and assignments. Online assessment platforms and multimedia feedback mechanisms provide comprehensive evaluations, supporting students' growth and development.

The digitalization of the educational process in the field of culture and art has numerous practical implications that can benefit students, educators, and institutions alike. Here are some practical implications of this topic:

1. Enhanced access to learning resources. Digitalization makes educational materials, such as e-books, videos, and interactive content, readily available to students, increasing access to a wide range of cultural and artistic resources.

2. Personalized learning opportunities. Digital platforms can offer personalized learning experiences, allowing students to tailor their studies to their interests and pace, promoting engagement and understanding.

3. Global collaboration and networking. Digital tools enable students and educators to connect and collaborate with peers, artists, and experts from around the world, fostering a global perspective and expanding opportunities for interdisciplinary collaboration.

4. Cost Reduction and Sustainability. By reducing the need for physical resources like textbooks and printed materials, digitalization can contribute to cost savings for students and institutions while promoting environmental sustainability.

3.2 Digitalization of Education in the Field of Culture and Arts

Contemporary scholars argue that digitalization does not destroy but strengthens these separate important parts of the artistic and educational process and expands their scope (Tytova and Mereniuk, 2022). What are the most promising ways to develop art education in the digital age?

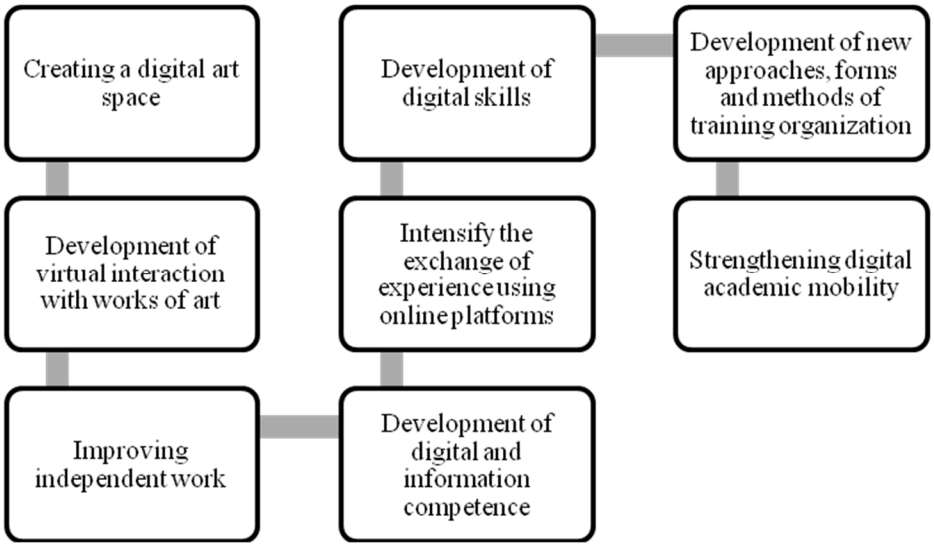

Figure 3. Ways to Develop Art Education in the Age of Digitalization

Source*: authors' development*

The formation of an appropriate digital art space is a necessary part of maintaining a sustainable position in the development of cultural and art education. The digital art space is an important part of the information and educational space, which is formed using modern innovative technologies and involves not only mastering but also the exchange, collection, and interpretation of information. Digital platforms can adapt to individual learning preferences, allowing students to progress at their own pace and focus on areas of interest. Personalized learning pathways promote self-directed learning and cater to diverse learning styles and abilities. Digital tools enable students and artists from different geographical locations to collaborate, exchange ideas, and create together. Online forums, social media, and digital portfolios facilitate networking and cross-cultural artistic collaborations. Using Internet platforms offer artists and students the opportunity to showcase their work to a global audience. Online exhibitions and digital portfolios enable artists to gain exposure and connect with potential clients, galleries, and employers Digitalization provides broader access to a vast array of cultural and artistic resources, including virtual art galleries, digital libraries, online exhibitions, and multimedia content. Students and educators can access a wealth

of information from various cultures and historical periods, enriching their understanding and appreciation of art.

3.3 Digitalization of Culture and Arts: A Prognostic Aspect

At the same time, digitalization affects the formation of individual educational trajectories, and the development of individual learning paths in the digital age will only increase. Accordingly, the further digital development of education in the field of culture and art involves the formation of innovative individual educational programs (Mutibwa, 2021). The latter will allow the principle of individualized learning to be implemented, while the individual educational trajectory becomes the basis of a structured program. We believe that within the framework of implementing an effective educational process in a digital format, such an educational trajectory is a strategically important part of the formation of an innovative educational process, and it will also contribute to the effective and productive mastery of new educational material.

At the same time, universities have a problem with access to WiFi, with current empirical studies showing that the quality and speed of the network is mediocre (See Figure 4).

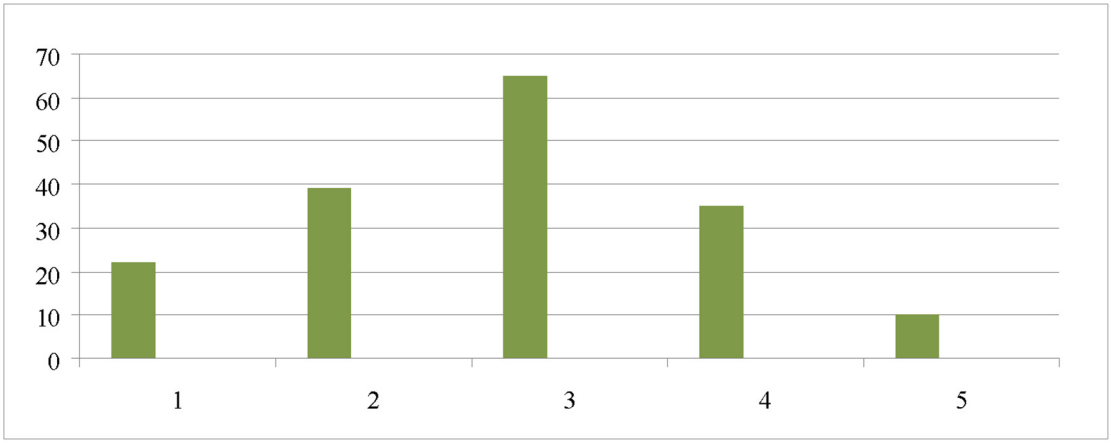

Figure 4. Assessing the Quality of Access to the WiFi Network

Source*: Processed by Digital tools at the Lviv National University named after I. Franka: survey results (2020).*

Virtual interaction with important works of art and culture is an important way to develop education in the field of culture and art in the digital age (Pierrakos and Stottlemyer, 2019). In European universities, the process of transforming real works of art into their digital projection or analogues is a relevant area of educational development (Marner and Örtegren, 2014). On the other hand, the use of digital tours of virtual museums is also a separate means of generating interest among students. Nevertheless, some contemporary researchers note that it is now possible to implement learning using interactive artistic or other works of art (Campbell, 2013). This helps not only to understand their content and image more deeply but also develops students' creative thinking, imagination, and criticality. Interactive artworks can be used as a kind of dialog between the artistic product and the learner (Martinez-Nuñez et al., 2016). The participant can interact with the work and even influence or transform it. Accordingly, the national model of digitalization of education in the field of culture and art should make greater use of the opportunities and virtual interaction with works of art in teaching (Bondar et al., 2019). Such forms of organizing digital learning should become an important component of art education for young people in general.

Intensifying the exchange of experience using digital resources or online platforms also significantly improves the quality of education in the field of culture and art. In the process of implementing digital education, important forms of organizing the educational process include the use of video lessons, master classes, and professional training videos that expand the forms and methods of teaching and help to expand the area of information dissemination. The organization of professional conferences, competitions, webinars, and open lectures can be held online, which allows for a wide range of participants from different countries (Baldacchino and Vella, 2013; Engwall, 2020). This facilitates the exchange of experience and digital mobility of students. Separately, virtual screenings of creative festivals, films, and theater productions are now widespread, which helps to expand students' theoretical and practical knowledge (Woodbury, 2020). All of these trends influence the updating of the software, content, forms, and methods of art education, taking into account the best international achievements (Taşkıran, 2019). Improving

the skills of independent work based on digital technologies is a separate area of development of critical and creative thinking in students.

Digitalization of the educational process is a popular trend in the development of world education (Woodbury, 2020). Modern researchers define digital education as a kind of process of interaction between participants in the educational process, formed on the basis of a digital educational environment. The key means of its implementation are special digital tools, digital technologies, various digital resources and platforms (Schafer, 2020). Separate objects of transformation of the digital educational space are educational and professional activities in digital format. The further development of digitalization of learning is associated with digital resources (opportunities). Current data show that the United States is the most resourceful in terms of digital characteristics. The next are Singapore, Sweden, the Netherlands, and Switzerland. At the same time, Ukraine ranks 50th in this ranking (See Table 1-2).

Table 1. Ranking of Countries by Digital Capabilities

Abbreviation	Country name	Scoring	Rating	Technologies
USA	United States of America	80.30.	1	88,18
SGP	Singapore	79.35.	2	77,48
SWE	Sweden	78.91.	3	73,09
NLD	Netherlands	78.82.	4	78,36
ESP	Spain	66.51.	26	58,34
POL	Poland	61.16.	34	50,61
UKR	Ukraine	55.71.	50	50,52

Source: processed by Countries Benchmarking the Future of the Network Economy (2022).

Country rankings based on digital capabilities typically assess factors such as digital infrastructure (includes the availability and quality of broadband internet, mobile networks, and other digital communication technologies), connectivity (the level of internet penetration, mobile phone usage, and access to digital services and platforms), digital skills (the population's proficiency in using digital technologies, including digital literacy and digital education initiatives) etc. These rankings provide valuable insights into how countries are harnessing digital technologies to drive progress in various sectors. However, it's essential to note that these rankings are dynamic and subject to change over time as countries continue to invest in digital infrastructure, enhance digital literacy, and embrace emerging technologies.

Table 2. Countries with the Greatest Digital Opportunities (by income level)

States			
High level of income	**Above-average income level**	**Below-average income level**	**Low-income level**
United States of America	China	Ukraine	Rwanda
Singapore	Malaysia	Indonesia	Zambia
Sweden	Russia	India	Uganda

Source: processed by Countries Benchmarking the Future of the Network Economy (2022).

Thus, in the Ukrainian context, digitalization is generally appreciated. As a result, teaching in the field of culture and arts will also develop in line with the trend of integrating digital elements into the educational process. While Ukraine has made significant progress in the digital domain, it also faces challenges, including the need to bridge the digital divide, address cybersecurity concerns, and foster more research and development in emerging technologies. Additionally, the digital landscape is continuously evolving, and the country's ranking and standing may have evolved since my last update. The country has invested in tech education and training programs to continuously improve digital skills among its population, supporting the growth of the digital workforce. Also, Ukraine has seen

substantial growth in mobile and internet penetration, with a significant portion of the population having access to digital technologies and services. The Ukrainian government has demonstrated support for the digital industry, encouraging investment, providing tax incentives for IT companies, and creating a favorable regulatory environment.

So, the digitalization of the educational process in the field of culture and art holds significant promise and potential for the future. This transformative shift in education, driven by technological advancements, is poised to revolutionize how we teach and learn about culture and the arts. Some key prospects on the subject are enhanced accessibility, interactive learning, customization and personalization of the educational process. One of the most significant advantages of digitalization in education is the increased accessibility it offers. With digital resources and online courses, students from around the world can access high-quality educational content in culture and art, regardless of their geographical location or economic circumstances. This democratization of education is particularly important in fields that were once considered exclusive. Digitalization allows for interactive and immersive learning experiences. Students can engage with art and cultural artifacts through virtual exhibitions, 3D modeling, and augmented reality, providing a deeper understanding and appreciation of the subject matter. This hands-on approach fosters a more profound connection with the material. Digital education platforms can tailor content to individual learning styles and levels, providing a personalized learning experience. This adaptability ensures that students can progress at their own pace and receive the support they need, ultimately leading to better outcomes in culture and art education.

4. Discussion

Modern scholars emphasize that in the context of large-scale scientific and technological progress, important scientific and technological innovations are taking place, in which digitalization plays a key role (Cavalcanti et al. 2019; Reid, 2020). Digital education is sometimes criticized in the scientific literature for insufficient student engagement (Chikuvadze, 2023). This is the result of the physical absence of teachers and the lack of direct communication with students (Fields and De Jager, 2022; Fromm et al., 2021). Critics of the further digitalization of education also note that the problem of student disengagement is a key factor in the inability of this educational model to effectively impact all stakeholders (Lebid et al., 2021; Baber, 2020; Franco and DeLuca, 2019). Accordingly, some works interpret digital education as a temporary model rather than a potential replacement for the traditional model. However, modern scholars argue that digital education has many opportunities that the traditional model does not have. Aldhafeeri and Alotaibi (2022) have empirically proven that digital education is effective in developing both basic theoretical and practical skills. At the same time, modern digital tools can improve and expand the acquired knowledge. Tsekhmister (2022) emphasizes that digital education is a future trend in the development of the educational space. Zhang and Aslan (2021) demonstrate that artificial intelligence technologies have an impact on improving the quality of teaching humanities. Innovative education encompasses various vital components, including the cultivation of communication skills and emotional perception. This involves nurturing essential intellectual, labor, organizational, and informational competencies necessary for active engagement in everyday life, public participation, production processes, continuous learning, and self-improvement. Moreover, innovative education places significant emphasis on fostering students' independent research and creative abilities, as well as nurturing individual psychological and creative potential. Furthermore, a key aspect of innovative education is empowering students to actively participate in socio-political affairs, enabling them to structure their lives based on universally accepted ideals, moral principles, and aesthetic guidelines. The overall goal of innovative education is to equip students with a holistic set of skills and abilities that prepare them to thrive in diverse contexts and contribute positively to society.

Some modern studies have proven the effectiveness of organizing digital learning spaces (Cavalcantietal. 2019; Stoika, 2022). They prove that the digitalization of the educational space is effective when several important aspects are met. In particular, they refer to the appropriate level of digital competencies and a high level of logistical support. The works of Narke (2021); Özmen and Kan (2022); Parsons et al. (2022) highlight the pedagogical component and the overall prospects for using digital environments. At the same time, Wedari et al. (2022) proved the importance of using modern digital resources and platforms to develop many relevant skills in students. Digital skills can significantly enhance productivity. The ability to efficiently use digital tools like word processors, spreadsheets, project management software, and communication platforms are useful accomplish tasks more quickly and with greater accuracy. This, in turn, frees up time for more strategic and creative endeavors.

The results of this study also emphasize the importance of developing and improving digital skills. The same thoughts are confirmed in other works (Conte, Habowski, and Rios, 2019). Tytova and Mereniuk (2022) also noted

that digital literacy is a key element of quality professional training for future specialists. Some theoretical aspects of the development of professional digital skills are outlined in the study by Almås, Bueie, and Aagaard (2021). Khan and Vuopala (2019) proved the relevance of acquiring digital competencies in today's globalized world. This aspect is also revealed in the study by Murphy, Iniesto, and Scanlon (2022). Williams et al. (2023) emphasized the further digital transformation of future higher education. This issue is also covered in the studies of Yoleri and Nur Anadolu (2022); Yoon et al. (2021). The importance of developing and improving digital skills cannot be overstated in our digitally-driven world. These skills empower individuals to excel in their careers, stay relevant in the job market, and navigate the complexities of the digital age. Moreover, they contribute to personal growth, problem-solving abilities, and the capacity to adapt to a continuously changing technological landscape. Investing in digital skills is an investment in your future success and well-being. Digital skills are not static; they require continuous learning and adaptation. As technology evolves, new tools and platforms emerge. By investing in improving your digital skills, you develop a mindset of lifelong learning. This ability to adapt and learn new technologies will serve you well throughout your personal and professional life.

Amid the ongoing digitalization trends, EU countries are placing significant emphasis on fostering information literacy and digital competence among students. In Germany, culture and arts education prioritize the development of multicultural and digital proficiencies for all participants in the educational process. Notably, the Berlin University of the Arts, housing the Faculties of Fine Arts, Design, and Music, actively integrates digital technologies into its curriculum. The Faculty of Design goes beyond nurturing creative abilities and also focuses on cultivating students' information competence. Key disciplines taught here include "visual communication and thinking," "art and media," "information culture," and "business and social communication".

To further enrich communication, social, business skills, and theoretical knowledge, the faculty organizes popular science conferences, debates, open lectures, seminars, and summer schools. These events provide students with opportunities to expand their theoretical understanding and practical capabilities. Additionally, the Bundesvereinigung Kulturelle Jugendbildung (BKJ) - the German Union of Federal Associations for Cultural Education of Youth - plays a pivotal role in promoting arts and culture among the youth. More than 10 million young Germans participate in artistic and cultural seminars, projects, competitions, and other BKJ-organized events, fostering a vibrant culture of artistic engagement and growth.

Sun (2022) proved that the use of modern multimedia tools in the training of specialists in the field of culture and art is an important component: they contribute to making learning more interesting and personally oriented. At the same time, visual demonstration contributes to the development of practical skills (Sun, 2022). Șova and Popa (2020) also drew attention to the fact that multimedia tools affect the development of students' creativity. The use of digital images develops students' individual multimodal methods of using such images to realize their own creative ideas. Therefore, in general, the scientific literature is convinced of the positive impact of digital technologies on the development of teaching in the field of culture and arts. For this reason, the introduction of such new innovative educational technologies is an urgent task for the Ukrainian educational system, which will require post-war renewal in connection with European integration and the need for post-war reconstruction as a result of Russian armed aggression. On this basis, the integration aspect, which is related to the inclusion of students in non-formal education, is also distinguished. Obviously, in the future, there will be a need to expand the prospects for the digitalization of this vector, especially in the arts and cultural sciences. These aspects are extremely relevant today and will generally contribute to the development of students and the acquisition of new competencies. Such solutions are valued in the modern labor market in European countries, so they will require active implementation. It is important to develop innovative teaching methods. Educators can experiment with innovative teaching methods in a digital environment. This may include gamified learning experiences, multimedia presentations, and collaborative projects that harness the power of technology to engage students and enhance their creativity. Another important prospect is global collaboration. Digitalization facilitates global collaboration among students and educators. It enables cross-cultural exchanges, joint projects, and partnerships between institutions worldwide, enriching the educational experience by providing diverse perspectives and opportunities for cross-cultural learning.

The modern national system of digital development of the educational art sector faces several pressing challenges of a global scale (these challenges give rise to new problems and threats to further digitalization of the culture and art sector as a whole) (Poplavskyi, Rybinska and Ponochovna-Rysak, 2020). The first global challenge is the large-scale digitalization of the industry as a whole. The point is that digitalization is not possible only at one level. For the effective development of the digital generation, it must take place at all possible levels: purely educational, methodological, administrative, etc.

The second major problem is the noticeable digital divide between participants in the educational process (Kárpáti, 2019). Insufficient digital literacy leads to inefficient use of innovative digital technologies.

The third important challenge is the need to change approaches, forms, or methods of teaching the new "digitalized" generation.

Challenge 1.

Every year in Ukraine, the process of digitalization in the field of culture and art is becoming more and more relevant. Accordingly, digital culture is penetrating all social manifestations of the educational process, ways of communication between art and the audience, and new ways of creating artworks. Audio guides or mobile virtual or augmented reality experiences, animated posters, new type of information guides - all these gadgets are increasingly used in the field of culture and art, with more and more attention being paid to the use of social media and online communication. Accordingly, one of the most important tasks of the national system is to organically integrate modern innovative trends and technologies into the artistic space. In particular, on June 4, 2019, at the Digitalization: business talk, open opportunities forum held in Kyiv and addressing important issues of development and use of digital technologies, it was decided that instead of selective digitalization, which improves only the quality of certain systems, Ukraine should develop a complete transition to digital technologies. By embracing digital tools and technologies, students are better prepared for careers in the modern workforce, which increasingly relies on digital skills and literacy. This prepares them not only for traditional roles in culture and the arts but also for emerging digital careers in these fields. It's important to acknowledge the challenges associated with digitalization in culture and art education. These may include issues of digital equity, concerns about the loss of hands-on experiences, and the need for educators to adapt to new teaching methodologies and technologies.

Challenge 2-3

For the effective development of the digital educational space, all its actors must have a high level of digital literacy. However, modern researchers emphasize that there is a certain digital divide in the national digital education system.

One of the reasons for this gap is the somewhat later digitalization of Ukraine compared to the leading Western countries. This opinion is confirmed by the Networked Readiness Index, a global ranking of countries' readiness for the networked world. It is updated annually. In the current ranking, Ukraine ranks 50th. It is ranked ahead of such countries as Greece, Turkey, Uruguay, Thailand, Croatia, and Brazil. The top 5 countries with the greatest digital capabilities are the United States, Singapore, Sweden, the Netherlands, and Switzerland. However, Ukraine leads the ranking of digitalization of Lower-middle Income Countries. At the same time, according to the information demonstrated in the results, based on these digital realities, the national education system of Ukraine has opportunities for further development of digitalization and its improvement. This trend is also relevant for teaching in the field of culture and arts, which is also in close cooperation with modern digital technologies. Therefore, to overcome the challenges, it is proposed to:

1. To organically integrate modern innovative trends and technologies into the artistic space. In particular, instead of selective digitalization, which improves only the quality of certain systems, it is important to develop a complete transition to digital technologies.

2. Establishing the development of a digital educational space to achieve the required level of digital competencies.

For the other hand, Ukraine has a big IT Talent Pool. Ukraine is known for its skilled and highly educated IT workforce. The country produces a large number of IT professionals each year, contributing to a strong talent pool capable of handling diverse digital projects. So, the country has developed a thriving tech hub, particularly in cities like Kyiv, Lviv, and Kharkiv, fostering a dynamic start-up ecosystem. Several successful start-ups have emerged, reflecting the country's potential for innovation and entrepreneurship.

Higher education institutions are adopting new digital pedagogies to enhance flexibility and individualization in teaching. This meta-analysis, conducted by Tsekhmister (2022), aimed to evaluate the effectiveness of real-world experiences using digital pedagogies in higher education. The results of the meta-analysis, based on 23 studies involving 1450 participants, indicated that integrating digital tools into higher education fosters an effective learning environment, encourages self-learning, and enhances the pedagogical performance of both students and teachers.

Ukraine is a popular outsourcing destination for IT services due to its competitive labor costs and skilled workforce. Many international companies and businesses outsource their IT projects to Ukrainian firms, leveraging the country's expertise. Thus, the Ukrainian government has been promoting digital transformation initiatives to modernize various sectors of the economy, including e-governance, healthcare, education, and public services. So, Ukrainian IT

sphere has some benefits. The digitalization of the educational process in the field of culture and art offers exciting opportunities to enhance accessibility, interactivity, and personalization in education. While challenges exist, the potential benefits in terms of enriched learning experiences and better-prepared students for the digital age are substantial. Embracing digitalization can lead to a more dynamic and inclusive approach to culture and art education in the 21st century.

5. Conclusions

Thus, summarizing the results, we note that there are many ways and directions of digitalization development in art education today. Currently, active digitalization is taking place in the field of culture and art, and, accordingly, the training of specialists capable of using modern digital technologies is the basis for the further development of the entire industry. The study emphasizes that the creation of a digital educational space, the development of digital and information competencies, new forms and methods of organizing digital learning, and virtual interaction with works of art are relevant areas for the development of digital education in the field of culture and art. However, the improvement of art education in the modern digital era will be progressive and effective if optimized ways of combining classical forms and methods of teaching with the realities of digital society are found in the future. The main focus should be on balancing the level of organization of art education with the needs of the modern world.

In modern art education, the adoption of innovative and effective methods is paramount to fostering the creative and personal growth of aspiring professionals in the cultural and artistic fields. Among these methods, particular attention should be directed towards students' project activities, which have proven successful when combined with digital technologies and distance learning.

Teaching and learning in the realm of culture and arts draw upon a rich tapestry of folk traditions, the influence of scientific and individual artistic schools, and other valuable elements. However, there is a concern that global standardization may lead to the homogenization of all art forms. Preserving the unique essence of artistic expression requires avoiding rigid adherence to a single framework and instead appreciating and respecting the distinctive cultural nuances and educational practices of each country. By embracing diversity and celebrating cultural distinctiveness, the vibrancy and authenticity of arts education can flourish worldwide.

At the same time, in Ukrainian realities, digitalization in cultural and arts education has several powerful challenges, the overcoming of which will require additional managerial and pedagogical solutions:

1. Effective development of digital learning is possible at all levels (educational, methodological, administrative), which implies broad integration with other social institutions in global dimensions.

2. Digital divide between participants of the educational process, which is manifested in different levels of digital literacy.

3. The need to change approaches, forms, or methods of teaching the new “digitalized” generation.

The solution to these issues remains controversial. Promising areas for future research will be the establishment of specific (primarily managerial) mechanisms to maximize the involvement of digitalization in the educational component in the field of culture and arts, as digital tools are constantly evolving and require a constant response from the authorities.

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Acknowledgments

"Not applicable."

Authors contributions

All authors read and approved the final manuscript.

Funding

"Not applicable."

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.