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THE IMPACT OF THE WAR ON EDUCATION AND CULTURE IN UKRAINE

Abstract. *The article analyzes the innovative development of Ukraine's educational, cultural, and creative sectors in the context of war and post-war recovery. The article highlights the main challenges faced by these sectors due to the destruction of infrastructure, forced displacement of the population, and limited access to resources. It also discusses current research and practical solutions that are being implemented to ensure the continuity of the educational process, preserve cultural heritage, and support creative industries. In particular, the emphasis is placed on digital technologies for distance learning, initiatives to preserve national culture, and promising areas for the development of the creative economy. The research results provide recommendations for governmental and non-governmental organizations to support innovation and develop strategies aimed at the restoration and sustainable development of Ukraine.*

Keywords: *education and culture, innovation development, post-war recovery, distance learning.*

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ВПЛИВ ВІЙНИ НА ОСВІТУ ТА КУЛЬТУРУ УКРАЇНИ

Анотація. *Стаття присвячена аналізу інноваційного розвитку освітньої, культурної та креативної сфер України в умовах воєнного та післявоєнного відновлення. У роботі висвітлено основні виклики, з якими стикаються ці сектори через руйнування інфраструктури, вимушене переміщення населення та обмежений доступ до ресурсів. Розглянуто актуальні дослідження та практичні рішення, які впроваджуються для забезпечення безперервності освітнього процесу, збереження культурної спадщини та підтримки креативних індустрій. Зокрема, акцент зроблено на цифрових технологіях для дистанційного навчання, ініціативах зі збереження національної культури та перспективних напрямках розвитку креативної економіки. У результаті досліджень наведено рекомендації для урядових та громадських організацій щодо підтримки інновацій та розробки стратегій, спрямованих на відновлення та стійкий розвиток України.*

Ключові слова: *освіта та культура, інноваційний розвиток, поствоєнне відновлення, дистанційне навчання.*

Introduction. In the context of the ongoing armed conflict, Ukraine is facing large-scale challenges that affect all aspects of public life, including the educational, cultural and creative spheres. According to the Ministry of Education and Science of Ukraine, as of the beginning of 2023, more than 3,000 educational institutions were affected by the war, of which about 500 were completely destroyed (table 1).

Table 1

Number of general secondary education institutions

Number	Year
14 873	2021
13 991	2022
12 976	2023
12 701	2024

Source: built by the author, based on [1].

This affects the access to education for almost a million Ukrainian children and adolescents, which requires radical solutions and innovative approaches to education in times of crisis.

The purpose of the article is to analyze and determine the main directions of innovative development of education, culture and creative industries of Ukraine in the context of war and post-war recovery.

The main objectives of the study involve a comprehensive analysis of Ukraine's educational, cultural, and creative sectors amidst the ongoing war and the challenging conditions it has brought. This includes examining their current state, the specific adaptation strategies they have employed to maintain operational continuity, and the innovations introduced to address these unprecedented circumstances. Additionally, the study seeks to assess the effectiveness of these innovations in achieving their goals, such as maintaining access to education, preserving cultural identity, and fostering resilience in creative enterprises. The study delves into issues faced by educational and cultural institutions, including limited resources, infrastructural damage, and disruptions in traditional methods of operation, and how these institutions have adapted to or struggled under such condition.

Ultimately, the study's objective is to propose specific, actionable solutions designed to boost the resilience, sustainability, and competitiveness of Ukraine's educational, cultural, and creative sectors both within the country and on an international level. These solutions aim to equip these sectors to thrive in the face of adversity, contribute to national recovery, and foster a strong cultural identity that resonates globally.

An analysis of recent research and publications shows a growing need to introduce new approaches to educational and cultural development. Research on this topic has been actively pursued by both domestic and international scholars, reflecting its importance on a global scale. In 2024, numerous articles were published and studies conducted, highlighting the urgency of addressing key issues in educational and cultural development [2–8]. This increased interest emphasizes the necessity of developing innovative approaches to meet contemporary challenges in these fields.

According to the data published by UNESCO (table 2), as of February 24, 2024, and October 16, 2024, 457 cultural sites were registered as damaged or destroyed as a result of hostile attacks.

Table 2

Damaged cultural sites

Sites	Numbers
Religious sites	143
Buildings of historical and/or artistic interest	231
Museums	32
Monuments	33
Libraries	17
Archives	1
Overall	457

Source: built by the author, based on [9].

Despite numerous studies, significant gaps remain in the development of strategies that would provide a comprehensive solution for recovery and development. For example, there are no clear mechanisms for financial support for affected cultural institutions, limited support for mobile learning and psychological rehabilitation of children who have been deprived of access to the usual educational system. There is also no well-established interaction between government agencies and non-governmental organizations to implement long-term recovery

and support programs for the creative sector. Additionally, the lack of centralized data on the specific needs of different regions hinders the ability to tailor effective support measures. The absence of a unified framework further complicates coordination efforts and leads to fragmented initiatives that are less effective in achieving sustainable development.

Research results. The war has caused significant damage to Ukraine's education system. According to the Ministry of Education, by the end of 2022, more than 30% of school-age students were studying remotely or in a blended learning environment [10]. The number of students in general secondary education institutions of Ukraine, which had a steady growth until 2022, is rapidly decreasing (table 3)

Table 3

Number of students in general secondary education institutions in Ukraine (2015–2023)

Number of students (in total)	Years (full academic)
3 783 150	2015
3 845 517	2016
3 921 673	2017
4 041 652	2018
4 138 466	2019
4 211 509	2020
4 230 358	2021
4 041 976	2022
3 906 174	2023

Source: generalized and based on [1].

To overcome these challenges, digital platforms, such as the All-Ukrainian School Online, are being actively implemented. However, the problem is uneven access to digital resources. For example, only 70% of students in rural areas have access to quality internet, which makes it difficult for them to participate in distance learning [10]. Ensuring widespread access to high-speed internet, especially in rural and affected regions, is key to the successful implementation of innovative educational and cultural projects. It is recommended to create subsidy or grant support programs for providers expanding their networks in such areas. Educational institutions should also be provided with modern equipment for distance learning, including tablets and laptops for students. Training programs for educators on using digital tools effectively would further enhance the impact of online education. By addressing both infrastructure and skill development, these efforts can create a more inclusive digital learning environment for all students.

Culture as a tool for the national reconstruction. Preserving national identity is an important task in times of war. According to the Ministry of Culture and Information Policy of Ukraine, about 500 cultural sites, including historical buildings, museums, and architectural monuments, were damaged as a result of the hostilities (table 2). In order to preserve and restore Ukraine's cultural heritage, it is important to expand initiatives to document, digitize, and preserve cultural monuments affected by the war. Civil society organizations can actively participate in these projects by organizing fundraisers and volunteer initiatives, and the government can create a fund to provide grants for the restoration of cultural sites. Cooperation with international organizations will help attract the necessary assistance to preserve Ukrainian cultural heritage. Involving local communities in heritage conservation efforts can strengthen national identity and resilience. Educational programs on cultural heritage protection can raise awareness among citizens, especially the youth, fostering a sense of pride and responsibility. The use of digital platforms to share Ukraine's cultural heritage globally could also enhance international support and solidarity. Developing mobile exhibitions featuring Ukraine's rich

history and art could serve as a powerful reminder of cultural endurance and hope amid adversity.

The role of creative industries in post-war restoration. Creative industries have significant economic potential, which is especially important in times of crisis. For example, according to the State Statistics Service of Ukraine, by 2021, the creative sector accounted for about 3% of the country's GDP, creating more than 120,000 workplaces [11]. Since the outbreak of war, this indicator has decreased, but the sector retains the potential for recovery. Experts estimate that the development of digital media, design, architecture, and the IT sector can accelerate economic growth by 2–3% per year in the period after the war ends. The development of the creative industries is also supported through international assistance programs, including grants for small and medium-sized businesses in this area. It is recommended to create special economic zones and business incubators for the creative sector, which would provide tax benefits and access to financing. Programs to support start-ups and creative projects will help engage young people in new initiatives that have the potential to grow even in difficult conditions. In Ukraine, the creative industries also play a crucial role in fostering innovation and expressing national identity, both of which are essential in rebuilding the economy and society. Targeted investment in creative hubs across regions can help revitalize local economies and provide diverse job opportunities. Enhancing digital skills and providing resources for online content creation can allow Ukrainian creators to reach international audiences and expand export potential. Supporting cultural festivals and events will not only promote tourism but also encourage public engagement with the arts and culture sector. Moreover, partnerships with Ukrainian diaspora communities can provide valuable support networks and funding for creative projects. These combined efforts can position the creative industries as a resilient driver of Ukraine's long-term recovery and growth.

Innovative approaches to managing cultural and educational projects. Innovative project management methods can increase their effectiveness, which is important in times of crisis when resources are limited. The use of digital tools, including platforms for coordinating volunteers and fundraising, allows for the rapid implementation of cultural and educational initiatives. For example, the Cultural Foundation of Ukraine program raises funds to support local artists and cultural institutions. In 2022, more than 100 projects were implemented, including mobile exhibitions, digital archives, and online concerts, which helped preserve cultural life even in critical times [12]. The government and civil society organizations should strengthen cooperation with international donors, foundations, and institutions to obtain financial support, transfer experience, and integrate innovative technologies. Programs of cooperation with international cultural and educational organizations could be developed to share experiences with countries that have also experienced similar crises. Establishing a centralized digital platform for cultural project management could streamline communication between stakeholders and track the impact of initiatives in real time. Training local project managers in agile and adaptive management techniques would allow for more efficient use of funds and quicker responses to emerging challenges. Developing partnerships with tech companies could further provide access to advanced digital tools, enhancing the overall management and execution of cultural projects. These efforts would ensure that Ukraine's cultural sector remains resilient and adaptive, even in the face of limited resources and ongoing instability.

Conclusions. The innovative development of education, culture, and creative industries in Ukraine plays a vital role in fostering social and economic recovery, especially in light of the recent challenges posed by the war and the needs of post-war reconstruction. To address these challenges effectively, the education system must embrace new and inclusive approaches, ensuring that every citizen, regardless of geographical location or socio-economic status, has

access to quality education. This includes creating flexible learning platforms, developing digital and remote learning solutions, and investing in training programs that align with the evolving needs of the workforce and society.

In addition, the cultural sector has an equally crucial role in maintaining national identity and providing psychological support to the population, particularly during times of hardship. Through digital transformation and expanded use of digital technologies, the cultural sector can reach a broader audience, and offer creative means for collective healing and unity. Digital archives, virtual exhibitions, and online events not only sustain cultural continuity but also allow for international audiences to experience and support Ukraine's cultural legacy. Furthermore, Ukraine's creative industries hold tremendous potential for economic regeneration by fostering job creation and advancing new business models that promote resilience and innovation. Expanding support for creative enterprises and establishing an ecosystem that encourages growth in sectors such as digital media, design, fashion, and entertainment can lead to sustained economic benefits. By implementing innovative project management practices and building partnerships with international organizations, Ukraine can strengthen its creative economy, generate new revenue streams, and position itself as a hub for cultural expression, making the enhancement of education, culture, and creative industries through innovation and global collaboration essential for sustainable recovery.

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