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INNOVATIVE DEVELOPMENT OF EDUCATION, CULTURE AND CREATIVE INDUSTRIES IN UKRAINE IN THE CONTEXT OF WARTIME AND POST-WAR RECOVERY

Abstract. The article explores innovative approaches to developing Ukraine's education, culture, and creative industries during the war and post-war recovery. The main challenges these spheres face are considered, including the need to move to digital platforms, preservation of cultural heritage, and support for creative entrepreneurs in times of crisis. The paper analyzes current initiatives and government programs to ensure the sustainability of educational and cultural institutions and the role of international cooperation in rebuilding creative industries. The study results emphasize the importance of innovative methods for adaptation to new conditions and sustainable development of these sectors in the future.

Keywords: innovative development, education in Ukraine, culture, creative industries, post-war recovery, digitalization, cultural heritage, international cooperation, crisis.

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ІННОВАЦІЙНИЙ РОЗВИТОК ОСВІТИ, КУЛЬТУРИ ТА КРЕАТИВНИХ ІНДУСТРІЙ УКРАЇНИ В УМОВАХ ВОЄННОГО ТА ПІСЛЯВОЄННОГО ВІДНОВЛЕННЯ

Анотація. Стаття досліджує інноваційні підходи до розвитку освіти, культури та креативних індустрій України в умовах війни та післявоєнного відновлення. Розглянуто основні виклики, що постали перед цими сферами, зокрема необхідність переходу на цифрові платформи, збереження культурної спадщини та підтримка креативних підприємців у кризовий період. У роботі аналізуються сучасні ініціативи та державні програми, спрямовані на забезпечення стійкості освітніх і культурних інституцій, а також роль міжнародної співпраці у відбудові креативних галузей. Результати дослідження підкреслюють важливість інноваційних методів для адаптації до нових умов та сталого розвитку цих секторів у майбутньому.

Ключові слова: інноваційний розвиток, освіта в Україні, культура, креативні індустрії, післявоєнне відновлення, цифровізація, культурна спадщина, міжнародна співпраця, криза.

Introduction. The Russian invasion of Ukraine has had a significant impact on all spheres of life, especially education, culture, and creative industries, which have been under pressure from the crisis. The war has caused massive destruction of educational infrastructure, cultural facilities, and numerous creative initiatives, making it much more difficult for them to fulfill their functions. In this regard, the innovative development of these sectors has become critical to maintaining social stability and building Ukraine's resilience. Innovations allow for a quick response to the challenges of war, facilitate adequate adaptation to new conditions, and create the basis for further reconstruction of the country in the post-war period.

The development of education, culture, and creative industries is becoming an integral part of socio-economic recovery, helping to preserve national identity and cultural heritage and contributing to economic growth. Consideration of innovative approaches to developing these sectors in times of crisis is essential for the formation of new strategies, adaptation to modern challenges, and preserving Ukraine's cultural landscape.

In modern research, the issue of innovative methods in education, culture, and creative industries is considered chiefly from the perspective of digitalization. Considerable attention is

paid to the use of distance learning technologies, the development of digital platforms, the creation of online content in culture, and the relocation of creative initiatives. In particular, numerous Ukrainian and international programs, such as Digital Ukraine, focus on supporting educational and cultural institutions under martial law.

Studies that analyze the effects of war on the educational and cultural spheres highlight the negative social and economic consequences but also emphasize the possibilities for rapid adaptation with the help of new technologies and innovative methods. However, many aspects still require further study to form a holistic picture and approach to the restoration and development of these sectors.

Despite the large number of studies, not enough attention has been paid to the needs of the creative industries during the crisis. For example, it is crucial to study the issue of financial support for creative enterprises deprived of the necessary resources due to the war. The issue of preserving cultural heritage and adapting cultural institutions to new realities remains open.

Statement of the problem. The article explores practical ways of innovative development of education, culture, and creative industries in Ukraine under martial law and post-war reconstruction. Practical results can strengthen the sustainability of these industries, ensure the stable functioning of educational and cultural institutions, and promote the long-term development of creative initiatives.

Research results.

- *Innovations in Education*. The war in Ukraine accelerated the process of introducing digital technologies into education. It forced the system to adapt to new realities. The primary tool has been the digitalization of the educational process, which allows access to knowledge even in the most challenging conditions. However, introducing innovations in the educational process goes beyond the transition to distance learning. It includes the creation of new programs, approaches, and learning materials.

1) Distance learning and online platforms:

One of the most prominent examples is the All-Ukrainian School Online, a platform created for grades 5–11 [1]. It features video lessons, tests, and interactive materials that are available at any time. This platform was quickly launched in response to the COVID-19 pandemic and military operations and is actively used during the war. Regional online schools operate similarly, such as Kyiv Distance School, which educates students in war zones or temporarily occupied territories.

In the post-war period, one important innovation that could significantly improve distance learning was the introduction of integrated platforms with an "adaptive learning" function based on artificial intelligence. Such a feature would allow the system to automatically adjust the learning process to the individual needs of each student, including identifying their strengths and weaknesses and recommending additional materials or more complex tasks. In addition, introducing virtual classrooms that bring together students from different regions would facilitate socialization and exchange of experiences among children from different parts of the country, which is vital for restoring social ties.

2) Teacher support and new teaching methods:

Another important aspect is training teachers in distance and blended learning environments. The EdCamp Ukraine program conducts training and workshops to improve teachers' skills, introducing them to the latest teaching methods [2]. For example, the Google for Education program enables Ukrainian teachers to master online tools for building an interactive and inclusive educational process [3].

For an even more effective adaptation to the post-war period, consider the following new methods and approaches:

- Personalized learning: Creating individualized learning paths for each student based on their pace, interests, and needs and using adaptive platforms and tools to differentiate learning.
- Project-based learning: Involving students in real-life projects that allow them to apply knowledge in practice and develop critical thinking and collaboration skills.
- STEM education: Increased emphasis on science, technology, engineering, and math. Involving students in scientific experiments, design, and programming [4].
- Social and emotional learning (SEL): Development of emotional intelligence, ability to communicate, cooperate, and resolve conflicts - integrating SEL elements into all academic subjects.
- Digital literacy: Teaching students how to safely use the Internet, critically evaluate information, and create digital content.
- Mental health: Providing psychological support for students and teachers and conducting stress and emotion management training.
- Cross-curricular connections: Integrating knowledge from different subjects to create a more holistic view of the world.
- Cultural development and support of cultural initiatives. The cultural sphere in Ukraine has always been an essential element of preserving national identity. In the context of the war, it has become even more critical, as culture helps maintain the population's morale and demonstrates Ukrainian identity to the world through various initiatives.
 - 1) Preservation of cultural heritage:

The organization Save Ukrainian Heritage (SUCHO) [5] is engaged in conserving and protecting museum exhibits and architectural monuments that are under threat. For example, Kyiv, Kharkiv, and Lviv museums are taking measures to preserve exhibits, including evacuating the most valuable ones to safe places. In addition, training courses are being organized for museum staff to teach them how to protect cultural sites in times of war.

2) Cultural projects and digital diplomacy:

Initiatives to promote Ukrainian culture abroad have also gained importance. For example, the Ukrainian Art Online platform exhibits works by Ukrainian artists at international exhibitions online [6], which helps spread knowledge about Ukrainian art and support artists. Another initiative, Museum in Exile, brings together artists forced to leave the country and organizes exhibitions and cultural events in Europe.

3) Development of cultural diplomacy and international support:

The Ukrainian Cultural Foundation (UCF) has launched projects supporting Ukrainian artists and cultural initiatives that cooperate with foreign institutions. Thanks to grants from the UCF and the European Union, numerous exhibitions, literary events, and projects are being implemented to help popularize Ukrainian culture and establish ties with other countries.

Thus, the main tasks are to create a national cultural fund to support cultural projects, develop a state program to restore cultural infrastructure, organize an international cultural forum to discuss the problems of restoring cultural heritage and launch a national platform for online broadcasts of cultural events.

- Support and development of creative industries. Creative industries, such as media, design, IT, and art, particularly need support during the war, as many businesses in this sector have suffered financial losses and have been forced to reorient or relocate.
 - 1) Relocation and adaptation of enterprises:

Thanks to international initiatives and Ukrainian funds, many creative businesses have been able to relocate from dangerous areas. For example, the Ukrainian IT company SoftServe opened new offices in western Ukraine. It allowed its employees to work in safe conditions [7].

The company also initiated educational programs to train new staff to support those who lost their jobs.

2) International cooperation and support:

Creative enterprises receive substantial assistance from international organizations. For example, USAID Creative Industries provides financial and educational support to Ukrainian companies engaged in content production, including media projects and digital art [8]. It allows creative enterprises to access new markets and maintain operations under challenging conditions.

3) Development of internal initiatives during the crisis:

There is also support for projects promoting national identity through music, film, and theater. For example, the Ukrainian platform Takflix shows Ukrainian films online [9], which helps maintain interest in national cinema even during the war. In addition, the organizers of the Molodist Film Festival have developed a program that allows them to screen films for the Ukrainian diaspora abroad, raising awareness of Ukrainian culture.

Proposals for the further development of creative industries in the context of war and post-war recovery:

- Psychological support: Support for students who have experienced stress due to the war.
- Microgrants for creative projects: Providing small grants for short-term creative projects that can help boost morale and unite the community.
- Cooperation with volunteer organizations: Joining forces to create joint cultural projects to support the military and IDPs.
- State programs to support creative industries: Developing comprehensive government programs to finance innovative projects, develop creative product exports, and create a favorable business environment.
- Creation of creative clusters: Uniting creative enterprises, universities, incubators, and accelerators into clusters to enhance innovation and competitiveness.
- Development of the game design industry: Creating conditions for developing the Ukrainian game industry, which has excellent growth potential.

Conclusion. The study confirms that the innovative development of Ukraine's educational, cultural, and creative spheres is one of the critical aspects of society's resilience under martial law and an essential tool for future reconstruction. Ukrainian education, culture, and creative industries have adapted to the crisis and demonstrated high potential for further development, using modern technologies, international support, and flexible strategies to operate in an unstable environment.

Ukraine's education system has undergone a significant upgrade, which includes active digitalization and the creation of distance learning tools. Examples of platforms such as the All-Ukrainian School Online and other regional online resources show that even in the face of military threats, state and civil society organizations can quickly create new educational models that provide access to knowledge for children and youth from all regions of the country. These innovative approaches help overcome wartime challenges and form a new, more flexible, sustainable educational system that adapts to various crises.

In the cultural sphere, Ukraine is facing large-scale challenges related to the need to protect cultural heritage from destruction and preserve national identity during war. Initiatives such as Save Ukrainian Heritage and numerous international cultural projects promoting Ukrainian art are examples of how culture can be effectively protected and developed in times of crisis. The development of cultural diplomacy and growing support from international partners emphasize Ukrainian art's cultural and strategic role, which is vital in consolidating Ukrainian society and presenting national values to the global community.

Creative industries, such as IT, media, art, and design, have demonstrated the ability to quickly adapt, mobilize, and create new business models that help maintain economic resilience even during war. International cooperation is essential, including support programs for creative enterprises, such as USAID Creative Industries, and other initiatives funded by international organizations and governments. Thanks to such programs, Ukrainian creative enterprises have gained access to new markets, been able to adapt their products to modern requirements, and found new ways of development that can contribute to the stable growth of the creative economy even after the end of hostilities.

In general, the innovative development of education, culture, and creative industries in Ukraine has proven to be an effective tool for overcoming the consequences of the war and creating a foundation for future reconstruction. In these areas, the initiatives implemented are of great importance not only for direct adaptation to the war conditions but also for forming new standards, values, and guidelines for Ukrainian society. Innovative approaches and international support for restoring educational, cultural, and creative sectors open up new prospects for Ukraine, contributing to developing human capital, national identity, and social resilience.

In the post-war period, these sectors will play an important role in shaping Ukraine's positive image internationally and ensuring the country's sustainability and competitiveness. Innovations in the cultural, educational, and creative industries will become the basis for forming a modern society focused on knowledge, cultural wealth, and the creative economy.

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