

University Education in Ukraine: The Test of the Russian Ukrainian War (February 2022 – January 2024)

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Abstract: The article characterizes the state and peculiarities of the functioning of university education in Ukraine in the context of the great Russian-Ukrainian war in late February 2022 – January 2024. The measures to preserve the potential of domestic universities under martial law, the essence and specifics of their transformations and activities caused by the occupation of a large part of Ukrainian territory, the loss of significant scientific human resources, a significant reduction in funding, systemic destruction and permanent essential damage to the infrastructure, and moreover, significant displacement of Ukrainian students and a massive outflow of foreign students. The article focuses on changing the conceptual model of the educational process, the admission campaign, the implementation of research, and ensuring academic integrity in the face of growing challenges caused by large-scale hostilities to protect and liberate the occupied part of Ukraine.

Keywords: university education in Ukraine, Russian-Ukrainian war, potential of universities, challenges, losses, functioning, changes, transformations, prospects.

Problem Statement

The unreasonable, unprovoked by anything invasion of Ukraine by more than 200,000 Russian troops on February 24, 2022, marked the beginning of a full-scale phase of the great Russian-Ukrainian war and the most difficult challenges for the Ukrainian state and the Ukrainian nation, as well as for all levels of education, including university education. This naturally led to fundamental transformations in the functioning of universities and other higher education institutions under extremely stressful and extremely dangerous conditions, and their response to new challenges and risks. They began to demonstrate their best features, proving their ability to quickly rebuild their work in new realities.

The accumulated innovative experience of establishing and operating higher education institutions in Ukraine during Russia's military aggression in 2022–2024 will be valuable for many countries that are or may find themselves in the similar circumstances. After all, wars, climate changes, and epidemics are risks in the modern world that can lead to the sudden displacement of large numbers of people from their homes, disrupt access to education, increase social tensions and inequality, etc.

Degree of Research

Many researchers are particularly interested in the problems of university education in Ukraine in the context of the large-scale Russian-Ukrainian war, in particular I. Bilous, V. Budziak, O. Budziak, Y. Voloshchenko, T. Vdovychyn, V. Veriovkina, I. Gal'ona, L. Hrynevych, I. Zhuvahina, M. Kyrychenko, U. Kohut, M. Kravchenko, O. Krychkivska, N. Kucheriava, N. Muranova, S. Londar, Y. Nikolaiev, B. Omelchuk, O. Pavlova, D. Svyrydenko, O. Sydorenko, O. Sikora, L. Sokolenko, I. Titarenko, H. Khomenko, Z. Shatska, A. Shevchuk, I. Shevchuk, I. Shemelynets and others.

Among the scientific works, the collective monograph «Ukrainian Education in Times of War», edited by S. Terepyshchyi, is of particular interest as a presentation of the results of the project «Development of a Conceptual Model for the Reintegration of Ukrainian Displaced Universities», carried out by a group of young scientists from the National Pedagogical Dragomanov University (Ukrainian, 2020). V. Budziak and O. Budziak were among the first to raise the issue of the activities of higher education institutions in wartime (Budziak, Budziak, 2022). Scholars U. Kohut, O. Sikora, and T. Vdovychyn highlight certain aspects of learning and teaching in wartime, when it is impossible to avoid the asynchronous mode, as it allows for safe communication and organization of the educational process (Kohut, 2022, p. 83-88). A. Shevchuk and I. Shevchuk reveal the challenges to Ukraine's higher education system caused by the Russian invasion and the deployment of a large-scale hybrid war (Shevchuk, Shevchuk, 2022). I. Zhuvahina emphasizes its resilience and vital activity under martial law (Zhuvahina, 2023). M. Kyrychenko and N. Muranova outline the difficulties and risks of

functioning and reforming the national education and science caused by large-scale Russian aggression (Kyrychenko, Muranova, 2023). H. Zhyla, H. Chepelenko, Z. Shatska, A. Shevchuk, and I. Shevchuk emphasize the adaptation of higher education institutions to martial law (Shatska, 2022, p. 53-54).

In general, the functioning of university education in the context of the Russian-Ukrainian war has not yet been thoroughly analyzed in Ukrainian scientific discourse. Instead, in Western Europe, this area of Ukraine's modern history is recognized as relevant and promising, as evidenced by the high authority of publications in scientific journals («Peace Education» (UK), «Peacebuilding» (UK), «Peace and Conflict Studies» (USA), «Peace Research: Journal of Peace and Conflict Studies» (Canada)) devoted to this issue (Ukrainian, 2020, p. 83). The main source of research on the chosen topic is published documents and materials and the latest scientific publications.

The **purpose of the article** is to analyze a wide range of sources and literature to determine the challenges of university education in Ukraine in the context of the full-scale Russian-Ukrainian war and to reveal the systemic changes caused by it.

Research Methodology

The objectives, source base, factual and content of the research determined its methodological basis and led to the use of a systematic approach, the principles of historicism, scientificity and objectivity. Special historical methods were used, including comparative historical, historical analysis, internal and external criticism.

Scientific novelty: based on a wide range of published studies, the article is the first to highlight the state, features and sustainability of university education in the context of the Russian-Ukrainian war during February 2022 – January 2024.

Summary of the Main Material

First of all, it should be noted that the Russian-Ukrainian war began in February 2014 with Russia's violation of international law, annexation of Crimea and intervention in Donbas, and its full-scale phase began with the invasion of Ukraine by thousands of Russian troops on February 24, 2022. Reanimating imperial expansionist and repressive practices and armed with the ideology of conquest, the interventionists occupied the entire Kherson, northern Chernihiv, and Kyiv regions, as well as a significant part of Kharkiv, Sumy, Zaporizhzhia, and Mykolaiv regions during the first month. In the early summer of 2022, the interventionists took control of 125 thousand km², or about 20 % of the Ukrainian territory (Russia, 2022). Instead, by early April 2022, the Ukrainian Defense Forces de-occupied parts of Kyiv, Chernihiv, Zhytomyr, and Sumy regions, and in March-April, some territorial communities in Kharkiv region. After launching an offensive in June 2022, they liberated 241.7 km² of territory by early August and most of Kharkiv region by mid-September (Solodovnik, 2024; Chronology, 2024). In November, the invaders were driven back from Kherson and most of the occupied Mykolaiv region. By the end of 2022, 40 % of the territories occupied after February 24 were liberated (Radio, 2022). Despite the Kremlin's attempts to regain lost ground, Ukraine seized the initiative and step by step cleared the right bank of the Dnipro River, and in mid-November 2023 liberated almost 78 thousand km² (52.5 %) of the occupied territories. About 71 thousand square kilometers remain under occupation, including some of the territories annexed by the aggressors in 2014 Donetsk and Luhansk oblasts and Crimea – more than 108.48 thousand km² (18 % of the territory) (The Ukrainian Armed Forces, 2022; Ukraine, 2024). The population on their territories is under «powerful pressure from the occupation military administration in practical isolation from the rest of the country, but also in the conditions of constant information warfare by the aggressor country» (Zamiatin, 2023, p. 68).

Having seized a partial initiative at the end of 2023, Russian troops are trying to advance locally on several fronts at once. The aggressor country's hidden partial mobilization, the conversion of the economy to a military mode, and the build-up of weapons, on the one hand, due to the Western countries' lack of awareness that the Armed Forces are fighting for Ukraine's state integrity and independence, as well as for civilizational values and democracy in Europe and the world, and thus their and NATO's too slow assistance, on the other hand, allowed Russia to stop the Defense Forces' offensive and launch separate local offensives. With a huge advantage, the Kremlin's only achievement in the last 9 months of the war is the capture of Avdiivka. Given that the economies of Ukraine and its allies are 25 times stronger than Russia's, Ukraine has a good chance of seizing the initiative (Ukraine, 2024) and ultimately winning the war.

Russia's open aggression has caused significant material damage to Ukraine's university education network, which before the invasion consisted of about 320 independent universities, institutes, academies, and 45 colleges, including 220 state universities, 32 municipal universities, and 113 private ones. Higher education institutions had 450 branches and professional colleges in their structure. 157 state higher education institutions were managed by the Ministry of Education and Science of Ukraine (Higher Education, 2023, p. 10). Although active hostilities are taking place in the 11 regions of Ukraine, higher education institutions in 18 regions were damaged (Report, 2023). By the fall of 2022, 45 higher education institutions had been completely destroyed: 25 in Mykolaiv, 12 in Chernihiv, 4 in Zaporizhzhia, 2 in Donetsk, and 1 each in Sumy and Kharkiv regions. As a result of the bombing and shelling, 61 higher education institutions were damaged, namely: 23 in Kharkiv region, 6 in Dnipro region, 6 in Donetsk region, 5 in Mykolaiv region, 4 in Chernihiv region, 3 in Zaporizhzhia region, 2 in Zhytomyr region, 2 in Vinnytsia region, 2 in Luhansk region, 1 in Sumy and Kherson regions (Shatska, 2022, p. 53).

The full-scale phase of the war caused a wave of relocation of higher education institutions from the frontline and near-frontline areas to safer regions of Ukraine, among them the most popular were Dnipro, Zaporizhzhia, and Khmelnytskyi regions (Report, 2023, p. 29). In particular, in 2014, 18 state universities, 2 private universities, 11 research institutions, 3.5 thousand academic staff, and almost 40 thousand students relocated from Donbas. Donetsk National University moved to Vinnytsia, Donetsk National University of Economics and Trade named after M. Tuhon-Baranovskyi and Donetsk Law Institute of the Ministry of Internal Affairs of Ukraine moved to KryvyiRih. Most of the higher education institutions settled in their branches in Donetsk and Luhansk regions.

Almost each of the evacuated universities has its own "clone" in the uncontrolled territories, as some students and university teachers have actually accepted the seizure of their campuses by armed men, refused to leave their hometowns and submitted to the «governments of the self-proclaimed republics» (Ukrainian, 2020, p. 167, 175, 186). From the very beginning of the war, the Russian Federation began to introduce its own «educational standards, which was accompanied by a forced reorientation to Russian curricula, textbooks, and a forced transition to the education in Russian» (Education, 2022, p. 12). This again turned university teachers and students into controlled objects to promote Russian narratives and entrench the occupiers in the occupied and annexed Ukrainian territory.

At the beginning of the full-scale war, 33 higher education institutions were relocated from the eastern and south-eastern regions of Ukraine to the safe areas, where they resumed their activities on the basis of other institutions (Shatska, 2022, p. 53). In particular, as of August 1, 2022, 29 higher education institutions and 64 separate structural subdivisions of higher education institutions of state, municipal and private ownership were relocated (including those relocated in 2014) from Donetsk, Luhansk, Kherson, and certain territorial communities in Zaporizhzhia and Kharkiv regions where active hostilities were ongoing. Among them: a) 16 higher education institutions and 45 separate structural subdivisions of higher education institutions from the Ministry of Education and Science; b) 2 higher education institutions and 1 separate structural subdivision of higher education institutions of the Ministry of Health of Ukraine; c) 1 separate structural subdivision of higher education institutions of the Ministry of Culture and Information Policy of Ukraine; d) 2 higher education institutions and 1 separate structural subdivision of higher education institutions of the Ministry of Internal Affairs of Ukraine; e) 1 separate structural subdivision of a municipally owned higher education institution; f) 9 higher education institutions and 15 separate structural subdivisions of private higher education institutions. In general, from 2014 to the present, 134 higher education institutions and their separate structural subdivisions have been relocated due to the war and aggression in Ukraine, which is 11.7 % of their total number in the country (Education, 2022, p. 165, 166). In particular, Donetsk University of Internal Affairs moved to Kropyvnytskyi from Mariupol and Donetsk Medical University from Kramatorsk, Kharkiv National University of Internal Affairs moved to Kamianets-Podilskyi, and Kherson National Technical University moved to Khmelnytskyi (Preserving, 2023). As a result, the number and proportion of residents from the occupied and frontline territories of Ukraine has changed significantly in some cities.

The forced large-scale relocation of higher education institutions within Ukraine and abroad has led to significant losses of students, pedagogical and teaching staff (Education, 2022, p. 12), narrowing the base for educational and industrial practices, and reducing the potential for state order formation. Since the beginning of the war, out of 76 thousand foreign students at the beginning of the 2021–2022 academic year, more than 60 thousand higher education students have left Ukraine and continued their studies remotely (Shevchuk, Shevchuk, 2022, p. 255). The functioning of higher education institutions was marked by a constant search for

new approaches to teaching, innovative forms of organizing the educational and scientific process, pedagogical and information technologies. Supporting the introduction of innovations in the education sector during the war became one of the key areas of work of the Ministry of Education and Science of Ukraine and its subdivisions (Education, 2022, p. 7).

The devastating war has jeopardized the lives and health of students, university teachers, researchers, and staff of Ukrainian universities. Therefore, the most important thing for universities was to ensure favorable learning conditions for students, namely, providing individual study schedules, remote access to classes for students who stood up to defend Ukraine and also for displaced persons. The state of the territory in relation to the course of hostilities began to play a key role for the subjects of the educational process. Universities have acquired certain peculiarities in ensuring the stability of the uninterrupted educational process: 1) in the government-controlled territory of Ukraine; 2) in the temporarily occupied territories; 3) in the area of active hostilities; 4) in other countries. On the recommendation of the Ministry of Education and Science of Ukraine, higher education institutions had a two-week vacation, and after it ended, taking into account the security situation (MON, 2022), distance learning became the dominant format of education (Budziak, Budziak, 2022, p. 45). Air raids often interrupted classes several times a day. As the main targets of the interventionists became critical infrastructure, including energy infrastructure, starting in October 2022, almost all higher education institutions faced scheduled and emergency power outages, which in turn caused interruptions in mobile and Internet communications, heating, and water supply. The problem of the availability and arrangement of shelters has become acute, as, according to the Ministry of Education and Science of Ukraine, 75 % of institutions have them available, and they are not always properly equipped with sufficient seating, etc.

The main risks to the educational and scientific process are: firstly, the presence of a potential and real threat to the lives of participants in the educational process; secondly, the frequent lack of stable Internet; thirdly, the occupation of the participants of the educational process in public activities; fourthly, the participation of many industry representatives in territorial defense; service in the Armed Forces; fifthly, the complication of the conditions of professional activity of students at the place of work; sixthly, the state of anxiety and psychological trauma of the educational process participants; seventhly, the complication of chronic diseases, etc. (Kyrychenko, Muranova, 2023, p. 215). Ensuring the sustainability of education based on the principles of accessibility for citizens to all forms and types of educational services; equality of conditions for the full realization of their abilities; ensuring the quality of educational activities; priority of universal spiritual values; integration into the international and scientific space; integration with the labor market; flexibility and predictability; combination of public administration and public self-government has become particularly acute (About education, 2022).

Overcoming unprecedented challenges, higher education institutions are showing resilience and ingenuity and are doing everything possible and impossible to ensure their real functioning, further reform and successful development. At the cost of incredible efforts, they are restoring damaged premises and creating safe conditions for the educational process. An example of this is V. N. Karazin Kharkiv National University, where, in cooperation with domestic and foreign partners and thanks to the assistance of the GOROD Cultural Center, educational opportunities have been expanded both on the preserved basis and on the basis of Ukrainian and foreign companies. Since the first day of the war, university staff have been systematically helping the Ukrainian Defense Forces with funds, contributing to the formation of humanitarian aid cargo, providing shelter to internally displaced persons in dormitories, providing them with linen, personal hygiene products, food, etc.

Higher education institutions found themselves in conditions of a significant reduction in state funding and payment for education and services in absolute and relative terms (UAH 14 billion or more than 14 %) and the allocation of these funds for the needs of the army, which negatively affects the training of highly qualified personnel and the organization of research activities (Shevchuk, Shevchuk, 2022, p. 253-254). This has led to the need to change approaches to the financing system with a focus on self-supporting, autonomous principles (Pavlova, Omelchuk, Tytarenko, Shevchuk, 2022, p. 252) and diversification of revenues. To improve the financial situation of higher education institutions, the President of Ukraine initiated the national program «UNITED 24» for donations from charitable organizations, international partners and citizens to help the Armed Forces, humanitarian and medical aid, etc. (Nationalplatform, 2022). A government decree in May 2022 opened an account for donations from charitable organizations of international partners, legal entities, and individuals for the needs of education and science (Amendments, 2022). Since November 2022, state-owned higher education institutions and research institutions have been exempt from taxation when importing scientific instruments, equipment, spare parts, consumables, reagents, samples, and scientific literature.

The introduced institutional and legal framework has ensured the organizational transformation of higher education institutions in the context of accessibility and proper quality of higher education, and the creation of safe conditions for obtaining professions. The state policy in the field of education and science under martial law, scientific, scientific-technical, innovation activities, state control over the activities of educational institutions, enterprises, institutions and organizations that provide educational services or carry out other activities related to the provision of such services has been formed and is being implemented (Education in Ukraine, 2022, p. 37). Among the professional competencies, the perfect mastery of professional knowledge, high level of professionalism, ability to make innovative decisions, psychological stability, mobility and flexibility of academic staff, improvement of foreign languages and modern information technologies, as well as innovative teaching methods have become of paramount importance (Shatska, 2022, p. 54). At universities, as well as in the education sector in Ukraine in general, university teachers have come to realize that under martial law, their strength is no longer in their ability to tell students what they can learn on YouTube and the Internet without them. Their knowledge, experience, and power of influence have shifted to supporting their motivation to learn in their chosen specialty, helping them develop their natural inclinations, abilities, and talents (Chepelenko, 2023, p. 231).

Since the beginning of the destructive, genocidal war the organization and paradigm of the educational process has undergone significant changes at the global, national, and institutional levels in the higher education institutions. Students were given the opportunity to transfer hours of theoretical and practical training to the next academic year. Taking into account the special conditions of study, higher education institutions apply individual schedules, grant academic leave to students who are in the Armed Forces, territorial defense units, or engaged in volunteer activities, and make changes to the schedules of the educational process in view of current events (Education in Ukraine, 2022, p. 19). For students who do not always attend classes due to the difficult situation, universities organize safe asynchronous learning based on the latest information technologies.

The Great War necessitated support for academic mobility of students. This resulted in 60,000 foreign students going abroad and a decrease in their number by almost 20,000. At the beginning of 2023, 51676 foreign students were studying in Ukrainian higher education institutions (The number, 2023). Having gone abroad to study, most of them faced such problems as: language barriers; academic differences; and a shortage of university teachers trained to work with displaced persons. To minimize the above problems and coordinate assistance in enrolling domestic applicants in foreign higher education institutions, the Ukrainian Global University (UGU) program was launched in Ukraine. The program involves a number of leading universities, primarily Stanford University; the University of Pittsburgh; universities in Toronto; Paris (Pantheon-Sorbonne), Germany, Italy, the United States, Canada, and other countries (Higher Education in Ukraine, 2023).

For two years in a row, higher education institutions have organized admission campaigns based on the National Multisubject Test (NMT) and a network of temporary examination centers in Ukraine and abroad. In 2023, nearly 214.4 thousand applicants took part in the NMT, more than 23 thousand of whom took the test in 58 cities in 32 countries (Professional, 2023), as opposed to 46 cities in 23 countries in 2022 (Higher Education in Ukraine, 2023, p. 18; Applicant– 2023). In total, 260381 NMT participants took the main session (About the test results, 2023, p. 10). However, 10755 applicants (about 4 %) failed to obtain the minimum score (Results, 2023). In addition, due to the war, foreigners' enrollment in Ukrainian universities has become less attractive for two years in a row.

The Great War actualized the search by universities for new forms of international cooperation, ensuring sustainability, competitiveness and strengthening the internationalization of higher education (Zhyla, 2023, p. 143), organizing international online learning and establishing deep academic integration into the European and global educational spaces. Positive dynamics have been observed in holding international conferences, foreign distance learning for university teachers, and participation in Erasmus+ academic mobility programs in partnership with universities in EU member states. In May 2022, the Ministry of Education and Science of Ukraine, with the participation of key international partners, presented project proposals to address the pressing problems of Ukrainian education during the war and post-war periods to maximize the use of possible resources. The following are declared as priorities: ensuring the sustainability and continuity of education; creating safe conditions for learning and teaching; psychological support for participants of the educational process; restoring educational infrastructure and continuing reforms and qualitative transformations at all levels of education (MON, 2022). Donors of education development in Ukraine have become 29 countries, primarily Germany, France, the United States, Japan, and Norway (Anisimova, 2022). Foreign universities, in turn, show solidarity

with Ukraine and mobilize to support students suffering during the war. Due to diametrically opposed values, cooperation with Russian universities and research institutions was suspended.

Conclusions

The Russian-Ukrainian war has become an incredible test for Ukraine's higher education system. Having started the war, the Kremlin identified the Ukrainian state, the Ukrainian nation, its education, spiritual and cultural heritage, and humanity as its enemies. To destroy them, Russia has been firing many missiles, drones, bombs, and shells for two years. However, despite the attempts to destroy our state and education, Ukraine has survived and is not only heroically liberating its territories, but also successfully overcoming difficulties and challenges in higher education. Universities have demonstrated amazing resilience and ability to respond to the challenges and risks of the full-scale Russian-Ukrainian war and have become powerful centers for training specialists, producing new knowledge, psychological rehabilitation of citizens, comprehensive condemnation of aggression, and generation of ideological resources and fundamental values. Some universities and other higher education institutions moved to safer regions to function during the war. Their priorities were to develop livelihood mechanisms, mitigate the negative impact of the war and create safe conditions for learning, preserve the lives and health of the participants of the educational process, and help those in emergency situations. Of particular importance were the problems of providing flexibility in the educational process and helping those in emergency situations. The practice of using flexible pedagogical and information distance learning technologies has been expanded. The comprehension of educational and scientific losses and deviations in the academic progress of students, which is most often associated with a break in formal education, absenteeism, etc., has become more substantive.

Most universities in the central and western regions of Ukraine have accommodated internally displaced persons. Their employees have joined the territorial defense and joined the volunteer movement.

To truly become a highly civilized, competitive country after the victory, Ukraine must make education and science strategic areas. It will need systematic financial and material state, regional, international, and partnership support for changes in the long term.

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