
The impact of the War on the Development of Higher Education in Ukraine: Experience for EU Countries

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Abstract

This study investigated the effects of the Russian-Ukrainian war on the progress of higher education in Ukraine and its potential experience for the European Union. The objective of this research was to comprehend the diverse challenges brought about by military circumstances and to examine the role of digital resources in delivering ongoing education during times of war. 141 teachers and 110 students from different regions were involved in the study. The use of a comprehensive methodology included mixed-methods approach. Surveys and interviews were as well used in the research in order to collect feedback on the experiences and views of the participants. The study unveiled major obstacles including the need to move, destruction of infrastructure, limited availability of resources, and emotional strain experienced by both students and teachers. Digital tools such as video lectures, conferences, e-textbooks, and learning platforms proved the importance of continuing education in the context of war. The conclusions emphasised the importance of addressing the impact of war on higher education and provided practical implications for developing coping strategies. Ukraine's experience is an important source of learning for EU countries. It could help them respond more effectively to similar challenges.

Keywords

Russian-Ukrainian war, higher education, digitalisation, challenges, surveys.

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Introduction

The effect of wars on social development is a matter that demands attention and examination. In the case of Ukraine, a nation currently facing the challenges of war, education seems to be one of the primary sectors greatly influenced by military events. This study aimed to investigate how the war has affected the progress of higher education in Ukraine and the potential lessons that can be learned from this ordeal for the European Union.

The acquisition of knowledge and a quality level of higher education have always been society's intellectual development indicators. However, military events can play a role in hindering the normal functioning of higher education institutions. It is important to consider the impact of the war on higher education in Ukraine and the various difficulties and challenges that teachers and students encounter.

The scope of this paper's research encompassed the perspectives of 141 teachers and 110 students who are experiencing the war. The answers provided a unique perspective on how war has impacted their ability to access and deliver education in an unprecedented way. This knowledge can be valuable for the European Union in order to proactively address potential similar challenges in the future.

Accordingly, the purpose of the article was to determine the impact of the war on the development of higher education in Ukraine based on a survey and interviews. The scope of the research included the following aspects: characterisation of teachers and students experience; identification of the main difficulties in the implementation of higher education; study of the impact of digitalisation on the development of higher education in Ukraine.

Therefore, education has always been a crucial aspect of any prosperous society. It is crucial to comprehend the impact of war on this field as it helps in enhancing education systems and ensuring their steadfastness in uncertain situations. Accordingly, the research questions consisted of separate practical aspects for teachers and students:

1. How has the war influenced your access to higher education?
2. What specific difficulties did you experience in the process of studying during the war?
3. How do you assess the role of digitalization in education in times of war?
4. What digital tools or technologies do you consider to be the most effective for ensuring continuous learning during wartime?

5. What challenges have you faced in implementing digital technologies in education during the war?

Taking into account these research questions, the authors of the article aimed to solve such goals as determining the impact of the war on the development of education, characterizing the main difficulties and challenges of implementing the electronic education system.

Theoretical framework and Literature review

The Russian aggression against Ukraine since 2014 became a critical point for its development, violating its territorial integrity and security. This military aggression resulted not only in serious human and economic losses but caused significant challenges for higher education in Ukraine. As a result of the hostilities, the infrastructure of higher education institutions was severely damaged, and some universities were forced to relocate students and faculties to safer regions. This resulted in disruptions to the education system and posed a potential risk to the long-term viability of higher education. The start of the war has resulted in certain areas of Ukraine being taken over by the aggressor, causing obstacles in providing regular access to education for the local people. This has especially impacted students in these regions who are struggling to pursue their studies. Ukrainian universities have been actively addressing the challenges presented by the war (Morrice, 2022). Particularly, they promptly introduced distance learning technologies, established partnerships with international organisations to support the infrastructure, and offered emotional assistance to both students and faculty. The Russian aggression in Ukraine also provoked a reaction from the international community, including the European Union. Undoubtedly, Russian aggression and its devastating consequences in Ukraine have partially become the object of theoretical generalisations. Bielialov et al. (2019) explored the development of a mechanism to evaluate the professional capabilities of graduates in preparation for entrepreneurship. The authors emphasised the significance of evaluating graduates within the framework of their tertiary education and offered suggestions on incorporating assessment systems into higher education.

Bushman (2021) identifies the role of information and communication technologies in accelerating the global impact of the intellectual economy. The shift towards online learning platforms, video lectures, and e-textbooks in Ukraine reflects a

microcosm of the larger global trend towards digitization in education—a trend that is instrumental in the intellectual economy's growth. Bushman (2022) conducted a philosophical study concerning educational concepts, analysing their fundamental principles that can lead to shifts in educational policy making. Tsoli (2023) traced the transformations of business education that arose as a result of changes in modern learning paradigms. Vovchenko et al. (2022) examined the challenges encountered when dealing with students with developmental disabilities during crisis situations and identified effective strategies to successfully navigate such scenarios. Fabbrini (2023) outlined the impact of the war in Ukraine on the geopolitical situation in the European Union, emphasising the difficulties and challenges that the intensification of hostilities brought. Kornytska et al. (2023) analysed some manifestations of the adaptation of education in Ukrainian universities to the requirements of the modern educational environment: the authors emphasised the military challenges for the further development of Ukrainian higher education in the global context. Kyrylenko et al. (2023) examined the development of natural sciences and humanities in modern Ukrainian higher education, describing the peculiarities of the educational process. Haidabrus (2022) outlined the basic principles of using modern information platforms in educational activities and scientific research. Ostanina et al. (2023) considered the distinct characteristics associated with the acquisition of skills in the digital environment by higher education students, gaining insight into the essential aspects involved in fostering digital competence development among students. Sibruk et al. (2023) described the crisis that hit the Ukrainian educational system as a result of war. Tsekhmister et al. (2022) drew attention to the importance of online education in the efficiency of organising teachers and students working time. The authors found that distance learning holds immense potential for being utilized during crisis situations. At the same time, a comprehensive study by Khorolskyi (2023) evaluated the use of virtual platforms and other innovative approaches that provided distance learning on the example of astronomy. Lugovyi (2023) proposes possible scenarios for the transformation of higher education in Ukraine as a result of the end of hostilities and the organisation of post-war reconstruction. Maciej (2023) analysed philosophical futurism and the evolution of education, describing modern information technologies in the formation of advanced pedagogical strategies.

Therefore, these studies explore different facets of the present educational framework, encompassing digital skills, the obstacles posed by warfare on the education system, the efficacy of virtual learning, entrepreneurial education, and the influence of

emotional intelligence on academic achievement within the contemporary Ukrainian educational system. These studies are mainly focused on the general theoretical issues of the introduction of a mixed or digital form of education, however, the clarification of the practical significance of the impact of war on educational changes and the determination of the role of digitalization in the implementation of education in war-affected regions, remains unexplored.

Methodology

Research design

The aim of the study was to comprehensively investigate the impact of the war on the development of higher education in Ukraine, focusing on providing valuable insights for EU countries. A mixed-methods approach, combining both qualitative and quantitative research methods was used in the study (see Table 1)

Table 1 *Main phases of the study*

Research phase	Explanation
Qualitative Phase	In-depth interviews were conducted with a subset of academic staff (approximately 20% of the total) to gather detailed accounts of their experiences and observations on the impact of the war on higher education. Focus group discussions with students were organised to highlight the diverse perspectives and opinions on the challenges faced in accessing and completing higher education during the war.
Quantitative Phase	The surveys were distributed to the entire sample of teachers and students to collect quantitative data on various aspects such as educational infrastructure, access to resources, academic performance, and psychological well-being during and after the war.

Source: authors' development

Participants and Sample procedure

The study included 251 participants, consisting of 141 teachers from higher educational institutions across various regions of Ukraine who have personally witnessed the effects

of war on higher education; 110 students who have faced problems studying in higher education institutions because of the war. A detailed classification of the study participants is presented in Table 2. It should be taken into account that the obtained results are local and with a small number of respondents, since those participants who expressed a desire were taken into account, but preference was given to those who had experience teaching in war-affected regions.

Table 2 *Classification of participants (teachers)*

Classification name	Explanation	%
Geographical classification	Urban teachers: representing educators from large cities affected by the war, such as Kyiv, Kharkiv, Dnipro, Lviv, etc.	65%
	Teachers from the small towns of Irpin, Hlukhiv, Starobilsk, and Drohobych.	35%
Area of study	Humanities and social sciences	60%
	Applied and technical sciences	40%
Classification of experience	Beginning teachers: those with less than 5 years of teaching experience.	30%
	Experienced teachers: those with 5 or more years of teaching experience.	70%

Source: authors' development

A separate classification division was applied to the group of students (see Table 3).

Table 3. *Classification of participants (students)*

Classification name	Explanation	%
Geographical classification	Students from major universities (Kyiv, Kharkiv, Lviv, Odesa, Dnipro)	60%
	Students from smaller universities (Hlukhiv, Drohobych, Irpin, Izmail)	40%
Educational Level Classification	Undergraduate Students	60%
	Graduate Students	40%

Area of study	Arts and Humanities	30%
	Applied and technical sciences	30%
	Social Sciences	40%

Source: authors' development

Sampling procedure

1. A stratified random sampling method was used for faculty members to ensure representation from different regions affected by the war. Participants were selected from areas with both large and smaller universities.
2. For students, a convenience sample was used, targeting students from different backgrounds who have faced difficulties in obtaining higher education during the war.

Data collection

The surveys were distributed online to ensure anonymity and encourage honest responses. Separate surveys were created for teachers and students. These surveys consisted of 5 sections for both students and teachers. They concerned the impact of the war on higher education, the description of personal experiences, and the role of digitalisation and innovative technologies in supporting higher education in times of war (see Appendix A, B). In general, the survey included closed questions to collect quantitative data and open-ended questions to allow participants to provide additional information. In-depth interviews with teachers were conducted in person or online. Focus group discussions with students were organised either on campus or via online platforms. The main questions for the interviews focused on the characteristics of the losses that HEI underwent during the war and the impact of the war on the organisation of the educational process. Some questions concerned the role of digital technologies, etc. These questions are presented in Appendix C.

Data analysis

The thematic analysis was used to identify recurring themes and patterns in the qualitative data from the interviews and focus group discussions. Subsequently, coding and categorisation was carried out to extract meaningful information. Descriptive statistics were used to analyse the survey responses, providing a numerical summary of key

variables. Therefore, by combining qualitative and quantitative data, a holistic perspective on the effects of the war on higher education in Ukraine was achieved, offering valuable insights for countries within the EU.

The mechanism of thematic analysis consisted of several aspects. Qualitative data from interviews and focus group discussions underwent thematic analysis in Microsoft Excel. This method systematically identified recurring themes and patterns within the data to understand participants' perspectives on the effects of the war on higher education in Ukraine. After that, following thematic analysis, the data were coded and categorized within Excel. This process involved systematically segments of data with descriptive codes and organizing them into categories to extract meaningful information. Quantitative data from survey responses were analyzed using descriptive statistics in Microsoft Excel. This involved summarizing key variables numerically to provide an overview of the responses. Then Excel functions were used. For example, specific Excel functions such as average, count were utilized to calculate basic statistical measures such as means, frequencies, and totals. Additionally, Pivot tables were employed to organize and summarize survey data in a tabular format. Hence, Excel's charting capabilities were used to visually represent survey findings through bar charts, pie charts, and histograms. This aided in presenting trends and patterns in the data in a clear and concise manner. Therefore, Microsoft Excel served as the primary software for data management, analysis, and visualization. Its versatility allowed for efficient processing of both qualitative and quantitative data, facilitating a rigorous examination of the research topic.

Results

The impact of the war on the access to higher education is significant and has numerous aspects. Based on the interviews, it was determined that serious difficulties may arise in the war zone, such as relocation, destruction of educational institutions, limited access to resources and technical facilities, as well as psychological stress among students and teachers. The lack of educational resources and the deterioration in the standard of education can pose significant challenges. The results of the survey on the impact of the war on access to higher education and teaching show that 41% of respondents define the impact of the war as "very negative" on higher education. 40.6 % of respondents define it as "negative", and 16.3 % as neutral (see Table 4).

Table 4 *Assessment of the influence of war on the progression of higher education*

Assessment	Number of respondents	%
Very negative	103 people	41%
Negative	102 people	40,6%
Neutral (or difficult to answer)	41 people	16,3%
Positive	5 people	2%
Total	251 people	100%

Source: authors' development

A 'very negative' score suggests that a significant number of participants have experienced serious and highly detrimental effects on their ability to pursue or obtain higher education due to the war. The "negative" rating indicates that another significant group also perceives the war as negatively impacting educational opportunities, though possibly to a lesser extent compared to the previous group. The presence of those who chose "neutral" suggests that some participants may not feel a significant direct impact on higher education, or they may perceive it as less significant. A small number of respondents believe that the war could potentially bring about positive changes in learning or teaching in higher education. It's possible that these individuals see opportunities or advancements arising from new technologies or innovations in the midst of war.

Evidently, the process of providing higher education in wartime faces various difficulties. The war can be marked not only by physical destruction but also by serious obstacles to the normal functioning of educational systems. The lack of access to educational resources was highlighted by 50 people (19.92%), which can be explained by access to electronic learning materials. Most respondents mentioned psychological difficulties (stress, anxiety) (221 people or 87.65%) and the lack of funding for educational needs (201 people, 79.68%). Figure 1 presents a description of the main challenges to the development of higher education in the context of the Russian-Ukrainian war.

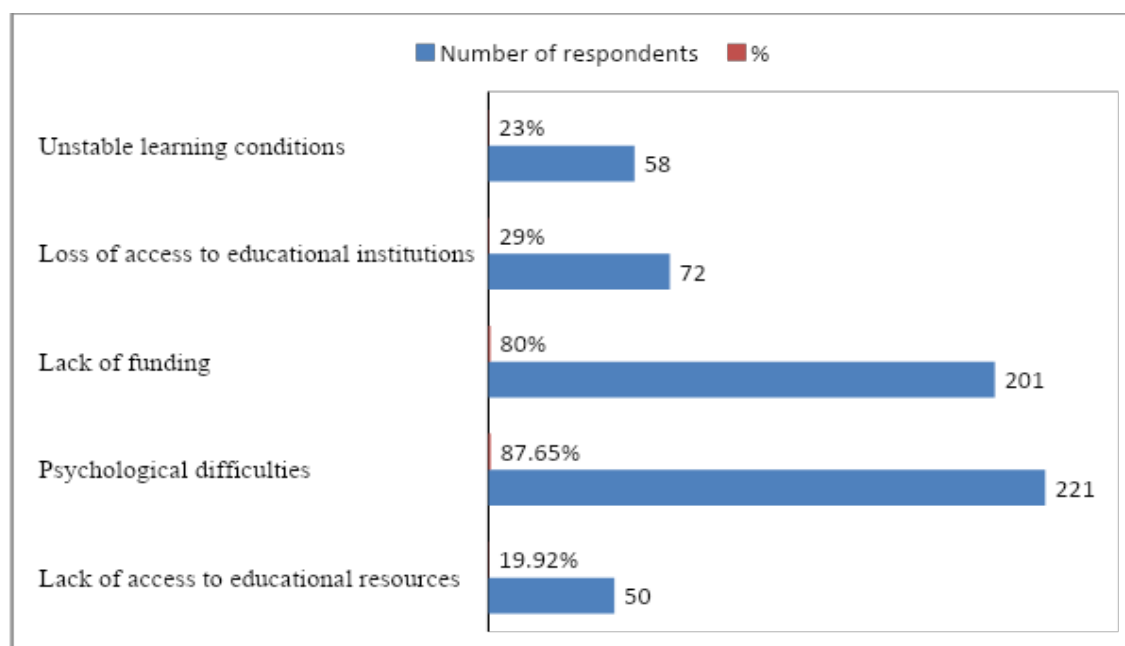


Figure 1 *The main challenges of developing higher education in wartime*

Source: author's development

The following percentages illustrate the breakdown of challenges experienced by individuals during the war in relation to their academic pursuits. Psychological difficulties and lack of funding proved to be particularly significant for the majority of respondents. However, the loss of access to an educational institution was a particularly difficult challenge. Those institutions that were located in the front-line areas or were under occupation were forced to relocate to safer regions. These events have a negative impact on the organisation of the work process and the emergence of psychological difficulties. Table 5 shows the main difficulties and their descriptions.

Table 5 *Description of difficulties in the learning process during the war*

Challenge	Explanation
The lack of access to educational resources	Libraries, teaching materials, and textbooks may not be available due to destruction or relocation.
Psychological difficulties	Students and teachers can face a lot of stress, anxiety, and psychological strain due to wars.

The lack of funding for educational needs	The war can lead to budget cuts for higher education institutions, which affects the availability of funding.
The loss of access to higher education institutions due to relocation	Students and teachers may have to relocate from their usual places of study and work, making it difficult to maintain the educational process.
The lack of access to technical facilities	The lack of access to computers, the Internet, and other technical facilities can limit the use of digital technologies in education.
Unstable learning environment	Interruptions to your studies due to insecurity or unforeseen circumstances may disrupt your normal schedule and plans.
The lack of qualified personnel	The war can affect the availability and work of teachers and researchers, which can affect the quality of education.

Compiled based on a survey and literature review by Marhasova et al. (2023); Tsekhmister (2023); Tsekhmister et al. (2023)

On the other hand, digital technologies and remote learning methods can help overcoming limitations and ensuring the continuous learning, however, they may not always be the optimal solution in every circumstance, particularly when considering factors such as limited internet access and technical difficulties.

Thus, the majority of the surveyed students were optimistic about the prospects of obtaining higher education in Ukraine (as evidenced by the answers of 47 people (42.73%). At the same time, 43 people (39%) were uncertain about their future. At the same time, there was a small number of those who were pessimistic about these prospects (only 20 people or 18.8%) (See Figure 2).

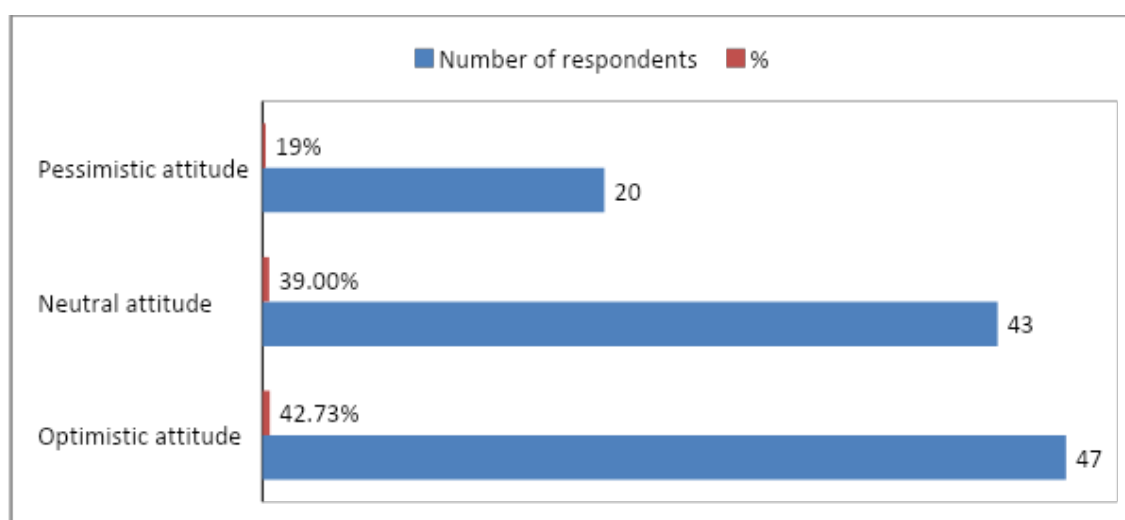


Figure 2 Prospects for obtaining higher education in Ukraine (based on student survey)
Source: authors' development

Such a forward-looking attitude is linked to the effective use of digital technologies and the overall digitalisation of the learning space. Most respondents considered that digital tools, including video lectures, video conferencing, e-textbooks, and learning platforms, played a key role in ensuring continuous learning in times of war (see Table 6).

Table 6 *The evaluation of the effectiveness of digital tools for lifelong learning*

Tools	Number of people	%
Video lectures and video conferences	237	94.42%
E-textbooks and learning platforms	241	95.62%
Remote testing and assessment	158	62.95%
Interactive online tasks	121	48.21%

Source: authors' development

Assessments of the role of digitalisation are divided between key, enabling, neutral and limited, depending on the respondents' experience (see Figure 3).

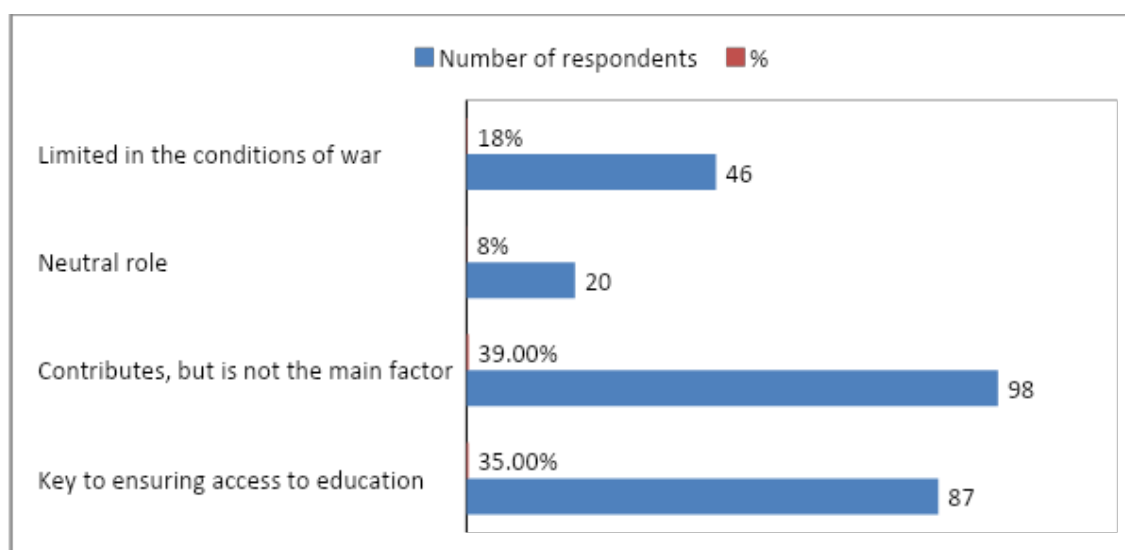


Figure 3 *Assessment of the role of digitalisation of education in wartime*

Source: authors' development

Despite this, although digitalisation is an important element for the development of education in times of war, there are challenges to the use of digital technologies. Firstly, the lack of access to the infrastructure is an important challenge. The war leads to the

destruction of the infrastructure, including communication and electricity networks, making it difficult to access digital technologies. War can also lead to the loss or destruction of computers, phones, and other technical devices, which limits the ability to use digital technologies. This problem is particularly acute in front-line regions that have limited access to the Internet and infrastructure, making it difficult to implement digital education initiatives.

Another important problem may be the lack of access to learning resources. The war limits the access to online libraries, e-textbooks, and other digital learning resources. Another important challenge to consider for EU countries in the future is security and privacy. The Russian-Ukrainian conflict has revealed the persistent and recurrent nature of hacker group attacks. Concurrently, the uncertain conditions of the war have amplified the risks faced by data security and privacy, particularly when engaging with online platforms and services. Finally, teachers should be prepared for the large-scale introduction and use of digital technologies. It should also be borne in mind that the use of new digital tools requires training and support, which can be difficult in times of war. Thus, the implementation of digital technologies in education in times of war requires a systematic approach and addressing a number of challenges arising from the unpredictable environment of military conflict.

Discussion

The results show that the impact of wars on the access to higher education is extremely significant, as it creates various problems and challenges. In a war zone, serious difficulties arise, such as relocation, destruction of educational institutions, and limited access to resources and technical facilities. These negative impacts can lead to urgent interruptions in education and to the loss of stability in the educational process, as described in detail by Anghel & Džankić (2023); Delardas et al. (2022); Herbst & Sitek (2023); Kim (2022).

The findings have shown that it is crucial to consider that, apart from the physical damages and destruction, war gives rise to challenging psychological situations that impact both students and teachers. This observation finds support in the research conducted by contemporary scholars (Anghel & Džankić, 2023; Marchenko, 2023). Modern researchers have shown that psychological stress is experienced by all participants in the educational process, that significantly limits their ability to effectively

learn and teach (Marchenko, 2023; Kapsa et al. 2022). The loss of access to educational institutions and the decline in the quality of education stand in the way of normal development and educational careers (de Rassenfosse, et al., 2023). These problems are serious challenges that need to be taken into account when developing strategies and solutions to ensure continued access to quality higher education in the context of war.

The results also confirmed the significant role of digitalisation in the effective development of education in wartime. The survey results highlighted the convincing opinion of the majority of participants who acknowledged that digital tools, such as video lectures, video conferencing, e-textbooks, and learning platforms, played a crucial role in ensuring a continuous learning process in the context of war. Contemporary scholars have extensively discussed various aspects of the importance of digitalisation in their works (Bader et al., 2022; Chumak et al., 2022; Debych, 2023; Kenworthy & Opatska, 2023). This evidence provides strong support for the idea that uncertainty and restrictions imposed by war have a significant impact on the situation, digital technologies are becoming a reliable tool for providing access to educational resources. It should be noted that a successful implementation of digital initiatives requires not only the effective use of technical capabilities but also the development of management strategies aimed at supporting students and teachers in difficult times of military conflict (Kubitskyi et al., 2022; Malimon et al., 2022).

Bushman's (2022) discussion of the actualization of anthropocentric guidelines—efficiency, quality, creativity, responsibility, competitiveness, and innovation—within the educational sphere resonates with the adaptive strategies employed by Ukrainian higher education institutions. These principles not only facilitate the ongoing delivery of education amidst adversity but also highlight the capacity of educational systems to maintain quality and innovation in times of significant disruption.

Furthermore, the philosophical underpinnings of education as described by Bushman (2022) provide a valuable framework for understanding the broader implications of the study's findings for EU countries. The emphasis on anthropocentrism and the human dimensions of education suggests that the experiences of Ukraine in sustaining higher education during the war could offer critical insights for developing coping strategies and policies aimed at ensuring the stability and quality of higher education in similar crises.

Thus, this study provided a distinctive perspective on how the war has influenced the growth of higher education in Ukraine and its potential applicability to the European

Union. The novelty is that wars are considered not only in terms of physical destruction and stress but also as a determining factor for rethinking and modernizing the higher education system. The impact of war as a catastrophic opportunity to reshape the educational environment, going beyond the usual understanding of war was underlined. The results of this study can be a crucial source of information for governments in the EU, educational institutions, and international organisations. They can use this information to create approaches that address the war, with the aim of guaranteeing the durability and excellence of higher education.

Limitations

However, it should be noted that this paper does have certain limitations, specifically contextual limitations. This study focuses on analysing the effects of the war on the progress of higher education in Ukraine and its application to EU countries. The results may be limited by the specific contextual features of Ukraine and should be considered while considering the distinct characteristics of each country. On the other hand, there are numerical limitations. The sample size (141 teachers and 110 students) may affect the overall representativeness of the results. Larger samples may allow for more accurate and generalisable conclusions.

Suggestions for further research

The recognition of these limitations is important for a proper interpretation of the results and for areas for further research identification. For instance, it is necessary to conduct comparative analyses to gauge the impact of war on higher education across diverse conflict-affected regions or nations. By scrutinizing both commonalities and disparities, researchers can pinpoint factors fostering resilience or susceptibility within educational systems. In addition, it is important to expand qualitative investigations to delve into the lived experiences of students, faculty, and administrators within war-affected higher education institutions. Such studies can unveil coping mechanisms, resilience factors, and barriers to education in conflict settings. Nevertheless, the practical recommendations that emerge from this study can serve as a basis for developing policies aimed at restoring and developing education systems in countries experiencing or potentially experiencing war.

Conclusions

Therefore, the findings indicate that most respondents view the effect of the war between Russia and Ukraine on higher education or teaching as detrimental. This perspective is particularly significant among students and teachers hailing from regions near the frontlines, as well as those whose educational institutions relocated to safer areas. It is evident that the war poses serious challenges to the educational process, and this has important implications for the development of higher education in Ukraine. Difficulties such as relocation, destruction of educational institutions, and psychological stress among students and teachers threaten the normal development of the educational process.

On the other hand, digitalisation is an effective method of developing education in times of war. Digital tools, such as video lectures, video conferencing, e-textbooks, and learning platforms, are recognised by most as key element for ensuring continuous learning in the context of war. The study emphasises the necessity of formulating implementation strategies and policies that can uphold the sustainability and quality of higher education during instances of armed conflict.

Overall, this work holds practical significance in the advancement of strategies for addressing war in higher education. The experiences of Ukraine can offer valuable insights for EU countries, enabling them to tackle similar challenges with greater effectiveness. Therefore, this study should be perceived as an initial effort to comprehend the effects of war on the education system and may motivate further research to examine specific cases and develop strategies for the improvement of higher education in times of war.

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Appendix A. Student survey

Part 1: General information	Please specify the type of education you are currently pursuing: A) Bachelor's degree B) Master's degree C) Postgraduate student 2. Enter your university 3. Specify the speciality
Part 2. The impact of the war on higher education for students	4. How has the war influenced your access to higher education? a) Very negative b) Negative c) Neutral d) Positive
Part 3. Difficulties	5. What specific difficulties did you experience in the process of studying during the war? (Select all answers that correspond to your experience) a) Lack of access to educational resources (books, lectures, laboratories) b) Psychological difficulties (stress, anxiety) c) Lack of funding for education d) Loss of access to educational facilities due to relocation e) Other
Part 4. Education perspectives	6. How do you define your prospects for higher education in the future due to the impact of the war? a) Optimistic b) Pessimistic c) Not sure
Part 4. The role of digitalisation in higher education in times of war	7. How do you assess the role of digitalisation in education in times of war? a) Key to ensuring access to education b) Contributes to, but is not the main factor c) Neutral role d) Limited in times of war e) Not sure 8. What digital tools or technologies do you consider to be the most effective for ensuring continuous learning during wartime? a) Video lectures and video conferencing b) Electronic textbooks and learning platforms c) Remote testing and assessment d) Interactive online assignments e) Other (specify)
Part 5. Difficulties of digitalisation of higher education in wartime and its assessment	9. What challenges have you faced in implementing digital technologies in education during the war?

	10. Do you think there are any restrictions on the use of digital technologies in times of war? Which ones?
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Appendix B. Survey of teachers

Part 1: General information	1. Indicate your academic degree or academic title 2. Enter your university 3. Specify the speciality 4. Indicate your teaching experience
Part 2. The impact of war on higher education for students	5. How do you assess the impact of the war on your ability to teach? a) Very negative b) Negative c) Neutral d) Positive
Part 3. Difficulties	6. What specific difficulties did you experience in the process of studying during the war? (Select all answers that correspond to your experience) a) Lack of access to educational resources (books, lectures, laboratories) b) Psychological difficulties (stress, anxiety) c) Lack of funding for education d) Loss of access to educational facilities due to relocation e) Other
Part 4. Learning from the experience of relocating an educational institution	7. If you have experience of relocating an educational institution, please describe it with challenges and difficulties.
Part 5. The role of digitalisation in higher education in times of war	8. How do you assess the role of digitalisation in education in times of war? a) Key to ensuring access to education b) Contributes to, but is not the main factor c) Neutral role d) Limited in times of war e) Not sure 9. What digital tools or technologies do you consider to be the most effective for ensuring continuous learning during wartime? a) Video lectures and video conferencing b) Electronic textbooks and learning platforms c) Remote testing and assessment d) Interactive online assignments e) Other (specify)
Part 6: Difficulties of digitalisation of higher education in wartime and its assessment	10. What challenges have you faced in implementing digital technologies in education during the war? 11. Do you think there are limitations to the use of digital technologies in times of war? Which ones?

Appendix C. Sample interview questions

Describe the educational losses during the war
Describe in detail the impact of the war on higher education in Ukraine based on your experience
Do you think that digital technologies can make the educational process more sustainable during wartime?
What recommendations would you make to improve the use of digital technologies in higher education during the war?
How do you assess the impact of the war on your ability to provide high-quality education?