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CHANGES IN THE EDUCATIONAL PROCESS DURING MARTIAL LAW: NEW APPROACHES AND CONTENT OF EDUCATION

MUDANÇAS NO PROCESSO EDUCATIVO DURANTE A LEI MARCIAL: NOVAS ABORDAGENS E CONTEÚDOS DA EDUCAÇÃO

CAMBIO EN EL PROCESO EDUCATIVO DURANTE LA LEY MARCIAL: NUEVOS ENFOQUES Y CONTENIDOS DE LA EDUCACIÓN

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ABSTRACT: The large-scale war against Ukraine has profoundly affected the education sector, one of the most vulnerable and strategic areas for social sustainability. This study seeks to identify and conceptualize the main forces and mechanisms of transformation in educational formats and content during martial law, resulting in the creation of an analytical model of transformation focusing on institutional resilience, digital adaptation, security, psychosocial integration, and regulatory flexibility. Interrelated methods are used, such as comparative analysis, content analysis, typological classification, systematization, and generalization. The proposed model encompasses values-based curriculum reforms, digitalization, safe and psychosocial teaching, resource centralization, and digital inclusion, ensuring educational continuity and institutional sustainability. The conclusions highlight the need for a long-term strategic framework that combines digital equality, legal modernization, and intersectoral cooperation to strengthen an inclusive, resilient education system geared toward post-war reconstruction.

KEYWORDS: Educational process. Education sector. Educational models. Transformation. Learning.

RESUMO: A guerra em larga escala contra a Ucrânia afetou profundamente o setor educacional, uma das áreas mais vulneráveis e estratégicas para a sustentabilidade social. O estudo busca identificar e conceituar as principais forças e mecanismos de transformação dos formatos e conteúdos educacionais durante a lei marcial, resultando na criação de um modelo analítico de transformação com foco em resiliência institucional, adaptação digital, segurança, integração psicossocial e flexibilidade normativa. Utilizam-se métodos inter-relacionados, como análise comparativa, de conteúdo, classificação tipológica, sistematização e generalização. O modelo proposto abrange reformas curriculares baseadas em valores, digitalização, ensino seguro e psicossocial, centralização de recursos e inclusão digital, garantindo continuidade educacional e sustentabilidade institucional. As conclusões destacam a necessidade de um quadro estratégico de longo prazo que una igualdade digital, modernização jurídica e cooperação intersetorial para fortalecer um sistema educacional inclusivo, resiliente e orientado à reconstrução pós-guerra.

PALAVRAS-CHAVE: Processo educativo. Setor da educação. Modelos educativos. Transformação. Aprendizagem.

RESUMEN: La guerra a gran escala contra Ucrania ha afectado profundamente al sector educativo, una de las áreas más vulnerables y estratégicas para la sostenibilidad social. Este estudio busca identificar y conceptualizar las principales fuerzas y mecanismos de transformación en los formatos y contenidos educativos durante la ley marcial, lo que resulta en la creación de un modelo analítico de transformación centrado en la resiliencia institucional, la adaptación digital, la seguridad, la integración psicossocial y la flexibilidad regulatoria. Se utilizan métodos interrelacionados, como el análisis comparativo, el análisis de contenido, la clasificación tipológica, la sistematización y la generalización. El modelo propuesto abarca reformas curriculares basadas en valores, la digitalización, la enseñanza segura y psicossocial, la centralización de recursos y la inclusión digital, garantizando la continuidad educativa y la sostenibilidad institucional. Las conclusiones destacan la necesidad de un marco estratégico a largo plazo que combine la igualdad digital, la modernización jurídica y la cooperación intersectorial para fortalecer un sistema educativo inclusivo y resiliente orientado a la reconstrucción posbélica.

PALABRAS CLAVE: Proceso educativo. Sector educativo. Modelos educativos. Transformación. Aprendizaje.

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INTRODUCTION

The full-scale war unleashed by the Russian Federation against Ukraine has caused an unprecedented humanitarian, infrastructural, and institutional crisis that has deeply affected all spheres of public life, including the education sector. Education in wartime, as one of the fundamental factors in the reproduction of society, is considered in a civilizational and functional dimension, to preserve knowledge, national continuity and collective resilience. Therefore, a thorough reassessment of the goals, methods, and content of learning processes is necessary in the current context, as the war has upended traditional educational models, damaged digital and physical infrastructure, and exacerbated existing inequalities. Thus, the positioning, organization, and process of education provision in a situation of prolonged instability and systemic threat are undergoing a paradigm shift as a result of the introduction of martial law, which goes beyond simple administrative adjustments. Security-driven infrastructure reconfiguration, rapid institutionalization of digital learning ecosystems, integration of psychosocial support systems, and regulatory adaptation to the wartime legal framework are interconnected vectors that make up the new educational reality. In this context, education is becoming a key place to promote psychological stability, social cohesion and the ability to act in the face of uncertainty.

Although the impact of war on education is gaining increasing attention worldwide, empirical and conceptual analyses focusing on the Ukrainian context in particular are still under-organized. By providing a multifaceted analytical framework for understanding how educational forms and content have changed during martial law, this study fills this knowledge gap. This article outlines the complex architecture of educational adaptation in wartime Ukraine using systematization, synthesis, and structural-functional analysis. Particular attention is paid to the interdependence of digitalization in emergencies, normative flexibility, institutional resilience, and the changing social role of education. Therefore, the relevance of this study lies in the formation of a long-term strategy for crisis education and the need to rethink global discussions on how resilient educational systems are during armed conflict. The proposed transformation model offers a theoretical framework for post-war reconstruction planning, emphasizing the proactive ability of education to influence the future development paths of humanity and the country, as well as to survive in crisis situations.

The aim of this research article is to identify, systematize and conceptualize the main vectors and mechanisms for transforming educational forms and content under martial law in Ukraine, with a focus on institutional sustainability, digital adaptation, security-related modifications, psychosocial integration and regulatory flexibility. The article is aimed at outlining strategic directions for ensuring the sustainability and inclusiveness of the educational process during and after the armed conflict. The research conducted within the framework of the

article aims to develop a model that takes into account the complex nature of educational changes in wartime.

LITERATURE REVIEW

The institutionalization of digital and distance learning methods has become one of the most notable changes of our time. According to Yavorska (2023), the shift to distance learning was a strategic reorientation towards flexible, technologically mediated learning, driven by disruption of physical access to educational institutions, and not just a tactical response to security concerns. In this context, asynchronous learning environments, videoconferencing platforms, and learning management systems (LMS) are integral components of pedagogical design (Alia, 2022; Aldosari et al., 2022; Rauf et al., 2023; Şahin & Yurdugül, 2022). They provide flexible access to learning content and act as an integrative basis for the implementation of instructional-oriented learning models, adaptive assessment, and personalized support for students (Alia, 2022; Aldosari et al., 2022). Effective LMS implementation involves combining structured course design with functionality for progress monitoring, feedback, and learning data analytics, which is especially relevant in the context of mass distance learning (Rauf et al., 2023). Taking into account the growing needs of users, modern learning management systems are evolving towards the third generation (LMS 3.0), focused on intelligent interventions, gamification, and self-regulated learning (Şahin & Yurdugül, 2022).

Furthermore, Yaroshchuk and Chorna (2022) emphasize how educators have been forced to create hybrid learning strategies and asynchronous formats that encourage independent learning due to the forced integration of digital competencies. As a result, the roles of teachers have been redefined, moving from imparting knowledge to acting as digital facilitators and moderators of learning communities. Instead, Şahin and Yurdugül (2022) argue that the expectations and needs of learners (given their role as key stakeholders in LMS) are focused on creating interactive, gamified, and self-regulated learning environments with analytical and predictive functions. Their results show that these needs are met by the concept of third-generation LMSs, the development of which is based on educational data mining and learning analytics, which provide personalized interventions in the educational process.

It should also be noted that the content aspect of education has changed significantly in the current context, which has occurred simultaneously with significant structural changes. Since the outbreak of war, the psychological and emotional health of students has become a top priority in the curriculum. According to Yaroshchuk and Chorna (2022), emotional literacy, resilience training, and trauma-informed practices are increasingly being integrated into educational content, transforming schools into multi-purpose institutions that combine

cognitive learning with psychosocial care. According to Trubacheva (2023), the development of competency-based education has given new meaning to self-regulation, critical thinking, and intrinsic motivation. Thus, the purpose of education is not only to ensure the quality of the knowledge transfer process, but also to develop students' ability to adapt to situations of uncertainty, crisis and social upheaval.

During martial law, the need to guarantee physical, psychological and digital safety became the basis of education management. The use of shelters, secure communication channels, and updated attendance and grading policies that prioritize equality and well-being are just some of the institutional measures put in place to protect students and staff, according to Chuiko and Hladyshko (2022). At the same time, an ethic of care and emotional availability has changed pedagogical interactions by expanding the role of the teacher to include providing emotional support and communicating with empathy (Crossman et al., 2024). The broader shift to learner-centered pedagogy, which prioritizes dialogic learning and trust building during emergencies, is supported by recalibrating the teacher-student relationship.

RESEARCH METHODS

The following methods were used in the research process:

- Synthesis was used to integrate heterogeneous aspects of the transformation of the educational process (security, digital, content, management, etc.) into a single analytical construct that reflects the complex nature of changes in the education system under martial law;
- The method of generalization was used to identify key trends in the transformation of forms and content of education based on a comparison of practices observed in different regions of Ukraine and on the basis of generalization of regulatory and managerial decisions;
- The systematization method was used to organize the research results by vectors of influence (infrastructure, psychosocial, digital, regulatory, etc.), which allowed us to create a structured model of transformation processes in education;
- The method of structural-functional analysis was used to determine the role of each element of the transformation mechanism (institutions, regulatory mechanisms, digital platforms, social modules) in ensuring the sustainability of the educational process;
- Content analysis of normative legal acts was used to identify changes in the legislative regulation of education during martial law and to formulate conclusions on the normative adaptation of the system;

- The system-synergetic approach made it possible to consider the transformation of the forms and content of education as a holistic nonlinear process of interaction of different levels of influence (political, social, digital, educational).

RESEARCH RESULTS

Systemic changes in the educational environment as a result of war

The full-scale military invasion of Ukraine by the Russian Federation has caused systemic changes in the planning, provision and protection of the national education system, which has led to unprecedented disruption at all levels of the country's education system. As of the beginning of 2023, there were 13875 preschool education institutions, 12976 general secondary education institutions, 740 vocational higher education institutions, 670 vocational (vocational-technical) education institutions, and 332 higher education institutions in Ukraine. The existing educational institutions served about 6.5 million students and employed almost 700 thousand teachers and researchers (Ministry of Education and Science of Ukraine [MESU], 2023). It was through a combination of traditional, distance, and blended learning that educational institutions continued to fulfill their responsibilities despite the harsh conditions caused by martial law and ongoing hostilities. This combination of formats was an adaptive strategy designed to ensure the continuity of the educational process in times of crisis, not just a practical response to instability.

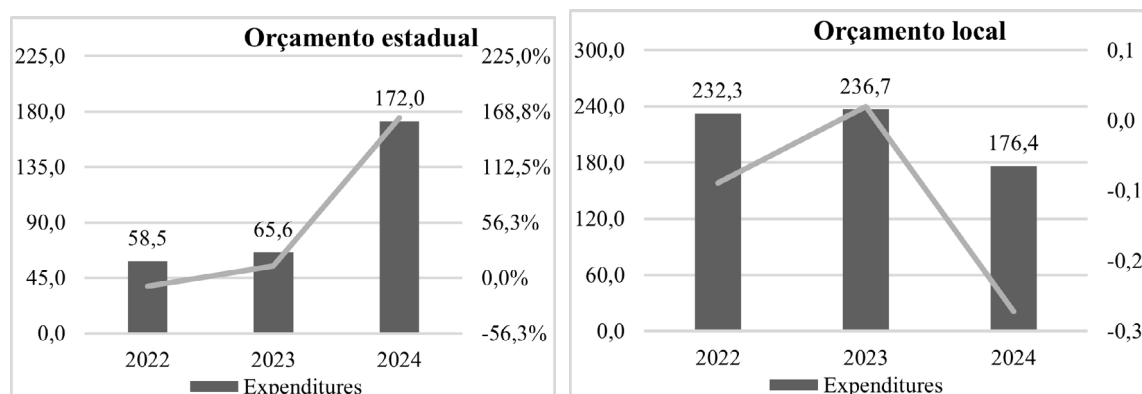
One of the key indicators of the transformation of the educational environment under martial law is the change in the structure and volume of budget funding for the education sector. In the period from 2022 to 2024, there will be a significant redistribution of the financial burden between the state and local budgets, which is directly related to the crisis, the need to ensure the safety of participants in the educational process, and the centralization of management decisions and resources in an emergency (Figure 1).

On the one hand, the state budget shows a steady upward trend in education spending, especially in 2024, when the amount of funding increased by more than 2.5 times compared to 2023; this is due to the increased need to finance critical infrastructure (including shelters), upgrade the material and technical base of institutions, support teaching staff, and implement priority reforms (in particular, within the framework of the New Ukrainian School concept). Thus, state funding has become a key tool for stabilizing and adapting the education system in the face of war. On the other hand, local budgets, which traditionally provide a significant portion of funding for educational infrastructure and operations, show unstable dynamics: after a decline in 2022, there was a slight increase in 2023, and a significant decrease of 25.5% in 2024. This trend indicates a decline in the financial autonomy of territorial communities and their limited ability to meet educational needs on their own in a war economy. At the same

time, this may indicate a shift to a more centralized model of education resource management, focused on rapid response and even distribution of funds to critical regions.

Figure 1

Expenditures on education from the state and local budgets in 2022-2024 and relevant changes



Note. Compiled by the author on the basis of the MESU (2023); Ministry of Finance of Ukraine (2025).

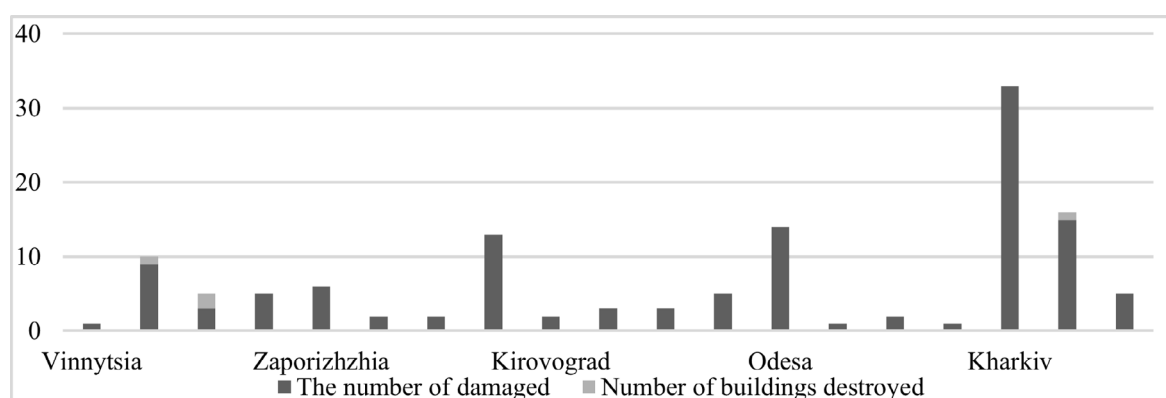
These financial changes are important not only in terms of supporting the functioning of the education system in times of war, but also in the context of developing sustainable emergency management mechanisms that can be integrated into a long-term strategy for the development of education in Ukraine in the future.

However, the war has had a significant impact on infrastructure and people's lives. As of 2025, 4139 educational institutions were damaged by bombing and shelling, and 394 of them were completely destroyed (Figure 2). The largest losses were observed in Kharkiv region, where 33 universities were damaged, and a high level of destruction was also recorded in Odesa, Kherson, and Donetsk regions. The consequences of these destructions go beyond material damage: a decrease in the number of educational places, forced reduction of educational programs, and the outflow of students and teachers abroad lead to a deepening «brain drain» The destruction of the educational infrastructure undermines the country's human resource potential and creates additional challenges for its post-war recovery.

This situation emphasizes the high level of vulnerability of the education system to external challenges and, as a result, the role of high-quality systemic resilience of educational institutions by state authorities. In response to these dangers, the Ukrainian government, the Ministry of Education and Science, and local military administrations have prioritized the creation of a safe learning environment. On April 7, 2023, the Ukrainian government adopted the Concept of Security in Educational Institutions, which provides a comprehensive strategic framework for ensuring safe, fair and easily accessible learning environments. This policy initiative reflects a paradigm shift in education governance, as physical security is now an important component of educational planning.

Figure 2

Total number of damaged higher education institutions



Note. Compiled by the author based on Education Under Threat (2025).

As of July 20, 2023, according to regional and Kyiv city military administrations, 19150 educational institutions (or 67.9% of the total) had certified civilian protective shelters, which allowed for the safe accommodation of approximately 56.38% of participants in the educational process (MESU, 2023). To ensure the safe conduct of blended and full-time education, educational institutions continue to work on modernizing existing shelters and searching for new protective structures. In addition, regional authorities have begun conducting routine inspections of shelters ahead of the 2023-2024 school year. These inspections will be followed by targeted repairs and the purchase of necessary protective equipment. This infrastructure-focused approach indicates that risk-based education planning is spreading, with an emphasis on the growing overlap between education policy in times of war and civil defense requirements.

Thus, the war in Ukraine has become a catalyst for a systemic transformation of the educational process, leading to a shift from traditional learning models to flexible, crisis-resistant formats with an emphasis on security, adaptability, and distance education. As a result, there have been significant shifts in the forms of education organization (a combination of face-to-face, distance, and blended learning), the content of educational programs (integration of security, digital solutions, and psychological support), and management practices (centralization of resources, prioritization of critical infrastructure). The educational system has demonstrated a high level of mobility and the ability to institutionalize adaptation in an emergency, which creates the basis for the formation of a new educational paradigm in the postwar period.

Regulatory and legal support of the educational process in the context of war

The functioning of the educational process under martial law requires clear, flexible and comprehensive regulatory support; in particular, ensuring the continuity of education,

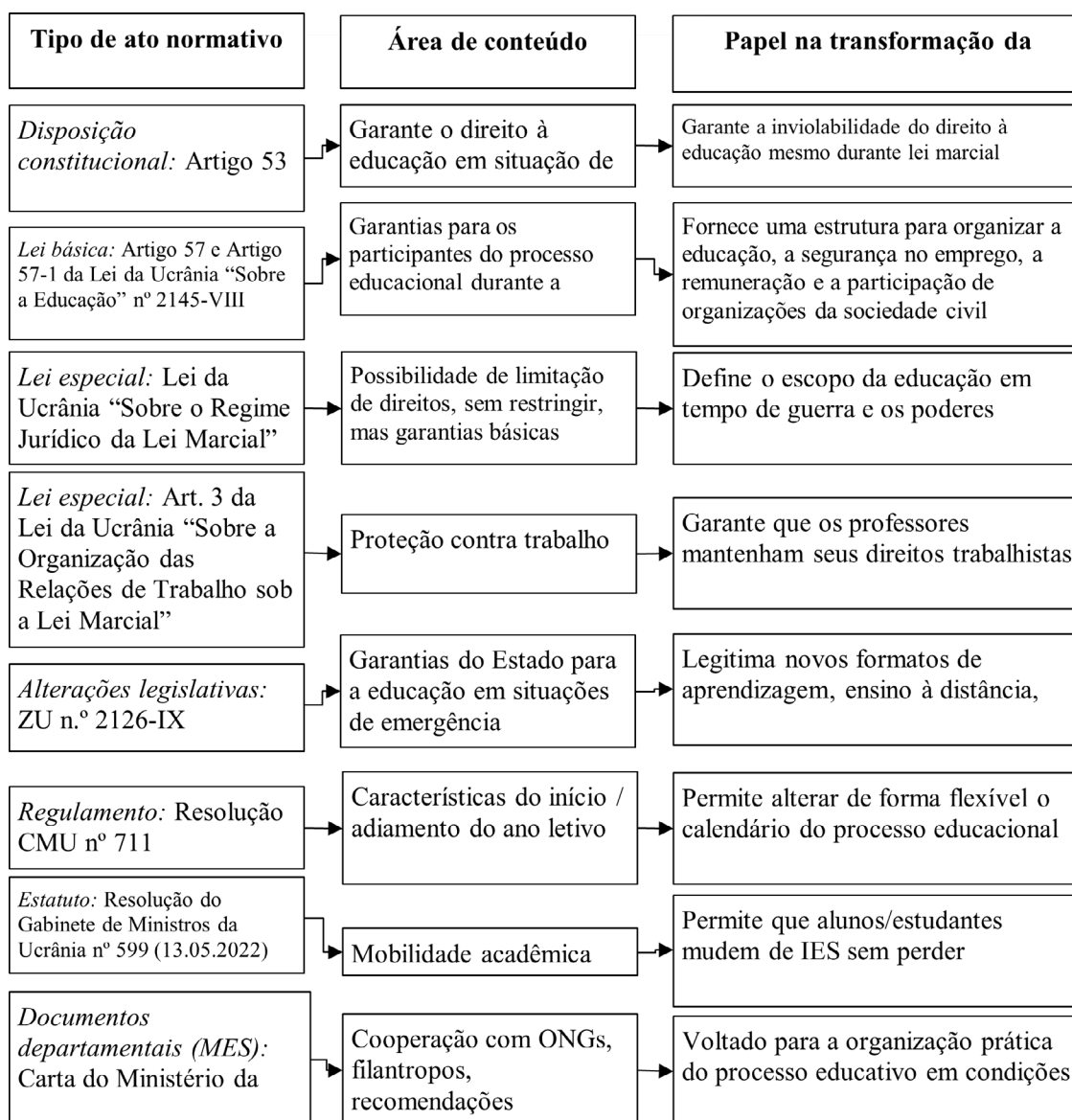
protecting the rights of students and teachers, and adapting forms of education to crisis conditions is implemented through a multi-level system of regulations that includes both constitutional provisions and special laws, bylaws, as well as departmental instructions and international agreements. In this regard, it is advisable to systematize the main legal sources regulating educational activities in wartime, taking into account their legal force, functional purpose and practical impact (Figure 3).

Thus, education under martial law in Ukraine operates within the framework of constitutional guarantees and special legal regulation that ensure its continuity, accessibility and protection of all participants in the educational process. The Constitution of Ukraine (No. 254к/96-BP of January 1, 2020), namely Article 53, defines the right of everyone to education and obliges the state to ensure accessibility and free of charge of all levels of education, even in emergency circumstances (Verkhovna Rada of Ukraine, 1996). This provision, which is enshrined in the Basic Law, is not subject to restrictions even in the context of martial law or a state of emergency, as confirmed by the practice of the Constitutional Court of Ukraine. In addition, under the special regime established by the Law of Ukraine “On the Legal Regime of Martial Law” (No. =389-VIII of May 14, 2025), the state receives additional powers to respond promptly to security challenges. The law allows for the introduction of temporary restrictions on certain rights of citizens, but does not allow for the curtailment of basic social guarantees, including the right to education (Verkhovna Rada of Ukraine, 2015). It is within this framework that the mechanisms for adapting the educational process are formed, including the possibility of rapidly changing forms of education, evacuating educational institutions, transferring to a distance mode, and organizing education in safe conditions (Bezkrivnyi, 2024).

The key regulatory act that regulated the educational process in the specific conditions of war was the Law of Ukraine “On Amendments to Certain Laws of Ukraine on State Guarantees in the Conditions of Martial Law, Emergency or State of Emergency” No. 2126-IX of March 15, 2022, which supplemented the Law of Ukraine “On Education” (No. 2145-VIII of June 1, 2025) with Article 57-1. This article establishes state guarantees for students and employees of education for the period of martial law. The law guarantees the possibility of organizing education in a safe format (primarily distance learning), preserving jobs and salaries for teaching staff, continuing scholarship payments, and organizing housing and meals if necessary. Moreover, it empowers educational institutions, executive authorities, military administrations, and public organizations to issue binding decisions to ensure the educational process (Verkhovna Rada of Ukraine, 2022).

Figure 3

Regulatory and legal framework for the functioning of education during the war



Note. Compiled by the author on the basis.

Separate bylaws, such as the Resolution of the Cabinet of Ministers of Ukraine “On the beginning of the academic year during the legal regime of martial law in Ukraine” No. 711 of June 24, 2022, establish the specifics of the academic year calendar, including its postponement or extension, based on the security situation in the region (Cabinet of Ministers of Ukraine, 2022b). In addition, the Resolution of the Cabinet of Ministers of Ukraine “On Amendments to Certain Resolutions of the Cabinet of Ministers of Ukraine on the Settlement of Academic Mobility Issues” No. 599 of May 13, 2022 provides for academic mobility mechanisms that allow internally displaced persons to continue their studies in other institutions without losing

their results, and recognizes the possibility of participating in international programs with subsequent recognition of results in Ukraine (Cabinet of Ministers of Ukraine, 2022a).

The legislation pays special attention to the protection of the rights of teachers. Even during hostilities, the state is obliged to maintain their social status, guarantee payment of salaries, extend employment contracts, and ensure the right to decent working conditions. In particular, according to Art. 57 of the Law of Ukraine “On Education” No. 2145-VIII of June 1, 2025, pedagogical and scientific-pedagogical workers are guaranteed salaries not lower than the average in the economy, the right to observe the terms of the employment contract, and social guarantees (Verkhovna Rada of Ukraine, 2017). Additionally, Article 3 of the Law of Ukraine “On the Organization of Labor Relations (No. 2136-IX of June 14, 2025) under Martial Law” prohibits coercion to perform work not provided for in the employment contract, which explicitly protects teachers from being involved in tasks incompatible with their profession (e.g., duty in shelters without consent) (Verkhovna Rada of Ukraine, 2025). In addition, Article 57-1 of the Law of Ukraine “On Education” No. 2145-VIII of June 1, 2025, introduced by the Law of Ukraine “On Amendments to Certain Laws of Ukraine on State Guarantees in the Conditions of Martial Law, Emergency or State of Emergency” No. 2126-IX of March 15, 2022, guarantees teachers the preservation of their jobs and payments even in the event of displacement, evacuation or remote work. Importantly, these norms are aimed at maintaining stability in the education system and preventing the outflow of qualified personnel in critical regions (Verkhovna Rada of Ukraine, 2022).

Public and international organizations also play a significant role in supporting the educational process. Part two of Article 57-1 of the Law of Ukraine “On Education” No. 2145-VIII of June 1, 2025, expressly provides that the implementation of educational guarantees may be carried out in cooperation with public organizations, charitable foundations, volunteers, and international organizations. Volunteer organizations, charitable foundations, and international projects actively provide technical equipment for distance learning, provide psychological assistance, develop educational materials adapted to the crisis context, and support students and teachers in areas of active hostilities. Such cooperation is officially enshrined and actively supported by the Ministry of Education and Science in the form of orders and explanations (in particular, the letter of the MESU No. 1/3292-22 of February 28, 2022) (MESU, 2022).

Thus, the educational process under martial law is based on a combination of basic constitutional norms and flexible specialized regulations. The legal and regulatory system not only enshrines the right to education, but also promptly adapts it to force majeure circumstances, ensuring accessibility, sustainability and continuity of education even in the face of armed aggression. This situation demonstrates the systemic strategic response of the state to threats and its ability to maintain the educational function as one of the key instruments of national security and social stability.

Educational inequality and access to resources

Educational inequality under martial law is not only a secondary effect of a large-scale social crisis, but also one of the key threats to long-term human development, social mobility, and intergenerational equality. The war is radically deforming the functioning of the educational system at all levels—from infrastructure to access to digital technologies, teaching staff, curricula, and students' psychological well-being. It should also be noted that Lai and Thyne (2007) show that war reduces public spending on education by 3-11% annually, and enrollment rates decrease by an average of 1.6-3.2% depending on the level of education. In such conditions, access to education becomes fragmented, uneven, and deeply stratified by territorial, socioeconomic, demographic, and political characteristics. Martial law turns general social challenges into individual crises for millions of students, especially those in vulnerable social groups: children from low-income families, internally displaced persons (IDPs), children with disabilities, and residents of temporarily occupied or frontline territories (Zakotyuk & Oksamytna, 2024). International studies based on a comparative analysis of countries that have experienced armed conflicts indicate a strong correlation between war and the deepening of educational inequality. For example, according to Ichino and Winter-Ebmer (2004), educational losses for children growing up in Austria and Germany during World War II averaged 20% of one year of schooling, and in cases of father's loss, up to 83%. In Tajikistan, children from the conflict-affected regions (1992-1997) lost up to 0.3 years of schooling (Shemyakina, 2011). In this context, the unevenness of educational opportunities in such circumstances has not only immediate consequences in the form of losses in the learning process, but also a cumulative effect—worsening long-term life prospects, increasing the risk of marginalization, institutionalization of poverty and reproduction of social inequalities. In other words, education is turning from a potential compensatory mechanism in times of crisis into a factor of social stratification. As a result, the war reduces the level of access to education, thus distorting the very logic of educational justice. In particular, according to Omoeva et al. (2016), prolonged war causes an increase in educational inequality by the Gini coefficient by 0.9 points and deepens the gap between the richest and the poorest by 5.4%.

Educational inequality in wartime manifests itself in two interrelated dimensions: access to educational resources and the quality of the right to education. In wartime, inequality of access takes on spatial (territorial), digital, economic, and cognitive dimensions.

First of all, the territorial dimension is caused by the heterogeneity of the infrastructure capacity of schools in different regions. Educational institutions in the area of active hostilities or the temporarily occupied territories cease to operate in full or in part, losing teaching staff and educational materials. The lack of shelters, constant air raids, and the destruction of buildings objectively deprive children of physical access to the school environment. Even in

relatively safe regions, schools are overloaded due to the large number of IDPs, a shortage of teachers, and an overloaded educational process due to attempts to combine face-to-face and distance learning.

The digital dimension of inequality has been exacerbated by the widespread transition to distance learning. The war has exposed unequal access to the Internet, digital devices, technical support, and basic digital literacy skills. Students from socially vulnerable households (especially families with many children, families from rural areas, and low-income families) often do not have individual devices or stable connections, which effectively excludes them from the educational process. For some of them, education becomes not limited, but simply inaccessible.

The third important aspect is the economic stratification of access to education. As a result of economic instability, loss of income, and changes in the structure of family expenditures, education is no longer a priority for many families. Parents who have moved with their children because of the war spend 25-30% less on their children's education (Eder, 2014). Educational expenditures are reduced both in direct (tuition fees, tutoring) and indirect terms (food, transportation, clothing, digital devices). For low-income families, education costs disappear from the family budget as they do not have an immediate return value.

The psychosocial dimension of educational inequality is equally important, as the number of children with high levels of anxiety, post-traumatic stress disorder, and loss of motivation to learn is increasing in war. The educational system is often unable to provide psychological support, individualized approach, and adapted programs, especially in the case of children with experience of parental loss, deportation, occupation, or violence. These factors make it difficult to learn and lead to secondary marginalization, even if they are formally included in the educational process. Gender inequality, exacerbated by war risks, is also particularly dangerous. Girls from low-income families become vulnerable, as they often perform additional care work, look after younger siblings, and take on household responsibilities, which reduces their inclusion in the educational process. Tajikistan's experience shows that in the context of war and post-conflict recovery, girls are more likely to not return to school or interrupt their education (Shemyakina, 2011). In addition, war exacerbates inter-regional and interschool inequalities. Schools with a high level of autonomy, support from communities or international organizations are better able to adapt to new conditions, create sustainable digital platforms, and support teaching staff. Instead, rural schools or schools in deindustrialized regions remain isolated from resource support, which leads to a gap in educational quality, differences in programs, hours, and teachers.

Thus, war as a systemic destruction exacerbates existing forms of educational inequality, creates new barriers to access to knowledge and resources, and creates lasting, difficult to reverse consequences for an entire generation of students. Inequality in education in wartime

becomes polystructural: spatial, social, digital, psychological, and institutional barriers are combined. Although education policy has a compensatory function in peacetime, its institutional capacity is significantly reduced in wartime, and government interventions are often targeted and reactive. The key challenge for education policy in wartime and post-war is to restore physical infrastructure and ensure equal, equitable and inclusive access to education for all children, regardless of place of residence, social status, gender or experience of displacement (Sidletsky & Shandar, 2024). Without actively addressing structural educational barriers, the risk of the educational system becoming a mechanism for reproducing inequality will only increase. Educational equity policies should become a key element of the recovery strategy—as a means of overcoming war losses and as a tool for building a sustainable, solidarity and inclusive society.

Transforming the forms and content of education

The emergence of a new educational paradigm under martial law in Ukraine is an objective consequence of the escalation of the security crisis, which has had a systemic impact on all institutional spheres, especially education as one of the key mechanisms of social reproduction. The full-scale armed aggression has led to radical changes in the functioning of educational institutions, which have proved to be both reactive and strategic: on the one hand, it is a rapid adaptation to the conditions of constant threat, destruction and displacement, and on the other hand, the formation of long-term models of sustainability, institutional flexibility and social cohesion through education.

In the context of martial law, the transformation of the forms and content of education is not a situational management response, but a complex, multidimensional structure that combines a number of interrelated vectors: security, infrastructure, digital, psychosocial, managerial, and regulatory. A central element of this transformation is the rethinking of the very purpose of education in terms of a means of knowledge transfer, as well as an institutional space for support, stabilization, collective solidarity, and the formation of the ability to act in conditions of uncertainty. The educational process is increasingly acquiring the characteristics of a crisis-resistant system that should function even in conditions of total risk, fragmentation of the social environment and limited resources.

The strategic transformation mechanism covers several key interdependent blocks. First of all, the security factor has led to the integration of new content modules into educational programs that cover personal protection, algorithms for behavior during air raids, recognition of information threats, as well as modification of the educational space through the construction of shelters and security audits. The technological vector of transformation is the transition to hybrid, distance and asynchronous learning formats, which became possible due

to regulatory flexibility, the introduction of digital platforms, the development of LMS systems and the formation of digital support institutions; this ensured the continuity of the educational process and laid the preconditions for the institutionalization of new educational formats in the post-crisis period.

In turn, the substantive transformation of the educational process involves the actualization of the problems of psychological well-being, value stability, and social responsibility. Within this logic, not only cognitive components are integrated into education, but also empathy and rehabilitation modules that involve the development of competencies in interaction, self-preservation, emotional regulation, and post-traumatic resilience. The managerial aspect of the transformation is the centralization of resource and regulatory management, which proved particularly effective during the active phase of hostilities, when the speed of decision-making and the mobilization of support resources became critical conditions for maintaining the functioning of the education system.

Of particular importance in the analytical construct is the digital and social block, which outlines the complex field of educational inequality caused by uneven access to the Internet, technical means, and digital skills. In this area, transformation requires not just technical adaptation, but a deep digital inclusion policy that can neutralize gender, regional, and socioeconomic barriers. At the same time, the regulatory framework for education under martial law is being revised, with special regulations being developed, labor guarantees for teachers being adapted, non-standard learning formats being legalized, and legal mechanisms for cooperation with civil society and international donors being opened.

The comprehensive table presented in this study serves as a generalizing model, where each structural block—from security to management and institutional—logically fits into the overall strategy of educational transformation. The mechanism of transformation is not linear: it requires synchronization between political will, normative mobility, managerial responsibility, and the real needs of participants in the educational process who are at risk on a daily basis. It is crucial that new educational formats should not be limited to responding to threats, but should be aimed at forming a proactive educational model that will be able not only to survive but also to develop in conditions of permanent instability.

In view of the above, there is an urgent need to implement a sustainable education strategy that combines normative adaptability, digital inclusion, security competence and social cohesion. It is recommended to further improve legislative acts to take into account protracted conflict scenarios, create permanent intersectoral coordination platforms between the state, local communities and the public sector, and develop a system of institutional education on crisis response and psychosocial support. At the stage of post-war recovery, it is advisable to move from short-term interventions to long-term strategic planning, taking into account the

global context of educational security, which involves not only the reconstruction of damaged facilities but also the renewal of the functional logic of education in general.

In the context of prolonged military turbulence, education is not a secondary institution, but a key factor in restoring social capital, forming cultural continuity, and mobilizing human potential. It is through education that trust in state institutions can be restored, communities can be united, and the national future can be rethought. Thus, the transformation of the forms and content of education should not only be a response to the challenges of war, but also a conceptual starting point for building a new humanitarian paradigm for Ukraine's postwar revival.

DISCUSSION

The results of this study confirm the provisions of the scientific literature on the deep transformation of the forms and content of the educational process under the influence of war. In particular, the generalization of the data shows that adaptation to martial law in Ukraine was not an exclusively reactive response to the security crisis, but showed signs of a strategic rethinking of educational practices, which is consistent with the findings of Yavorska (2023). As in the above study, the authors found that the transition to distance and blended learning was not a temporary measure, but a way to maintain the sustainability and continuity of education in times of crisis. The conclusions about the need to combine traditional, distance and hybrid learning as a form of adaptive strategy for the functioning of educational institutions are in line with the conceptual positions of Yaroshchuk and Chorna (2022), who emphasized the need for flexible learning formats in the context of forced digital transformation. In addition, the role of the teacher in this process has also acquired a new quality, which coincides with the findings of the transformation of the pedagogical role from a translator of knowledge to a digital moderator and facilitator. The results of the study prove that this change is institutionalized in the form of new management decisions and regulatory support. Looking at this issue from the perspective of the need for financial reorganization of the education system, our proposal to centralize budgetary flows, increase the role of the state budget, and reduce the autonomy of local communities is consistent with the overall strengthening of state control over critical education infrastructure in an emergency. In this context, the results confirm Chuiko and Hladyshko's (2022) assumption that a comprehensive approach to security is needed as a basic component of pedagogical planning—as an organizational and content priority.

Also, the change in emphasis in the content of education the authors have identified—in particular, the strengthening of the psycho-emotional, value, and trauma-oriented component—correlates with the position of Yaroshchuk and Chorna (2022), who interpret

the modern school as a multipurpose institution. The integration of emotional literacy, resilience training, and support for psychosocial well-being into the content of education was confirmed by the empirical data found, which indicate a revision of the goals and objectives of modern education in favor of developing students' adaptability, critical thinking, and motivational autonomy, which is consistent with Trubacheva's (2023) concept. In addition, Şahin and Yurdugül's (2022) statement about the evolution of LMS systems to the third generation is also of considerable relevance for interpreting the results. The systematic digitalization of educational practices in the form of massive transition to distance platforms, front-end gamification, learning analytics, and adaptive assessment identified in our study confirms the compliance of the Ukrainian educational context with global digital trends. This coincidence indicates not only technological convergence, but also the possibility of further integration into the European educational space focused on digital mobility and inclusiveness. It should be emphasized that the crisis of educational infrastructure identified in the study—in the form of destroyed institutions, limited access to shelters, and uneven distribution of safe spaces—actualizes the problem of educational inequality, which was clearly articulated in the literature review (Lai & Thyne, 2007; Omoeva et al., 2016; Shemyakina, 2011). Similarly to the above studies, our data confirms the existence of a clear spatial and digital stratification of access to education, which becomes systemic in the context of war. Observations of sharp polarization between the center and the periphery, large and small communities, urban and rural schools confirm the thesis that war not only creates new barriers to education but also deepens existing forms of inequality.

To summarize, the results of the study are fully consistent with the theoretical positions of modern educational science. They demonstrate that the war has become a catalyst for a radical, but institutionally controlled transformation of the forms and content of education in Ukraine. The identified structural changes—digitalization, rethinking the role of the teacher, integration of emotional support, centralization of management, and a new regulatory framework—confirm the notion of a new educational paradigm that combines flexibility, security, adaptability, and social responsibility. In this way, the educational process is transformed into a crisis-resistant system capable of both responding to destructive factors and laying the foundations for long-term sustainability and institutional development in the postwar period.

CONCLUSION

The study shows that the transformation of the forms and content of education under martial law in Ukraine is a forced adaptive process and at the same time a manifestation of the emergence of a new educational paradigm based on the principles of sustainability, flexibility

and institutional solidarity. The analysis of multi-vector changes allowed us to conceptualize education as a critical area of social reproduction, which, even in the context of armed conflict, is capable of generating long-term models of stabilization and development. The generalized model of the transformation mechanism developed in the course of the study allows us to represent the educational process as a complex, non-linear system where security, digital, psychosocial, managerial, and regulatory components interact. In particular, the institutionalization of hybrid learning formats, integration of psycho-emotional modules, strengthening of the security component, and regulatory regulation of crisis scenarios indicate the depth and systematic nature of changes. In addition, digital and social challenges require both technical adaptation and a comprehensive digital inclusion policy that will minimize regional, social, and gender gaps.

A crucial imperative is the need to formulate a sustainable education strategy that synthesizes institutional flexibility, regulatory adaptability, cross-sectoral coordination, and the ability to act proactively in the face of multidimensional uncertainty. In this context, education takes on a new role—not only as a sphere of knowledge transfer, but also as a leading agent of social cohesion, a source of cultural continuity, and a platform for restoring trust in public institutions. Thus, the transformation of the forms and content of education under martial law should be viewed not only as a reaction to extraordinary circumstances, but as a point of systemic shift towards building a new humanitarian paradigm capable of ensuring the sustainable development of the educational system in the post-conflict period and Ukraine's integration into the global discourse of educational security.

REFERENCES

- Alia, A. A. H. (2022). The analysis of a learning management system from a design and development perspective. *International Journal of Information and Education Technology*, 12(4), 280–289. <https://doi.org/10.18178/ijiet.2022.12.4.1616>
- Aldosari, A. M., Eid, H. F., & Chen, Y. P. P. (2022). A proposed strategy based on instructional design models through an LMS to develop online learning in higher education considering the lockdown period of the COVID-19 pandemic. *Sustainability*, 14(13), 7843. <https://doi.org/10.3390/su14137843>
- Bezkravnyi, Y. A. (2024). Ensuring the right to education under martial law as the foundation of educational activity. Scientific Bulletin of Uzhhorod National University. *Series: Law*, 2(82), 103–107. <https://doi.org/10.24144/2307-3322.2024.82.2.15>
- Cabinet of Ministers of Ukraine. (2022a). *Resolution n° 599: On amendments to certain resolutions of the Cabinet of Ministers of Ukraine regarding the regulation of academic mobility issues*. Cabinet of Ministers of Ukraine. <https://zakon.rada.gov.ua/laws/show/599-2022-%D0%BF#Text>.
- Cabinet of Ministers of Ukraine. (2022b). *Resolution n° 711: On the peculiarities of the educational process in martial law conditions*. Cabinet of Ministers of Ukraine. <https://zakon.rada.gov.ua/laws/show/711-2022-%D0%BF#Text>
- Chuiko, O., & Hladyshko, Y. (2022). Changing the context of pedagogical interaction as a condition for the organization of a safe educational environment under the conditions of the state of martial. *Bulletin of Taras Shevchenko Kyiv National University: Social Work*, 8, 57–61. <https://doi.org/10.17721/2616-7786.2022/8-1/11>
- Crossman, K., Ibrahim, E. H., Kostouros, P., & Wang, H. (2024). Teaching English language learners who have trauma experiences: Healthy boundaries, happy teachers. *TESL Canada Journal*, 41(2), 35–58. <https://doi.org/10.18806/tesl.v41i2/1410>
- Eder, C. (2014). Displacement and education of the next generation: evidence from Bosnia and Herzegovina. *IZA Journal of Labor & Development*, 3(12), 1–24. <https://doi.org/10.1186/2193-9020-3-12>
- Education Under Threat (2025). *Education Under Threat*. <https://saveschools.in.ua/>
- Ichino, A., & Winter-Ebmer, R. (2004). The long-run educational cost of World War II. *Journal of Labor Economics*, 22(1), 57–87. <https://doi.org/10.1086/380403>
- Lai, B., & Thyne, C. L. (2007). The Effect of Civil War on Education: 1980–1997. *Journal of Peace Research*, 44(3), 277–292.
- Ministry of Education and Science of Ukraine. (2023). Ministry of Education and Science of Ukraine. <https://mon.gov.ua/static-objects/mon/sites/1/zagalna%20serednya/>

serpneva-konferencia/2023/22.08.2023/Inform-analytic.zbirn-Osvita.v.umovah.voyennogo.stanu-vykl.rozv.povoyen.perspekt.22.08.2023.pdf

Ministry of Education and Science of Ukraine. (2022). Regarding unpaid leave during martial law: Letter n°. 1/3292-22. Ministry of Education and Science of Ukraine. <https://mon.gov.ua/static-objects/mon/sites/1/doshkilna/2022/04/10/03/Shchodo.vidpustok.bez.zberezheniya.zarobitnoyi.platy-1.3292-22-28.02.22.pdf>

Ministry of Finance of Ukraine. (2025). *In 2024, education expenditures amounted to 348.4 billion UAH*. Ministry of Finance of Ukraine. https://mof.gov.ua/uk/news/minfin_u_2024_rotsi_vidatki_na_osvitu_stanovili_3484_mlrld_griven-5017

Omoeva, C., Hatch, R., & Moussa, W. (2016). *The effects of armed conflict on educational attainment and inequality*. Inter-agency Network for Education in Emergencies. <https://www.semanticscholar.org/paper/The-Effects-of-Armed-Conflict-on-Educational-and-Omoeva-Hatch/d5f8946fd9aa5b6ce58c907047d6a8611b0b231d>

Rauf, W., Rajab, A., & Nashruddin, N. (2023). Exploring the learning design on learning management system for online learning: A case study in higher education. *Jurnal Ilmiah Profesi Pendidikan*, 8(1), 1–10. <https://doi.org/10.29303/jipp.v8i1.1075>

Şahin, M., & Yurdugül, H. (2022). Learners' needs in online learning environments and third generation learning management systems (LMS 3.0). *Technology, Knowledge and Learning*, 27(1), 33-48. <https://doi.org/10.1007/s10758-020-09479-x>

Shemyakina, O. (2011). The effect of armed conflict on accumulation of schooling: results from Tajikistan. *Journal of Development Economics*, 95, 186–200. <https://doi.org/10.1016/j.jdeveco.2010.05.002>

Sidletsky, S., & Shandar, A. (2024). Higher education in ukraine under martial law: challenges and priorities. *Economy and Society*, (64). <https://doi.org/10.32782/2524-0072/2024-64-151>

Trubacheva, S. (2023). The development of educational competence of students in the conditions of martial law. Scientific Bulletin of Uzhhorod University. *Pedagogy Social Work*, 2(53), 139–142. <https://doi.org/10.24144/2524-0609.2023.53.139-142>

Yaroshchuk, L., & Chorna, N. (2022). The peculiarities of educational work under martial law. *Scientific Notes of Berdiansk State Pedagogical University*, 1(2), 485–491. <https://doi.org/10.31494/2412-9208-2022-1-2-485-491>

Yavorska, T. (2023). Digital transformation of the educational process in the conditions of martial law in Ukraine. *Higher Education of Ukraine in the Context of Integration to the European Educational Space*, 91(1), 217–226. <https://doi.org/10.38014/osvita.2023.91.19>

Verkhovna Rada of Ukraine. (2022). *Law of Ukraine on amendments to certain legislative acts of Ukraine regarding state guarantees under martial law, state of emergency or*

emergency situation: N° 2126–9. Verkhovna Rada of Ukraine. <https://zakon.rada.gov.ua/laws/show/2126-20#Text>

Verkhovna Rada of Ukraine. (1996). *Constitution of Ukraine: N° 254k/96-VR.* Verkhovna Rada of Ukraine <https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text>

Verkhovna Rada of Ukraine. (2015). *Law of Ukraine on the legal regime of martial law: N° 389–8.* Verkhovna Rada of Ukraine. <https://zakon.rada.gov.ua/laws/show/389-19#Text>

Verkhovna Rada of Ukraine. (2017). *Law of Ukraine on education: N° 2145–8.* Verkhovna Rada of Ukraine. <https://zakon.rada.gov.ua/laws/show/2145-19#Text>

Verkhovna Rada of Ukraine. (2025). *Law of Ukraine: On the organization of labor relations under martial law.* Verkhovna Rada of Ukraine. <https://zakon.rada.gov.ua/laws/show/2136-20#Text>

Zakotyuk, A., & Oksamytna, S. (2024). Main channels and consequences of the war's impact on educational inequality in society. *Scientific Notes of NaUKMA: Sociology*, 7, 70–83. <https://doi.org/10.18523/2617-9067.2024.7.70-83>

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