# UKRAINIAN EDUCATION IN CONTEMPORARY REALITIES: CHALLENGES AND PROSPECTS

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**Abstract.** The study examines the challenges and prospects of Ukrainian education in contemporary realities. It is noted that the challenges for the educational environment are the continuation of the war on the territory of Ukraine and the formation of a new ethical discourse based on environmental ethics and the ethics of responsibility as a new global trend. Emphasis is placed on the need to develop, for further implementation, practical measures aimed at addressing the challenges facing the domestic education sector so that it can continue to function in a stable manner. *The subject of this study* is the domestic education sector under the influence of the war factor and the current transformations of sustainable development goals for society. *The purpose of the study* is to identify the factors influencing the contemporary development of domestic education. *The research methods used* include the method of generalization, as well as general scientific and empirical techniques based on a systemic approach. *Summarizing the results of the study*, it should be noted that the factors of influence formed by the duration of the war on the territory of our country are dominant, and therefore further transformations of the educational space are only possible once these factors are addressed. Among the main ones, we propose to highlight the following: the physical safety of learners, teachers, and staff of educational institutions; the protection and restoration of educational infrastructure (institutions at all levels); the recovery of educational losses (of both teaching staff and learners); the resolution of psycho-moral-social problems (the mental health of all actors/participants in the educational process) caused by the war; and the formation of a new domestic educational model that would be adapted both to global factors of influence and to domestic ones. Resolving these issues requires a clear scientific, conceptual, methodological, and instrumental foundation that

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will make it possible to take specific decisions to implement the measures that will be defined for the state, society, and the education sector as part of ensuring further development. *Practical implications.* The formation of a modern educational process requires the domestic education sector to introduce new approaches, concepts, techniques, methods, and tools. *Value/originality.* The effectiveness of research methods such as the method of generalization, as well as general scientific and empirical techniques based on a systemic approach, opens up opportunities for deeper understanding of the objects, phenomena, and processes under study when developing recommendations regarding the challenges facing the contemporary domestic education sector arising from the influence of new challenges.

## INTRODUCTION

The further development of society depends on maintaining a high level of education, of basic and professional knowledge, skills, abilities, and competencies. They serve as a certain basis/foundation for sustainable and stable development at both the national and global levels. Today there is a demand for the formation of a new type of so-called «new person», who has a high level of knowledge, skills, abilities, competences and competencies and who is at the same time communicative/sociable, able to work in international teams, and supports the ideas of a global society, multinationality, multireligiousness, and multiculturalism. In addition, there is a transformation in the formation of the moral and ethical state of the modern future specialist/professional, together with changes in the discourse of educational processes amid the emergence of new types of ethics: environmental, communicative, corporate, industrial, and the ethics of responsibility.

The implementation of the above falls upon educational institutions at all levels, and therefore the national education sector and educational institutions face the task of training young specialists who will be competitive in the global (international) labor market and ready to produce the national gross product within the country. As practice shows, only those countries that invest significant resources in education can count on sustainable and stable development and be able to enter the global labor market, provide services, and produce competitive goods in demand. First, this requires the development and implementation of new approaches, methods, techniques,

and tools of instruction in educational processes, as well as new standards of educational quality, in which issues of ecology, «green» production, bioethics, and inclusive ethics are important. Second, this requires appropriate training of the teaching staff of educational institutions. All of this requires changes and transformations in the postgraduate education of all teaching staff at domestic educational institutions. This requires resources, time, and political will (legislative and regulatory settlement).

At the same time, it must be taken into account that the current state of education depends on the general state of development of society and on national realities that shape the country's development agenda and social relations at the level of person–society–state. Thus, it can be said that the field of education is closely linked to the social, political, economic, and humanitarian spheres and to social relations. During the war, the influence of the military sphere is added to this. At present, the military sphere and military social relations are dominant, and therefore they act as an important catalyst of influence. A peculiarity of the current situation in Ukraine is that the military sphere, on the one hand, directly affects the education sector, while, on the other hand, it transforms other spheres and social relations, which in turn also affect the education sector. Thus, there is a simultaneous direct and indirect impact on the education sector. This is why the issue of the sustainable development of the education sector today must be considered comprehensively, together with all spheres and social relations.

**Problem statement.** A characteristic feature of the present day is that the domestic education sector is forced to develop, transform, and integrate into the global (world) and regional education sectors under conditions of continuing hostilities on the territory of the country. This state of affairs significantly affects the education sector, leading to consequences that were unforeseeable in peacetime. It should be noted that some of the recommendations based on the practical realities of previous wars are losing their relevance given the civilizational changes that have already occurred and continue to occur in matters of the development, formation, and transformation of society. The complexity also lies in the fact that there are many interrelated problems that overlap one another, and no one can predict with one hundred percent certainty how all of this will affect the sustainable development of the education sector. This can be compared to solving an equation with many unknowns, to which a certain number

of additional unknown parameters are added that must also be taken into account and responded to. In this connection, the question of a strategic vision for further pathways toward the sustainable development of domestic education in contemporary realities requires additional research in order to develop appropriate recommendations and proposals.

**The purpose of the study** is to examine the state of development of contemporary domestic education under conditions of a paradigm shift in the traditional factors influencing the sustainable development of society in the context of new factors, namely: protection of the environment, flora and fauna; careful use of mineral resources; and ecology. At the same time, account must be taken of the formation of a new type of contemporary person amid the emergence of new components of ethics, such as: environmental ethics, communicative ethics, and the ethics of responsibility. Within the framework of this study, account must be taken of the influence of the military factor/the factor of war (direct and indirect) and the development of appropriate recommendations and proposals for ensuring sustainable development.

## 1. Issues of the Transformation of Domestic Education in the Context of Ensuring Sustainable Development

An analysis of existing research on issues of the sustainable development of society and the transformation of education in contemporary realities shows that a fairly wide range of scholars are engaged with the development of a new contemporary discourse based on moral and ethical concepts (the ethics of responsibility, environmental ethics), namely: D. Boler [4], [5], B. Vald [6], O. Vysotska [7], A. Yermolenko [14], V. Ilchenko [15], H. Yonas [16], I. Koreneva [19], A. Shakhovska [35], and others.

Technical and technological issues related to digitalization are also added to these questions: M. Aleksandrova [1], O. Polishchuk [25], A. Samoilovych [29], S. Sysoieva [30], and others.

The further rapid development of technology and its introduction into industrial use affects not only the civilizational development of society as a whole, but also the individual person, their life-world, human existence, and the relationships between person–society–state. Thus, robotization and the widespread use of assembly lines in production facilities require strict compliance with instructions and regulations (so-called over-regulation), in

which such «embeddedness» of the person in modern production processes develops in them a high level of rational thinking while minimizing creative thinking together with irrational actions. Under such conditions, the person effectively becomes a «robot». This has a rather negative effect both on the individual and on social relations in the corresponding society. Under such conditions, the person stops using/applying critical thinking and is not always ready to accept contemporary challenges such as responsible production, careful extraction of mineral resources, and protection of the environment, flora, and fauna. Examples include companies engaged in deforestation, open-pit mining, and fishing. There is a growing understanding that the sustainable development of society is increasingly dependent on issues of environmental protection, responsible production, and resource use, since it has become apparent that our planet and humanity are quite vulnerable to the new technologies that humanity is increasingly beginning to use. Humanity finds itself on the brink of irreversible processes in nature beginning, whereby large territories of our planet may become entirely uninhabitable. This has a significant impact on the further sustainable development of society, since the traditional mechanisms, methods, and tools for achieving the development goals set earlier have proven ineffective. In addition, account must also be taken of the readiness of society itself, the individual, and the authorities for fundamental changes in their existence (their role/mission on this Earth) in order to rethink actions, deeds, and attitudes toward nature, ecology, and the flora and fauna in a new way.

This state of affairs requires educational institutions to actively engage in the processes of forming a new type of person, one ready to perceive contemporary realities of existence and the life-world in a new way.

Today, attempts are being made at the international level to develop new principles, conceptual approaches, and a basis for forming a new strategy for the sustainable development of society.

Thus, the United Nations International Commission on Environment and Development gives the following definition of sustainable development as development that «meets the needs of the present without compromising the ability of future generations to meet their own», where «the essence of sustainable development lies in defining viable schemes that take into account and balance the economic, social, and environmental aspects of

human activity» [6; 5]. This fits rather harmoniously with the new type of ethics, namely environmental ethics, within which contemporary scholars and researchers describe a new reality built on a discourse in which the environmental problem, which humanity is increasingly encountering, forms the basis, whereby the uneconomical expenditure of non-renewable mineral resources and the destruction of flora and fauna lead to environmental catastrophes that call into question the further existence of humanity on the planet and leave future generations without a future. In such difficult realities, the question of introducing new goals for sustainable development becomes relevant, the achievement of which will create conditions for further sustainable development.

Thus, at the UN Summit on Sustainable Development, a general list of Sustainable Development Goals was adopted, the implementation of which will contribute to the further positive development of humanity, namely: «Goal 1: No poverty; Goal 2: Zero hunger, agricultural development; Goal 3: Good health and well-being; Goal 4: Quality education; Goal 5: Gender equality; Goal 6: Clean water and sanitation; Goal 7: Affordable and clean energy; Goal 8: Decent work and economic growth; Goal 9: Industry, innovation and infrastructure; Goal 10: Reduced inequalities; Goal 11: Sustainable cities and communities; Goal 12: Responsible consumption and production; Goal 13: Climate action; Goal 14: Life below water; Goal 15: Life on land; Goal 16: Peace, justice and strong institutions; Goal 17: Partnerships for the goals» [36]. This list of goals covers aspects of our existence and activity on our planet. Overall, the above goals shape the construction of a new society oriented toward quality of life, preservation of the environment, new technologies, and new standards of living, in which the core value is a careful attitude toward nature and natural resources so that they will last for future generations. If we consider the above sustainable development goals, we can say that, without new approaches to the educational process at all stages of learning (from preschool institutions to institutions of higher education) based on new positions such as environmental safety, environmental protection, and responsible use of mineral resources, this cannot be achieved. As researchers (O. Shumilo and V. Boreiko) note, «environmental ethics should be considered in two formats: destructive and creative, where the first is aimed at destroying old, consumerist-utilitarian stereotypes of human relations with nature,

numerous anthropocentric myths and values, and abandoning wasteful and inhumane forms of nature use, while the creative format of environmental ethics is aimed at developing a new, ecological worldview that allows humans and nature to successfully coexist [9, p. 6]. This refers to the formation of environmental ethics and its introduction into educational processes in educational institutions. This is because the list of professions in which a person's actions can cause significant environmental catastrophes is constantly growing. For example, O. Shumilo and V. Boreiko, as part of implementing new formats of education, proposed a curriculum for the academic discipline «Environmental Ethics» [3, pp. 11–15] and prepared a textbook, «Environmental Ethics» [3]. As noted in contemporary scholarly research, an important task of higher education institutions «is to form in students of higher education systemic, comprehensive knowledge on issues of environmental protection, environmental ethics, and the achievement of sustainable development of society, and practical skills in applying them» [3, p. 8]. First of all, this refers to conveying to students of higher education the provisions of existing legislative and regulatory acts that define the boundaries (framework) of behavior and/or actions regarding flora and fauna, violation of which entails administrative and criminal liability. Second, these are moral and ethical norms that cannot be enshrined in legislative frameworks but compliance with which, or non-transgression of which, is monitored by society. Only in combination can one speak of a positive result. Third, as scholars note, in order to improve results it is necessary to carry out the «greening of professionally oriented disciplines that [students] will study further» [3, p. 8]. That is, the first two directions can be applied to all specialties and professions, while the third direction is appropriately implemented on the basis of «greening professionally oriented disciplines».

The next important factor influencing the sustainable development of society is responsibility. The question of responsibility has been reflected in the moral and ethical discourse at the level of contemporary philosophers, scholars, and researchers (T. Adorno, H. Yonas, K.-O. Apel) and has found expression in the emergence of the ethics of responsibility. The formation of the ethics of responsibility in its contemporary form began after the rethinking of the terrible events of the Second World War, namely the genocide of many peoples, the destruction of millions of people in concentration camps,

experiments on human beings, and other events perpetrated by humanity – «fascism, Stalinism, revolutions, civil wars, totalitarian regimes, colonial wars, Hiroshima and Nagasaki, nuclear blackmail, death, hunger, etc.» – in which «a person becomes insensitive to evil, the very criteria of good and evil become blurred, moral principles are leveled, and under the guise of morality any crimes, including the destruction of millions of people, can be justified» [11]. The result of rethinking everything that occurred during and after the Second World War was that, in the 1970s, a process began of returning to «restoring the unity of economics, politics, and ethics» [11] within the framework of the ethics of responsibility, since «the development of scientific and technical civilization, threatening the very existence of life on Earth, requires adjustments to the sphere of society's value orientations, to the motivational sphere of the individual, and to the ways of regulating social conflicts» [11]. Further civilizational development expands the list of technologies whose use can threaten the physical existence of many people and even all of humanity. At the same time, thanks to the dissemination of knowledge, skills, abilities, and competencies among young specialists, and the sheer number of these specialists, a certain critical mass is created that requires a high level of self-organization, self-control, and an appropriate set of moral and ethical qualities so as not to use what has been acquired against humanity, nature, flora, and fauna. Examples include an operator at a nuclear power plant; a water utility worker responsible for the water purification and disinfection system using chemicals or irradiation; and a specialist managing the operation of the metro, railway, or air transport. For his part, H. Yonas, in the book «The Imperative of Responsibility», formulated a «categorical imperative for the modern age», which reads: «act so that the effects of your action are compatible with the permanence of genuine human life on Earth» [16].

In turn, D. Boler worked on substantiating and implementing «the ethics of discourse as an ethics of shared responsibility, an ethics of the economy, environmental and medical ethics, the ethics of law, and political and pedagogical ethics» [4; 5; 11]. D. Boler also «initiated a number of projects aimed at the practical implementation of ethicization of various spheres of societal development», namely: the project «Dialogue between Ethics and the Economy», the seminar «Dialogue in Management: Reliability and Justice in the Economy», and the article "Responsibility to the Future

in a Market Economy» [4; 5; 11]. All of this points to a certain division of general ethics into components more closely linked to professional orientation. In his work «Responsibility for the Future from a Global Perspective», D. Boler substantiates «the ethics of discourse from the perspective of global responsibility for the future of humanity, carried out through a comparison with H. Yonas's ontological justification of the ethics of responsibility for technological civilization and K.-O. Apel's discourse-ethical responsibility» [4].

Today, the Hans Jonas Center (Germany) is actively working in the direction of forming a contemporary principle of responsibility, whose activity is aimed at «fostering the capacity for future-responsible action, cultivating responsibility for the future, and enabling future-responsible public decision-making on the basis of argumentative dialogue» [11; 14]. Among other things, this Center has launched the project «Dialogue between Ethics and Pedagogy», the outcome of which should be «accelerating the development of a concept of upbringing aimed at responsibility for the future, at responsibility for human dignity and its individual realization», where «the main aspects of pedagogy are defined as shared responsibility, upbringing, and the capacity for future-responsible action» [11; 14].

The formation of a contemporary model of industrial and/or corporate ethics is quite important, based on such important components of ethics as environmental ethics, the ethics of responsibility, and communicative ethics. Today, among global corporations, a new phenomenon is spreading, namely «corporate social responsibility (CSR), which is an important foundation of ethical business practices», in which «business cares not only about making money – it also wants to do good for society, the environment, and everyone it works with» [12]. It should be noted that a long path preceded this, and it is too early to say that all business today has become socially responsible, although contemporary (civil) society is gradually moving on its own toward observing the ethics of responsibility, environmental ethics, and communicative ethics.

Thus, «professional responsibility, in turn, means the duty and responsibility of professionals to their clients, employers, colleagues, the environment, and society as a whole», while «ethical standards and professional responsibility are critically important for creating a happy and

healthy working environment, given the ongoing debate between ethics and morality» [12]. In her research, A. Shakhovskoi proposes considering «the sustainable development of society as a continuous learning process», which includes «the expansion of knowledge and the formation of special skills, life positions, and values regarding a healthy way of life in harmony with nature» [35, p. 4]. This requires systematic work that must begin with family traditions and values (within the family), the creation of an appropriate environment, and the development among learners of «special skills, life positions, and values regarding a healthy way of life in harmony with nature» [35, p. 4]. It must be taken into account that the relevant knowledge, abilities, skills, and competencies need to be included in the core curriculum and developed throughout life, starting from preschool age, since this cannot be a one-time and/or episodic action. It must be carried out systematically, with a methodological basis and appropriate instrumental and material-technical support. This must be preceded by appropriate informational support (PR campaigns), forming a corresponding image-based demand that «this is a fashionable trend», in order to reach as large a target audience as possible.

Given the above, within the framework of research on the transformation of domestic education in the context of ensuring sustainable development, it should be noted that achieving the sustainable development goals of society creates a demand for new conceptual foundations for the functioning of the domestic educational space, in which the development and implementation of new standards of educational quality will be established, in which issues of ecology, production, ethics, and politics will complement one another through new moral and ethical norms both for learners and for teachers, methodologists, and pedagogical researchers. At the same time, it should be taken into account that, to a greater extent, the introduction of environmental ethics, the ethics of responsibility, and communicative ethics needs to begin at the level of postgraduate education for all teaching staff at domestic educational institutions.

The next step should be the development and inclusion in curricula of subjects that, to a certain extent, combine ethical issues (the new ethics). Only after this should new methods, techniques, and tools of instruction be introduced in educational institutions.

## 2. Ukrainian Education Amid the Ongoing Military Aggression by the Russian Federation (the War)

An analysis of existing research on the functioning of domestic education under conditions of war shows that this issue has attracted the attention of many specialists, practitioners, and scholars, among whom the following can be highlighted: D. Bloshchynskyi [2], T. Burlaieva, O. Dubinina, O. Kovalova, A. Kocharian [5], I. Kobernyk [18], O. Lokshyna, O. Hlushko, A. Dzhurylo, S. Kravchenko, O. Maksymenko [20], V. Ilnytskyi, M. Haliv [21], K. Tymchenko [31], S. Terepyshchyi [33], M. Trofymenko [32], and others.

The war being waged against Ukraine and continuing on our territory has become not only a challenge to national security but also a serious test for all spheres and social relations. Education is no exception; it forms the basis for the sustainable development of society, ensures the reproduction of human capital, and contributes to the preservation of national and cultural identity, the maintenance of the psychological resilience of young people, and the training of young professionals and specialists for the reconstruction of the country. The contemporary understanding of the sustainable development of society presupposes a balance between the social, economic, and environmental dimensions of life. In the context of the ongoing war, education becomes not only a tool for transmitting knowledge but also a key factor in ensuring the social resilience of society through supporting the psychological balance of young people, creating conditions for the integration of internally displaced persons, and developing the skills, knowledge, and competencies needed to rebuild the country, modernize it further, and ensure further sustainable development.

The relevance of the study lies in the need to understand how Ukrainian education can not only survive under conditions of war but also lay the foundations for the further sustainable development of society, which requires analyzing contemporary transformations, seeking new adaptation strategies, and integrating the principles of sustainable development into Ukraine's education policy under conditions of continuing war and the postwar state.

As M. Trofymenko notes, «the war destroys opportunities for the practical implementation of sustainable development goals with regard to ensuring inclusive, equitable education», since «the events associated with

the full-scale war create fundamentally new destructive challenges for the development of domestic education at all levels, creating real threats to the development of human capital in the country» [32, p. 5], which under current conditions is an important component that creates conditions for the sustainable development of society.

In the view of researchers (S. Terepyshchyi, D. Svyrydenko, H. Khomenko, V. Zaichko, V. Dunets, D. Dodonov, V. Verovkin), the domestic education sector, under conditions of continuing war, faces such challenges as «hybrid identity; education in a conflict society; demythologization of public consciousness; patriotism; tolerance, etc.»; «analysis of advanced international practices for restoring peace in society by means of education»; «domestic education as a tool of peacebuilding»; «the functioning of higher education institutions relocated from Crimea and Donbas»; «the existence of a roadmap for displaced universities» [33, p. 4]. It can thus be said that this primarily concerns the personal moral and ethical readiness, media literacy, and critical thinking of teachers and learners in order for them to be resilient in the face of contemporary challenges. Under such conditions, environmental ethics, communicative ethics, and the ethics of responsibility become increasingly relevant, when communication takes place, on the basis of argumentation, both vertically and horizontally among communicators.

M. Trofymenko, examining domestic education under conditions of war, draws our attention to the fact that «hundreds of physically destroyed educational institutions, together with a destroyed material and technical base and the loss of their own learners, face a reduction in special funds» and the inability to function fully at the prewar level; «millions of internally and externally displaced persons fundamentally change the existing socioeconomic and demographic geography of the territory»; «dozens of relocated educational institutions face a loss of their identity»; «the constant, daily danger of missile strikes across the entire territory of Ukraine and artillery shelling in regions where active hostilities are taking place makes it urgent to rethink the existing education sector» [32, p. 5]. At the same time, domestic educational institutions continue to provide educational services, learners continue to acquire knowledge, abilities, skills, and competencies, and both sides of the educational process must be competitive in the global labor market, which is rather difficult and not

always possible, under conditions in which a learner receives educational services only at an educational institution, without alternative, non-formal, or personal forms of education.

Researcher K. Tymchenko draws our attention to a painful issue produced by the war – «thousands of Ukrainians who are forced to obtain education under occupation» – and states that the return of «these citizens to the Ukrainian educational field is, above all, a preservation of their connection with the country and ensuring a future for young people from temporarily occupied territories» [31]. This is a rather sensitive issue, since it concerns the future of our country, and these children must be approached with care, since each has their own fate, their own worldview, and their own attitude toward Ukraine. Certain steps are currently being taken at the official level. First of all, there is «the new Procedure for the Recognition of Learning Outcomes (Order of the Ministry of Education No. 338 of 23 February 2026), the essence of which is based on two principles: trust in the learner and maximum transparency of procedures» [31]. Next is «the Educational Declaration: A Step Forward», a key document for learners from the TOT [temporarily occupied territories], whereby «students (young people) or their legal representatives independently indicate which subjects were studied while the student was in the temporarily occupied territory», which «makes it possible to begin the process of integrating students from the TOT into the Ukrainian education system without bureaucratic pressure» [31]. It cannot be said that this is fully sufficient, but these are the first steps that learners can take toward further integration into the national educational space. An important impetus for strengthening these processes should be the introduction of assistance programs for the adaptation of learners from temporarily occupied territories, within which, depending on the age and educational potential of the learner, assistance will be provided for further education in accordance with national educational quality standards.

A related problem concerns learners (citizens of Ukraine) who live abroad (in European countries and other foreign countries) and, for the most part, study at local educational institutions. This also requires the recognition of results, since learning took place in different languages. The recognition mechanism will currently be similar to the mechanism applied to learners from the TOT. The first group includes learners who study simultaneously at a foreign educational institution and at a domestic

one, using/combining such forms of education as distance learning, external study, and homeschooling. In accordance with paragraph 3 of Article 4 of the Law of Ukraine «On Complete General Secondary Education», «complete general secondary education may be obtained through full-time (day), distance, network, external, family (home) forms, or the form of pedagogical patronage, as well as through full-time (evening) and part-time forms (at the levels of basic and profile secondary education). Profile secondary education of a professional orientation may be obtained through a dual form of education» [28]. In turn, «education authorities and schools must ensure instruction in these forms at the request of parents or other legal representatives of the child» [24]. In this case, they receive two documents confirming the level of education attained (a foreign and a national document), one of which is a document on obtaining education from a European Union country or another highly developed country (for example, the USA, Canada, the United Kingdom, etc.). The second group consists of those obtaining education only abroad and who do not plan to obtain education in Ukraine in the future. The third group consists of those who, for a certain period of time, did not study either abroad or in Ukraine and have returned home. These learners face the need to make up for what they have missed in order to obtain confirmation of their education and continue, on an equal footing with others, to obtain education at domestic educational institutions. The problem is that if two or three years have been missed, it is quite difficult to master such a volume of knowledge on one's own, and therefore there is a need to involve tutors in the educational process or to create analogues of evening schools where learners can catch up on what they have missed. Implementing such assistance at the state level requires the development of conceptual approaches and the elaboration of goals, methods, techniques, and tools for this purpose. At the same time, it would be appropriate to involve relevant international organizations and assistance from the European Union. In this regard, an important factor to consider is the time factor.

At the same time, in our view, the most attractive and sought-after individuals for the postwar reconstruction of the country and ensuring the sustainable development of society will be young people who obtained education both abroad and in Ukraine and who returned to continue their education at home in order to subsequently remain to work at home as young

specialists. First, these young people have a fairly high level of education and erudition, are highly motivated, persistent, self-organized, and capable of self-education. Second, they are fluent in several foreign languages (not just English). Third, they have an entirely different life-world, worldview, and perception of reality. Fourth, they are adapted to working in international teams composed of specialists from different countries and nationalities, which indicates a high level of communicativeness and sociability.

Next, attention should be paid to the widespread use of non-formal education, which today is quite widely represented in the digital educational space, both on domestic platforms by domestic teachers and scholars and by foreign ones. Thus, «a valuable resource for modernizing the education system, especially in the context of the continuing war, is the development of non-formal education» [34]. Article 9 of the Law of Ukraine «On Education» defines such forms of education as «distance, network, and external» [28; 34]. These provisions lay «the foundations for the development of non-formal education and the recognition of its results», and therefore «an important task is to legislatively define the specific mechanisms of this process» [34]. The implementation of various forms of non-formal education will be facilitated by widespread digitalization and virtualization of the educational process and educational space [1; 25; 29]. As S. Sysoieva emphasizes, «one of the most important problems of the digitalization of education is that innovations in the digital educational space are not only technical and technological innovations but also changes in the content and organization of educational content, in the structure and organizational principles of the activities of educational institutions», and therefore «this requires a revision of the conceptual provisions, the content of the categories and concepts of established pedagogical science, and their adaptation (or the development of new content) to the digital educational space» [30]. This will be facilitated by the comprehensive development of such implementation mechanisms as «organizational-legislative, methodological, and infrastructural» [34] ones. At present, «the problem of recognizing qualifications obtained through online education has still not been resolved», and «the value of certificates offered by various massive open online course platforms is likewise undetermined in the labor market» [34], which also requires regulation, given that for a certain percentage of learners such education is the dominant form. In addition,

it must be taken into account that the implementation of the concept of lifelong learning will also require such recognition. This is why «for such forms of learning, the Ukrainian education system needs to develop certification mechanisms confirmed both by leading educational institutions and employers and by state education authorities» [34]. And this needs to begin now, since time passes and the problem will not resolve itself. Next we come to the important issue of educational quality.

Thus, today the State Standards of General Secondary Education «define the overall scope of the educational workload and the forms of state certification of learners at the corresponding level of general secondary education, the characteristics of the content of instruction, the principles of organizing the educational process, the system for managing educational content, content lines, and expected learning outcomes by educational branches» [10]. In addition, in accordance with the provisions of the Law of Ukraine «On Complete General Secondary Education», the Cabinet of Ministers of Ukraine approved «the State Standard of Basic and Complete General Secondary Education» (Government Resolution of 23 November 2011, No. 1392) [27]. This State Standard «includes such educational branches as «Languages and Literatures», «Social Studies», «Art», «Mathematics», «Natural Science», «Technology», and «Health and Physical Culture», the content of which is consistently interrelated with the content of the corresponding educational branches of the State Standard of Primary General Education», and «the content of the educational branches, their components, and the state requirements for the level of students' general education preparation correspond to the tasks of basic and senior school in their consistent interrelation», where «the content of each educational branch is structured and implemented through academic subjects and courses whose curricula are approved by the Ministry of Education and Science of Ukraine» [27]. As for higher education, this too has been regulated through the corresponding «National Qualifications Framework – a systemic and structured, competency-based description of qualification levels of education», where «each level is a completed stage of education, characterized by the level of complexity of the educational program and the set of an individual's competencies, which are, as a rule, defined by the education standard and correspond to a certain level of the National Qualifications Framework» [22]. In the field of higher

education, the following matters have also been regulated: the Unified Professional Entrance Examination (UPEE); the Unified State Qualification Examination (USQE); the Unified Entrance Examination (UEE); and the Unified Entrance Test (UET) [13]. The main problem today is the inability to ensure full compliance with the norms and provisions of all the above documents, owing to the impossibility of maintaining the prewar level of functioning and providing educational services using traditional methods within educational institutions. This primarily concerns frontline territories and large cities suffering from air raids, where the educational process is constantly interrupted and/or altered by the need for learners to move into shelters. Not all educational institutions have fully equipped classrooms in shelters, and the educational process is practically uninterrupted [in some]. This means that the educational material that a learner did not receive during the traditional classroom educational process is assigned as homework and/or delivered in an abbreviated form during lessons. Thus, there are learners with a high level of self-organization and self-education who can work through classroom material on their own, and there are those whose parents hire tutors. But if we speak of the bulk of learners, they receive a significantly smaller volume of educational services than required by the State Standards and the National Qualifications Framework. At the same time, they must still be prepared for the UPEE, USQE, UEE, and UET.

For such objective reasons, there arises a need to bring the State Standards, the National Qualifications Framework, and the content of the UPEE, USQE, UEE, and UET into line with present-day realities (for the duration of the war and for a certain transitional period afterward). As a way out of the situation that has arisen, attention should be paid to non-formal education and the recognition of qualifications obtained through online education. In turn, I. Kobernyk proposes considering the possibility of «reducing the number of subjects studied simultaneously, not only in senior school», as well as «identifying a core body of knowledge and moving from a linear to a concentric approach, which is especially acute in mathematics and the natural sciences» [18].

The next problematic issue is what to do about educational institutions that continued to operate in temporarily occupied territory, and about their teachers and administrative staff. These are rather difficult questions with

no simple solution. At present there is a legislative framework regulating the issue of collaborationism. Thus, there is currently the Law of Ukraine «On Amendments to Certain Legislative Acts of Ukraine Concerning the Establishment of Criminal Liability for Collaborationist Activity» [26], which, among other things, supplemented the Criminal Code of Ukraine with Article 111-1, «Collaborationist Activity», the provisions of which establish that «the conduct by a citizen of Ukraine of propaganda in educational institutions, regardless of their type or form of ownership, with the aim of facilitating armed aggression against Ukraine, establishing and consolidating the temporary occupation of part of the territory of Ukraine, or avoiding responsibility for the aggressor state's armed aggression against Ukraine, as well as the actions of citizens of Ukraine aimed at introducing the aggressor state's education standards in educational institutions, are punishable by correctional labor for up to two years, or arrest for up to six months, or imprisonment for up to three years, with deprivation of the right to hold certain positions or engage in certain activities for a period of ten to fifteen years» [26]. This means that restoring (should a decision be made to request the return of a given educational institution to the domestic educational space) not only the physical but also the mental «health» of higher education institutions that were located in temporarily occupied territories, renewing their educational and scientific potential, and restoring their name and status will require the adoption of comprehensive restoration programs, which will require the allocation of appropriate resources and time for rehabilitation.

Under such conditions, an appropriate legislative framework needs to be developed, along with the involvement of international organizations and donors. Summarizing the above, it should be noted that, on the whole, the functioning of domestic education under conditions of war can be assessed as satisfactory. There is still much work to be done, and there is hope that our domestic education system will be able to make up for what was lost during the war and subsequently achieve sustainable development.

### 3. Challenges and Prospects of Contemporary Ukrainian Education

From the sections above, in which research was conducted on issues of ensuring sustainable development and the Ukrainian education sector under conditions of war, the following should be noted.

Given the time that has passed since the beginning of the war and the events that have occurred during this time in the education sector, it can be confidently stated that a fairly high level of sustainability and resilience in the education sector was achieved thanks to the experience gained by both the Ministry of Education and educational institutions during the quarantine measures of the coronavirus (COVID-19) period. At the same time, new factors influencing the sustainability and resilience of the functioning of the education sector during the war have emerged, among which the following can be noted: security factors (distance from the line of combat contact, availability of shelters and their format), and the factor of ensuring alternative means of energy, heat, and water supply to educational institutions.

This course of events indicates that, on the whole, the domestic education sector has the potential for further digitalization and virtualization of the educational space and the provision of educational services. At the same time, an increasing number of learners have a sufficiently high level of digital literacy and the ability to work with modern gadgets, applications, and specialized software, which requires educational institutions to create conditions for their further development and the acquisition of new skills. This is because a generation born between 2010 and 2020 is now entering education, and in terms of mentality this generation is ahead of previous ones. This is because they were already born in the digital era, and therefore the digital world (digital technologies, gadgets, equipment) is an everyday reality for them. As S. Sysoieva notes, «a contemporary child discovers the world not only directly – through learning about their surroundings, education at an institution, and family influence – but also indirectly, by means of information and communication tools, in particular a smartphone…», whereby «this situation determines the particularities and specifics of learning, upbringing, and child development in the digital space, as well as changes in education policy and established methodological practices, both at the level of the school as an educational system and the family as the primary institution of upbringing» [30].

The ability to ensure a high level of sustainable development of society occurs through an appropriate level of corporate and industrial ethics, based on the ethics of responsibility, environmental ethics, and communicative ethics, namely:

– the formation of a new public opinion built on the contemporary approaches of young specialists/professionals to nature, environmental protection, and environmental safety in the professional activity they carry out;

– the implementation, through educational concepts, programs, methods, techniques, and tools, of a new discourse on combining professional qualities on the basis of environmental ethics, communicative ethics, and the ethics of responsibility;

– the application, by young specialists/professionals, of new professional knowledge, abilities, skills, and competencies formed in combination with the ethics of responsibility, environmental ethics, and communicative ethics in practical production activity.

The main goal (task) facing the domestic education sector (at the current stage of civilizational development of society under conditions of continuing war) is to create conditions for training future specialists capable of achieving not only high production results/standards but also results that correspond to the declared sustainable development goals of society [7; 19].

Today, the list of professions and specialties that allow a wide range of specialists to work under conditions where their actions and/or inaction in the workplace could lead to an environmental catastrophe, harm flora and fauna, or even destroy a significant number of people, is constantly expanding. That is, the professional knowledge, abilities, skills, and competencies of a young specialist/professional, depending on their moral and ethical state, can be used by them either for creation or for destruction. At the same time, further digitalization, globalization, and automation of management, control, and technological processes are increasingly carried out remotely, which, in the event of emergencies, could lead to global consequences. That is, digital technologies also fall within the risk zone, since they are used both for the needs of the individual, society, the economy, and the state, and by criminals for committing criminal acts. Under such conditions, cyberethics is relevant, aimed at combining issues of cybersecurity and ethics, which is relevant given the spread of cybercrimes, cyberthreats, and cyberincidents.

Confirmation of this is found in the events unfolding during the war on the territory of Ukraine, namely the rapid growth in the level of cybercrimes, cyberattacks, and cyberincidents, both against security and defense facilities,

critical infrastructure facilities, and civilian infrastructure. This makes it possible to speak of the emergence of a new type of war – cyberwar – which occurs not only in cyberspace but also in cyber-physical space. Given this, the issue of cyberethics can be added to the ethics of responsibility, environmental ethics, and communicative ethics. An example would be a cyberattack on a control system at a nuclear power plant, where an accident could lead to an environmental catastrophe and loss of human life, and the perpetrators would be professional specialists who have obtained a high level of professional education together with education related to programming, digital technologies, and so forth.

## CONCLUSIONS

Summarizing the study conducted, it should be noted that the issues of ensuring sustainable development and the functioning of the Ukrainian education sector under conditions of war are timely and relevant, given the global challenges facing Ukrainian society and authorities, which require rapid, comprehensive solutions. At present, a new type of business is forming – environmentally responsible business – in which economic activity is carried out under conditions of environmental protection, environmental safety, and the protection of people from the impact of the technogenic component of contemporary production. This is, to a certain extent, reflected in the sustainable development goals that were announced at the UN Summit on Sustainable Development, where the general list of Sustainable Development Goals was adopted, with emphasis placed on the fact that their implementation will contribute to the further sustainable development of humanity (given the current state and realities of today). This was supported by the overwhelming majority of UN member states, and therefore one can speak of a common global position of the international community. It is particularly important that this support comes from countries with different rates of development, different political systems, different civil societies, and different capabilities for implementing these sustainable development goals at the national level.

Achieving the sustainable development goals of society creates a demand for new conceptual foundations for the functioning of the educational space, in which the development and implementation of new standards of educational quality will be established, in which issues of ecology,

production, ethics, and politics will complement one another through new moral and ethical norms both for learners and for teachers, methodologists, and pedagogical researchers. The next step should be the development and inclusion in curricula of subjects that combine ethical issues (the new ethics) with matters of professional education. The implementation of these plans should take place on the basis of new methods, techniques, and tools of instruction in educational institutions at all levels.

Among other things, it is proposed to take the following measures as part of creating favorable conditions for adapting the educational space to contemporary globalization processes, which are determined not only by the technical and technological component but above all by the moral and ethical component of the contemporary young specialist/professional:

– the formation of a new public opinion built on the contemporary approaches of young specialists/professionals to nature, environmental protection, and environmental safety in the professional activity they carry out;

– the implementation, through educational concepts, programs, methods, techniques, and tools, of a new discourse on combining professional qualities on the basis of environmental ethics, communicative ethics, and the ethics of responsibility;

– the application, by young specialists/professionals, of new professional knowledge, abilities, skills, and competencies formed in combination with the ethics of responsibility, environmental ethics, and communicative ethics in practical production activity.

At the same time, it must be taken into account that these measures should not be undertaken only sporadically, at the level of individual educational institutions where enthusiasts happen to engage with the issue, but universally.

At the same time, the current realities in which our country and domestic education find themselves are shaping new requirements for achieving strategic development goals. This is primarily related to the impact of hostilities (on land, in the air, on water) on the domestic environment, environmental protection, and the technogenic burden on people. The complexity of this issue lies in the need to resolve the contradictions that arise, namely the moral and ethical choice between preserving the environment, flora, and fauna, and preserving the lives of service members

and civilians. All of this occurs against the backdrop of carrying out combat orders and taking measures to defend our homeland on the battlefield.

From another perspective, the continuation of the war on the territory of our country is becoming a catalyst for the emergence of new challenges for domestic [education]. Among these, the following can be highlighted: «security» factors – air raid alerts, destruction of infrastructure (including the educational sector, namely educational institutions at all levels), and the organization of shelters on the premises of educational institutions; educational losses due to forced distance/blended learning and the migration of learners and education workers, mobilization, and service in the ranks of the Armed Forces of Ukraine; psychosocial problems – stress, anxiety, and psychological trauma among participants in the educational process (both learners and teaching staff); and a shortage of personnel – the disproportionately low salaries of teaching staff relative to the scope of tasks/work assigned to them.

Addressing the problematic issues highlighted above, which significantly affect the domestic education sector, requires a comprehensive, thorough approach and the development of specific measures for their implementation. As for practical recommendations, account must be taken of the final timeframe for the continuation of the so-called «hot phase of the war» and an understanding of what needs to be realistically prepared for afterward. This is because the corresponding practical recommendations will depend on this, and the material-technical, technological, human, informational, and other types of support will need to be calculated accordingly. In this regard, an important factor to take into account is the time factor. Only once such data is available can work begin on developing a long-term development program with certain time-based benchmarks (medium-term and short-term) for specific measures. The next important factor is the use of various innovations, foreign experience, and the possibility of attracting investment for the implementation of planned measures.

It is also necessary to take into account the need to transform the content of education in accordance with the challenges associated with the war, namely: the integration of vital skills into the educational space – mine safety; pre-medical care and tactical medicine; and improving the mental health, together with the psychological state, of teaching staff and learners who fought in the ranks of the Armed Forces of Ukraine.

As an option, it would be appropriate to develop, for educational institutions at all levels (secondary school and higher education), separate educational courses that would cover the main demand for basic knowledge provided as part of basic military training. As for citizens who have already completed their education, these educational courses can be implemented as part of lifelong learning.

The contemporary war is a technological war of a new generation, within which demand is growing for IT specialists and professionals working with artificial intelligence, the Internet of Things, robotics, programming, and so on. These issues require a fundamental solution at the level of both civilian and military educational institutions. These specialties, knowledge, skills, and abilities are also in demand in achieving the sustainable development goals of society, since the development of a digital society is a component element of sustainable development.

In addition, the training of operators of various types of unmanned aerial vehicles (aerial, ground, and maritime) is quite relevant. Moreover, after the war ends, this subject will be widely implemented in many sectors of the economy: agriculture, construction, transport, logistics, and delivery, among others. The above can be adapted to the educational process.

As for other issues that have arisen in the education sector during the war, in order to develop clear steps for their implementation, the factors that will have an influence must be taken into account. It is also fundamentally important whether the issue will be resolved of restoring such an important aspect, characteristic of many countries during the Cold War era, as the mandatory construction of shelter systems and bunkers with appropriate infrastructure for all educational institutions.

Given the above, the following factors should be noted: the timeframe for the continuation of the «hot phase of the war»; the return and integration into the domestic educational space of both learners from the TOT and those from abroad (EU countries and other foreign countries); the restoration of qualifications of teachers, methodologists, and staff of educational institutions returning from abroad; the provision of psycho-moral-social assistance and the improvement of the mental health of all actors (participants) in the education sector who survived the «hot phase» of the war and/or were participants in hostilities; and the inclusion of additional

subjects/courses/educational programs covering tactical medicine, the basics of military affairs/basic military training, mine clearance, and so on.

Given the above, providing practical recommendations for the transformation of the domestic education sector cannot be final/complete, and therefore, given the continuation of the war, will require additional research and analysis of the actual state of affairs.

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