Necessity of Post-War Renewal of University Teachers’ Potential in Terms of Sustainable Development in Ukraine

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Abstract: (1) The war in Ukraine has changed the normal life of every Ukrainian, including educators. For the fourth month, the educational process has been taking place under martial law. Thus, the task of every pedagogue and every university teacher is to start the educational process not only for the sake of knowledge, because you cannot deprive children of education, but also for the sake of psychological rehabilitation. The war has given an impetus to the radical renewal of education, particularly higher education, which determines the relevance of this study. (2) It is common knowledge that the professional pedagogical activity of a university teacher is of great significance to society. It is about the formation of a future specialist, whose level of qualification considerably affects the economic, political, social, and cultural component of the sustainable development of society, something which is especially relevant in the post-war period. (3) The research hypothesis is that renewing the potential of university teachers in the post-war period will allow the improvement of the educational process in universities, will significantly increase the level of professional training of students and will ensure the sustainable development of society. To examine this hypothesis, the professional and personal potential of teachers was studied in detail with the aim of understanding radical changes in approaches to methods, techniques, and forms of education, as well as the type and style of communication between teachers and students. (4) The research methodology comprised a survey conducted by the CAWI method using a structured questionnaire based on the respondents’ place of permanent residence. The sample totality was stratified according to the regions of Ukraine where the teachers work. Teachers of Ukrainian higher education institutions took part in the study. The study sample included 350 people. The main task of the study was to analyze the potential of university teachers in the pre-war and post-war periods. The other tasks the study undertakes are to propose the concept of professional unity of students and teachers of higher educational institutions and to consider reflection as a tool; a tool which is a cross-sectional, integrating factor that structures the education system in various types of professional activity. (5) The undoubted achievement of the work is that, for the first time, the state of higher education was analyzed under war conditions and its development in the post-war period was predicted. This will aid the country’s recovery and ensure the sustainable development of society in the post-war period. This study can complement and enhance the theoretical discussion and practical experience on sustainable development from the perspective of higher education.

Keywords: teacher’s potential; higher education; war in Ukraine; sustainable development; professional integrity
1. Introduction

The war in Ukraine has changed the normal life of every Ukrainian, including educators. For the fourth month, the educational process has been taking place under martial law. The task of every pedagogue and every university teacher is to start the educational process not only for the sake of knowledge, because you cannot deprive children of education, but also for the sake of psychological rehabilitation. The war gave an impetus to the radical renewal of education, particularly higher education, which determines the relevance of this study.

The professional activity of a university teacher is of great significance for society as it is about the formation of a future specialist, whose level of qualification considerably affects the economic, political, social, and cultural components of the sustainable development of society, which is especially relevant in the post-war period.

One of the important aspects of higher education in Ukraine is the quality of professional knowledge and skills of students after graduating from higher education institutions. However, today, with many higher education institutions, we observe an insufficient qualification of a significant number of young graduates of various fields of training. There are many university graduates, but there is a shortage of specialists capable of solving production and managerial tasks at a high professional level. To restore the country and ensure the sustainable development of society in the post-war period, qualified specialists are needed. Therefore, this study analyzes the problems of the higher education sector in Ukraine and the search for answers regarding ways to solve them.

In the pre-war period, the main issues of higher education in Ukraine were:
1. ineffective and archaic teaching methods, material and technical base in higher education institutions borrowed from the Soviet era;
2. an inefficient mechanism of state orders wherein the distribution of state-funded places was not focused on the recruitment needs of the real economy, but on the capabilities of higher education institutions to train specialists in relevant fields [1];
3. insufficient state funding of education;
4. disparity in financing the education system: expenses for general education make up about 80% of the total amount of financial resources allocated, while professional education make up only 20% [2].

Solving the problems of higher education specified in points 2–4 is the task of the state apparatus of the country, while the problem specified in point 1 regarding inefficient and archaic teaching methods borrowed from Soviet times is especially acute at the moment. The essence of solving this problem is in covering issues regarding both parties of these relations—a teacher and a student. From the position of a teacher, the quality of the knowledge they provide depends on their potential. From the students’ perspective, in our opinion, the effectiveness of learning depends on reflection while absorbing the educational material [3].

The level of quality of the educational process in a higher educational institution is influenced not only by the professional but also by the personal potential of the teacher. It should be kept in mind that a university teacher is not only a scientist, a specialist in a certain field, but also a lecturer, that is, in his activities he combines the functions of teaching, educating, and developing students as specialists and personalities. We find the words of the prominent Ukrainian teacher V. Sukhomlynskyi very appropriate in this regard, as he said that in no trade do mistakes and failures lead to such grave consequences as in the pedagogical trade.

2. Literature Review

The peculiarity of pedagogical activity in a higher educational institution is that the teacher works with young people who, unlike schoolchildren, are more independent, progressive, and have their opinion and express it. Therefore, the teacher must be aware of what is happening in the world, and what trends are being followed among young people, that is, as they say, know “what young people live for” and be “on friendly terms”
with young people. After all, it is very important to “keep up with the times”, to give students relevant modern knowledge, for example, logarithmic rulers are no longer used in mathematics, maps are not drawn by hand in cartography, instead, special programs are used, etc. Moreover, not only the method, reception, and form of education, but also the type and style of the teacher’s communication with the students have a significant impact on the effectiveness of the students’ assimilation of knowledge. This issue never stops being considered in pedagogical literature.

The main types of teacher–student communication are presented in Figure 1.

![Diagram of teacher-student communication types](chart.png)

**Figure 1.** The main types of teacher–student communication [4].

As the figure indicates, among the above five types of communication between the teacher and the students, only the personal one has no flaws, it seems to combine professional and personal components harmoniously. However, there is such a concept as the teacher–student communication style, which, according to the classical classification, is divided into authoritarian, democratic, and liberal.

The authoritarian style is characterized by dictation, which turns students into passive performers. An authoritarian teacher independently determines the direction of the group’s activities. The democratic style is based on deep respect, trust, and orientation to self-organization, and self-management of the individual and the team, designed to convey the purpose of the activity to the consciousness of every student and involve everyone in active participation in a joint cause. Under the liberal style, the teacher does not have a stable pedagogical position, it is manifested in non-interference, and a low level of requirements for education. Such a teacher is limited to performing only the teaching function.

Having analyzed the specified styles of teacher–student communication, we conclude that in their pure form none of them is perfect, each of them has certain shortcomings: an authoritarian style inhibits initiative, and depresses students; the consequence of the liberal style is a loss of respect and deterioration of academic performance and discipline;
and the democratic style can be effective only when students take the educational process consciously, which is not characteristic of all students.

Based on different types and styles of teacher–students communication, certain psychological and behavioral types of teachers as educators can be identified (Figure 2).

Figure 2. Psychological and behavioral types of teachers as educators [5,6].

There are also other classifications of the styles of educators’ activity; “theorists”, “realists”, “utilitarians”, and “intuitives”. The basis of this classification is the attitude towards the fulfillment of one’s duties and the peculiarities of the educator’s character (V.Yahunov) [7]. Other classifications are formed according to the level of professional ethics and features of activity; “intellectual”, “willful”, “emotional”, and “organizational” [8]. Analyzing the educator’s behavior in combination with their pedagogical activity and its results, A. Boyko singles out well-founded models of relationships between teachers and students as follows: “optimist”, “objectivist”, “erudite”, “talent”, “craftsman”, “soul”, “actor” [9].

Along with the styles, we can distinguish forms of teacher–student communication:
- communication based on enthusiasm for joint creative activity—active and positive attitude towards students, love for work, mutual understanding;
- communication based on a friendly attitude—students’ positive perception of a teacher who shows kindness and respect to students;
- distance communication—a form of communication, in which teachers and students are limited to formal relationships;
- communication/intimidation combines a negative attitude towards students and authority in the organization of activities;
- flirting communication—a form of communication, in which a positive attitude towards students is combined with liberalism, i.e., the teacher seeks to gain authority,
wants to be liked by students, but does not try to find appropriate ways of organizing interaction.

The studied communication styles have certain disadvantages. Summarizing them, it is worth noting that a certain distance between the teacher and students is still necessary, but it cannot be the main criterion in the relationship, and the key to a productive form of teacher communication is a focus on students, passion for work, and delicacy in relationships.

Having analyzed the styles and types of communication between the teacher and students, having distinguished their positive and negative sides, as well as taking into account their experience of working with young people, we conclude that the formation of a sense of professional unity between the teacher and students contributes to the improvement of the quality of the educational process. This issue will be discussed in Section 4.1.

3. Methodology

The research methodology was a survey conducted by the CAWI method using a structured questionnaire based on the respondents’ place of permanent residence. The sample totality was stratified according to the regions of Ukraine where the teachers work. Teachers of Ukrainian higher education institutions took part in the study. The study sample included 350 people. The main tasks of the study were to analyze the potential of university teachers in the pre- and post-war periods, to find out the attitude of teachers to the war and the possibility of their professional activities under the conditions of the war, as well as to learn about their views on the post-war period.

To achieve the goal of the research, special attention was paid to the profession of the respondents (a university teacher), while personal data (surname and first name, name of the university, position, etc.) were not important. That is, the survey was conducted among university teachers, without taking into account the realm and specificity of their research and work.

Before starting the survey, the respondents were warned about the objectives of the study and that these materials would be processed and subsequently published in a scientific journal.

Participation in the survey was based upon voluntary consent to the use of the obtained results, of which the respondents were informed.

Computer assisted web interview (CAWI) — was used to collect answers to questions on a special server after reading them independently. A letter was sent to the e-mail address of the registered user (in the online panel/in the respondent database) with an offer to participate in the survey. By following the link, the respondent was redirected to the server to participate in the survey.

The list of questions in the questionnaire and the answers of the respondents are presented in the next section.

4. Results

4.1. Formation of a Sense of Professional Unity as a Guarantee of High-Quality Knowledge

For a deeper understanding of this concept, let us turn to the interpretation of the concept of “unity”. This is a moral, philosophical, and social principle, the fundamental provisions of which are the responsibility of all for all, the accord of the individual and the collective, and mutual spiritual enrichment and development. That is, the professional unity of students and teachers implies cooperation, mutual responsibility, a common goal, and mutual development. Simply put, the teacher and the student must share a common goal, equality in the relationship, as well as have a relationship, in which the teacher teaches the students while learning from them.

To form a sense of professional unity between the teacher and students, the teacher must, first of all, get rid of authoritarian forms of pedagogical influence, in pedagogical communication and focus on a mature personality with developed self-awareness. At the same time, the teacher should use the professional interest of students as a factor influencing education and training and, based on that, implement pedagogical communication and the
entire system of educational work. Teachers are also entrusted with the role of curator of academic groups, the teacher’s performance of which fulfills their educational function. Teachers should create conditions for increasing the social and political activity of students through their involvement in joint forms of work with the teacher, from time to time, implementing informal and unregulated contacts between teachers and students.

In this regard, to form a sense of professional unity, teachers, as well as group curators should participate in student leisure, attend cultural and mass events, conduct joint leisure, carry out educational work in dormitories, etc. From the perspective of educational and scientific activity, teachers should involve students in various forms of research activity.

Professional unity implies that the student fulfills the role of not only the object but also necessarily the subject of the educational process. That is, the student himself should feel like an active participant in the educational process, and use the acquired knowledge as a means for self-improvement. Such a role of an object-subject-student requires real skill from the teacher to direct educational and cognitive activity in the right direction.

Communication between a teacher and a student is specific because they are in different positions by status: the teacher organizes the interaction, and the student perceives it and is included in it. The teacher’s task is to help the student become an active participant in the pedagogical process, to provide conditions for the realization of his potential opportunities, that is, to guarantee a sense of professional harmony between the students and the teacher.

Taking into account the peculiarities of the pedagogical activity of a university teacher and having analyzed the theoretical foundations of the pedagogical activity, in particular the types and styles of communication between a teacher and students, we believe that the key to the high quality of the educational process in a higher educational institution is the formation of a sense of professional unity among students and teachers. That is, there should be a certain unity between the teacher and the student, a common goal, equality in relations; the teacher should learn from students while teaching them. To improve the quality of the educational process, the student themselves must feel like active participants in the educational process [6].

Today, an important issue in the development of education is also the development of tools that would act as cross-sectional, integrating factors in the structuring of the education system in various types of professional activity. In our opinion, reflection can be such a tool in the pedagogical activity in higher education.

4.2. Reflection as the Basis of Students’ Professional Skills

The educational process in a higher education institution requires students’ reflection, i.e., searching, evaluating, and discussing their learning experiences with themselves. Learning occurs thanks to guided reflection, due to which different ways of solving tasks arise. A high level of development of reflection enables students to realize what they have already learned; evaluate their level of understanding of the educational material, make up a plan for the further implementation of this plan in practical life and labor activity; conduct a comparative analysis of their perception with the thoughts, feelings, views of peers and correct certain aspects if necessary. This must be done to realize their actions and predict further steps of educational activity.

For the process of reflection to be regularly used in the educational process of students the ability to reflect on needs should be purposefully formed. The teacher’s task is to help students develop a need for knowledge reflection and feedback, as well as the need to analyze their activities, the results of their activities, and the activities of other group members.

In educational activity, reflection is the process of student’s assimilation of educational material employing its comprehension, analysis, generalization, matching with their own experience and knowledge through intellectual abilities, erudition, and critical thinking. That is, a more erudite and intelligent student, or the one experienced in the subject being studied, is more able to reflect. This means that the level of assimilation of the material will
be higher, and it will increase their professional skills in the future. That is, reflection is the basis of a student’s professional skills.

Obstacles to the development of reflection are objective (lack of motivation, lack of self-interest, inadequate self-esteem, insufficient formation of the processes of analysis, evaluation, etc.) and subjective (self-doubt).

D. Nicol and D. Macfarlane-Dick point out that the main goal of reflection in learning activities is to help students develop as independent individuals able to control and regulate their learning. Students must self-assess and regulate their learning. Reflection helps students take responsibility for setting their learning goals and evaluating progress toward achieving these goals [10].

R. Alrubail notes that reflection is a powerful tool in educational activities, as it allows students to distinguish such components of learning as significance (allows students to see the importance of their learning process); recognition of the process (students can determine what they did well, what they failed to achieve, what needs to be changed); solutions/strategies (provides students with opportunities to decide on further strategies to improve the educational process); motivation (reflection gives students motivation to learn and enjoy the learning process); and analysis (the most important advantage of reflection is that students can find out why they should study concepts, theories, and presented material). The researcher notes that critical thinking comes from reflecting on knowledge, on “how” and “why” the student is learning it at the moment. R. Alrubail singles out four levels of reflection based on its development in the time interval during learning—a student before the learning, a student during the learning, a student after the learning, and a student moving forward [11] (Figure 3).

The following signs of developed reflection of students should be distinguished: understanding of the content, subject, purpose of educational activity, critical thinking, striving for self-knowledge and understanding of other subjects of educational activity, self-observation, self-control, self-regulation, ability to forecast future actions, set goals, ability to analyze their educational activity, etc.

**Figure 3.** Levels of reflection depending on its development over time during training [11].
According to Bloom’s observations, learning is a process of gaining experience through the application of reflection. Reflective experience is the creation of one’s own questions about the issue under study and active and conscious control over its understanding. Bloom also proposed the following classification of students’ reflection [12] (Figure 4).

![Figure 4. Bloom’s classification of students’ reflection.](image)

Reflection is an important component of the modern educational process, as well as a systemic factor of continuous education. Students should be familiar with the flow of information, able to supplement their knowledge independently and show a creative approach to solving educational tasks. Today, the most important problem in the development of education is the development of tools that are cross-sectional, integrating factors in the structuring of the education system in various types of professional activity. In our opinion, reflection can be such a tool in pedagogical activity in the field of higher education [13].

The development of the students’ thinking process must be studied from the standpoint of their theoretical thinking capabilities, a key component of which is the reflection that determines the student’s understanding of their actions and their compliance with the conditions of the assignment. The phenomenon of reflection presupposes that the subject directs cognition to himself, that is, the subject becomes an object of cognition for himself.

The leading idea of the educational process in higher educational institutions is to develop an intelligent personality capable of self-reflection through the systematic organization of educational activities. The student takes responsibility for learning, takes an active position, and the teacher takes the role of an expert or assistant. They understand the goals of training, the final results, and that the primary goal of this activity is awareness and a thorough, deep assimilation of information, with the possibility of applying it in the future, and not a plain memorization of the material. The educational activity of students is aimed at mastering professional knowledge and ways of working in the course of solving educational tasks, which involves such a component as reflection [1].
4.3. Professional Pedagogical Activity of a University Teacher as One of the Important Components of the Sustainable Development of Society

Education is an important component necessary for building a prosperous state. It is the teachers who must be professionals in their field and contribute as much as possible to the student’s formation of the necessary knowledge and skills that will allow them to raise worthy members of society. Therefore, to be a teacher, it is necessary not only to know your subject perfectly but also to have considerable knowledge and skills as a psychologist, diplomat, manager, etc., as well as to constantly work and improve your image of a “progressive teacher”.

The war, which has split the lives of Ukrainians into “before” and “after”, only proves the fact that a university teacher should be much closer to students. He should be interested not only in their educational process but also communicate and help psychologically, being close to them.

The awareness that the war in Ukraine erases entire villages and cities from the map of Ukraine, and destroys civil infrastructure, educational, cultural, and sports institutions only increases the depressed state of the young generation. As of 7 June 2022, according to the Office of the General Prosecutor of Ukraine, as a result of the war, 1958 educational institutions have been damaged due to the constant bombing and shelling of Ukrainian cities and villages. At the same time, 186 of these have been utterly destroyed. For example, all buildings of one of the best universities in Ukraine named after Karazin (Kharkiv) have been utterly destroyed. Every day, Kharkiv, the city where several dozen of the best universities and research institutes in Ukraine are located, suffers from the bombings. Students and teachers have died during the shelling of the civilian population [14]. The hope of returning to their home, to their educational institution is fading day by day.

Nevertheless, teachers should continue working, improving themselves and, for their students, be an example of courage and faith in a bright future. A teacher must be a leader, an inspirer, and a motivator, a person who is ready to depart from stereotypes and strive to be the first for others to follow.

In wartime, teachers face certain challenges, such as teaching in stressful situations, a decrease in students’ activity, students’ dissatisfaction with online learning, a lack of opportunity to study online and with constant access to the internet, the peculiarities of wartime forecasting, etc.

One of the tasks facing university teachers should also be to teach and communicate with students who have certain disabilities and do not have the opportunity to communicate with their peers and receive a comprehensive education at the university. This is especially relevant in the post-war period [15].

Currently, the educational process takes place remotely in online mode. The COVID-19 emergency initiated such a format of work for all universities across the world, and therefore, in the last two years, teachers have had the opportunity to prepare [16]. Thus, we agree with the opinion of the researchers who emphasize that students often view online communication as a comfortable and safe environment for self-expression and learning [17].

Recently, there have been a number of publications on the implementation of sustainable development policy in the development of study programs and increasing the attention of teachers to the practical implementation of a healthy lifestyle and improving the ecological state of the natural environment [18].

Moreover, in the era of intensive development of digital technologies, teachers should be able to develop new learning situations, relying on the growing supply of available digital resources, which will ensure a balance between economic growth, respect for the environment and social justice. It is important to understand one’s actions, have the necessary knowledge, and be ready and strive to act, that is, to have certain competencies. Thus, the researchers proposed several indicators that serve to characterize four dimensions of scientific competence: the content of science, the content about science, the value of science, and the usefulness of science in educational materials [19].
Lynda Dunlop and Elizabeth A. C. Rushton, investigating the issue of the influence of the state of the natural environment, ecology, and climate change on the emotional state of a person, prove that it is the teachers who must take responsibility and convey to students the correct information about the importance and necessity of sustainable development policy [20]. According to research, optimism and a good mood of a person are somewhat related to faith in a bright future. And according to experts’ estimates, 50% of people “lean towards sustainable development, but are disappointed”. For this category of people, a positive social and ecological future is, of course, of the highest value [21].

In their works, scientists prove that education for sustainable development can help achieve its goals, explain each goal of sustainable development, and emphasize the need to study them in the educational process [22,23]. Thus, education for sustainable development should not only equip students with the knowledge but also promote and develop the acquisition of sustainable development competencies to address the challenges of the 21st century at the social, environmental, and economic levels [24]. Therefore, in the teaching profession, it is important to competently explain and correctly interpret the essence of the processes taking place in society and the world.

To implement education for sustainable development, teaching approaches must focus on the elements related to the learning process rather than the accumulation of knowledge to develop in graduates the capacity for improvisation, adaptation, innovation, and creativity. That is why scientists justify the need to apply critical thinking, which in their opinion is an important element of education related to sustainability [25].

A necessary circumstance for the educational process of students, and in particular the study of the basics of sustainable development, is the use of reflective pedagogy in leadership training, which will clearly define the structure for directing student reflection to the development of individual skills and the use of collective reflection to encourage generative dialogue between students and teachers [26,27].

An important component of the educational process is the choice of the correct method of assessing students’ knowledge. We follow the researchers who believe that modern methods of student evaluation should be more democratic to turn the mainly institutional goals of evaluation into an educational experience that can develop students’ competence in evaluation [28–30].

4.4. The Potential of University Teachers in the Pre-War Period

As of 1 October 2021, 996 institutions were represented in the Register of Subjects of Educational Activity as “Institutions of Higher Education” of the Unified State Electronic Database on Education (EDEBO). Of these, 831 belong to the “Institution of Higher Education” category, and 165 to the “Research institutes (institutions)” category. The first category contains the following subgroups:

- universities, academies, institutes—450 institutions;
- colleges, technical schools, schools—493 institutions;
- separate subdivisions—140 institutions;
- other scientific institutions (organizations)—1 institution.

The regional distribution shows the concentration of the majority of higher education institutions in the city of Kyiv, as well as in the Dnipropetrovsk, Lviv, Odesa, and Kharkiv regions (Figure 5).

As already noted, this group consists of 450 higher education institutions. More than half of these are state institutions (257), more than a third are private (167), and 26 are communal. The regional distribution of this group of higher education institutions is similar to the distribution of higher education institutions in general: the city of Kyiv, Dnipropetrovsk, Lviv, Odesa, and Kharkiv regions are also the leaders. A more detailed analysis shows five cities that are distinct “university hubs”: Kyiv, Kharkiv, Lviv, Odesa, and Dnipro.
According to the EDEBO database as of 1 October 2021, there were 1,028,350 higher education students in Ukraine with the degrees of “Junior Bachelor”, “Bachelor”, “Specialist” and “Master”. Compared with 1 October 2020, this number decreased by 3.45% (by 36,793 people).

According to the EDEBO database as of 1 October 2021, the distribution of students by the level of higher education is as follows: 3631 persons obtained the “Junior Bachelor” degree, “Bachelor”—718,633 persons, “Specialist”—2750 persons, “Master”—303,336 people.

According to the State Statistics Service of Ukraine, at the beginning of the 2020/2021 academic year, the teaching staff of universities, academies, and institutes was 135,216 people, of which 111,065 were academic staff, 566 were researchers, and 23,585 were teaching staff. 77,380 university teachers (57.2% of their total number) have a scientific degree, in particular, 16,791 people (12.4%) have a Doctor of Science degree, 59,975 people have a candidate of science (comparable to the scientific degree of Doctor of Philosophy) (44.4%), and 614 persons have a Doctor of Philosophy degree—(0.5%) (Table 1).

Table 1. Number of higher education teachers with a scientific degree (as of the beginning of the 2020/2021 academic year).

| Scientific Degree    | Academic Staff | Researchers | Teaching Staff | Total   |
|----------------------|----------------|-------------|----------------|---------|
| PhD                  | 595            | 2           | 17             | 614     |
| Candidate of science | 56,949         | 267         | 2759           | 59,975  |
| Doctor of science    | 16,131         | 105         | 555            | 16,791  |
| Total                | 73,675         | 374         | 3331           | 77,380  |

Source: compiled based on data from the State Statistics Service of Ukraine.

Of the total number of university teachers, 55,295 (40.9% of total number) have an academic title, including the title of professor—12,870 (9.5%), associate professor—41,171 (30.4%), senior researcher—1254 (0.9%) (Table 2).
Table 2. The number of teachers of higher education institutions with academic titles (as of the beginning of the 2020/2021 academic year).

| Academic Title                  | Academic Staff | Researchers | Teaching Staff | Total   |
|---------------------------------|----------------|-------------|----------------|---------|
| Professor                       | 12,403         | 68          | 399            | 12,870  |
| Associate Professor             | 39,548         | 136         | 1487           | 41,171  |
| Senior researcher (senior research associate) | 1,159       | 36          | 59             | 1,254   |
| **Total**                       | **53,110**     | **240**     | **1,945**      | **55,295** |

Source: compiled based on data from the State Statistics Service of Ukraine.

The gender balance of domestic university staff is slightly shifted in favor of women, whose ratio is 60.4%. However, the situation also differs by individual categories of teachers: the largest number of women is among teaching staff (69.8%), somewhat less is among academic staff (58.4%) and the least is among researchers (51.9%).

However, with the beginning of the war, there were significant changes in the education system of Ukraine. This issue is discussed in the next section of the study.

4.5. Consequences of a Full-Scale War for Higher Education in Ukraine

In Ukraine, since the beginning of the war, 158 children have died, and 258 have been injured. These data are incomplete, as it is currently impossible to obtain accurate information from the occupied territories. The most children were affected in the Kyiv region—75, Donetsk—71, Kharkiv—56, Chernihiv—46, Mykolaiv—31, Luhansk—31, Zaporizhzhia—22, Kherson—29, Sumy—16, Zhytomyr—15.

The Ministry of Education and Science set up a special site with an interactive map of the destruction, but the extent of the damage is increasing faster than the moderators can update the information on the site. However, even these incomplete statistics show that the educational infrastructure of the Kharkiv region, which is at the epicenter of hostilities, suffered almost the most in Ukraine. At the same time, the destruction of universities, in particular, is a double blow to the education system and the scientific potential of the state, and therefore a double blow to the economy, which is extremely difficult to assess.

In total, since the beginning of the war, 2104 educational institutions have been bombed, 215 of them were completely destroyed. The worst situation is in Kharkiv—504 institutions, 452 of which were damaged and 52 utterly destroyed, Donetsk—481 institutions (400 damaged and 1 utterly destroyed), Kyiv—246 institutions (234 damaged and 12 utterly destroyed), Mykolaiv—190 institutions (174 damaged and 16 utterly destroyed), Luhansk—159 institutions (142 damaged and 17 utterly destroyed), and Chernihiv oblast—133 (121 damaged and 12 utterly destroyed). Educational institutions of the Volyn, Zakarpattia, Ivano-Frankivsk, Ternopil, Khmelnytskyi, and Chernivtsi regions were not damaged (Table 3) [31].

According to the latest UN data, there are almost five million Ukrainian refugees in Europe. More than half of them received temporary protection or a similar status in European countries. Tens of thousands of Ukrainians either have already arrived or received permission to stay in the USA and Canada.

More than a hundred days of the war in Ukraine have resulted in tens of thousands of deaths and injuries, destruction of infrastructure and buildings, and forced millions of Ukrainians to leave their homes in search of safety. According to UNICEF, 5.2 million children from Ukraine need humanitarian assistance, and 2.2 million of these are in countries that host Ukrainian refugees. According to the organization’s statistics, two out of three children in Ukraine have been displaced as a result of hostilities. It is children and women who make up the vast majority of Ukrainians seeking refuge from war abroad.
Table 3. Information on the destruction caused to Ukrainian educational institutions as a result of Russia’s attack on Ukraine.

| № | Regions | Kindergartens | Schools | Vocational Educational Institutions | Higher Educational Institutions | Institutions of Extracurricular Education | Total | Kindergartens | Schools | Vocational Educational Institutions | Higher Educational Institutions | Institutions of Extracurricular Education | Total | Total in the Region |
|---|---------|---------------|---------|-------------------------------------|---------------------------------|------------------------------------------|-------|---------------|---------|-------------------------------------|---------------------------------|------------------------------------------|-------|------------------|
| 1 | Kharkiv | 3             | 43      | 2                                   | 1                               | 3                                        | 52    | 173           | 185     | 55                                  | 19                              | 20                                        | 452   | 504              |
| 2 | Donetsk | -             | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                   | -                               | -                                        | -     | -                |
| 3 | Kyiv    | 6             | 4       | 2                                   | -                               | -                                        | 12    | 82            | 134     | 14                                  | 0                               | 4                                        | 234   | 246              |
| 4 | Mykolaiv| 8             | 8       | -                                   | -                               | -                                        | 16    | 59            | 91      | 17                                  | 3                               | 4                                        | 174   | 190              |
| 5 | Luhansk | 4             | 6       | 6                                   | -                               | 1                                        | 17    | 46            | 73      | 16                                  | 2                               | 5                                        | 142   | 159              |
| 6 | Chernihiv| 5             | 6       | 1                                   | -                               | -                                        | 12    | 46            | 60      | 11                                  | 3                               | 1                                        | 121   | 133              |
| 7 | Zaporizhzhia | 24            | 45      | 9                                   | 4                               | 1                                        | 83    | 1             | 4       | 3                                  | -                               | 3                                        | -     | 11               |
| 8 | Kherson | 4             | 7       | 1                                   | -                               | -                                        | 12    | 20            | 38      | 8                                  | 1                               | 3                                        | 70    | 82               |
| 9 | Zhytomyr| -             | 1       | -                                   | -                               | -                                        | 1     | 24            | 38      | 9                                  | 2                               | 3                                        | 76    | 77               |
| 10| Sumy    | 1             | -       | -                                   | -                               | -                                        | 1     | 17            | 11      | 1                                  | 5                               | 4                                        | 45    | 46               |
| 11| Dnipropetrovsk | -          | -       | -                                   | -                               | -                                        | 7     | 12            | 8       | -                                  | -                               | -                                        | 28    | 28               |
| 12| Vinnytsa| -             | -       | -                                   | -                               | -                                        | 8     | 4             | 4       | 1                                  | -                               | -                                        | 17    | 17               |
| 13| Odesa   | -             | -       | -                                   | -                               | -                                        | 2     | 7             | 2       | -                                  | -                               | 3                                        | 14    | 14               |
| 14| Cherkasy| -             | -       | -                                   | -                               | -                                        | 6     | 5             | 3       | -                                  | -                               | -                                        | 14    | 14               |
| 15| Poltava | -             | -       | -                                   | -                               | -                                        | 4     | 2             | 4       | -                                  | -                               | -                                        | 10    | 10               |
| 16| Kirovograd | -           | -       | -                                   | -                               | -                                        | 2     | 2             | 1       | -                                  | -                               | -                                        | 5     | 5                |
| 17| Rivne   | -             | -       | -                                   | -                               | -                                        | -     | -             | 2       | -                                  | -                               | -                                        | 2     | 2                |
| 18| Lviv    | -             | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | 1                               | 1                                        | -     | -                |
| 19| Velyiv  | -             | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 20| Zakarpattia | -         | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 21| Ivanovo | -             | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 22| Frankivsk | -           | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 23| Ternopol| -             | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 24| Khmelnytskyi | 1          | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 25| Chernivtsi | -          | -       | -                                   | -                               | -                                        | -     | -             | -       | -                                  | -                               | -                                        | 0     | 0                |
| 26| Total in Ukraine | 56 | 120 | 21 | 5 | 6 | 207 | 700 | 895 | 210 | 42 | 48 | 1896 | 2104 |

According to the statistics of the Office of the United Nations High Commissioner for Refugees, as of June, there are about 4.9 million refugees from Ukraine in 44 European countries. Of these, 3.2 million Ukrainians received temporary protection or similar status in refugee-hosting countries.

According to UN statistics, the majority of Ukrainian refugees are in neighboring Poland. Statistics for all neighboring countries are as follows [31]:

- Poland—1 million 152,000;
- Russia—1 million 116,000 (UNHCR includes data officially submitted by the Russian Federation and cannot verify reports of forced deportations, the UN General Assembly explained);
- Moldova—86,000;
Romania—82,000 (34,000—under the temporary protection program);
Slovakia—77,000;
Hungary—24,000;
Belarus—8000.

In the case of Poland, Slovakia, and Hungary, the statistics reflect the number of Ukrainians who received the national equivalent of special protected status in these countries. There are no statistics on the number of Ukrainians under temporary protection programs in Russia, Moldova, and Belarus. Among all European countries, Germany is the third largest host country for Ukrainian refugees, where 780,000 Ukrainians are hiding from the war, almost 566,000 of whom have received a special protected status. Other large European countries receiving Ukrainian refugees are the Czech Republic, Italy, and Spain.

4.6. Survey Results

The questions of the questionnaire were constructed in such a way that only the profession of the respondents was important since the purpose of the study is the university teachers’ potential in the pre- and post-war periods, their attitude to the war, the possibility of carrying out their professional activities under the conditions of the war, their views on the post-war period, etc.

To the question “Your location after the start of the war on 24 February 2022.” the respondents gave the following answers: 62% of respondents remained at their primary places of residence, 32% left for other regions and received the status of internally displaced persons, 6% left abroad. Persons who traveled abroad (21 persons or 6% of all respondents) were asked an additional question “In which country are you currently located? This was an open question, the respondents indicated mainly European Union countries, Great Britain, and Canada. Another question asked to persons who went abroad was “What do you do abroad?”. Of the respondents, 52% answered, “I work online at the main place of work in Ukraine”, 27% are undergoing internships at foreign universities or have found a part-time job there, and the remaining 21% chose the option “Other”.

The main questions, answer options, and survey results both in quantitative and percentage form are presented in Table 4.

Table 4. The main questions and teachers’ answers to the survey.

| № | Question                                                                 | Answer Options                                                                 | Results   |
|---|--------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------|
|   |                                                                          |                                                                               | Quantity  | %          |
| 1 | Your location after the start of the war on 24 February 2022             | stayed at their primary place of residence                                   | 217       | 62         |
|   |                                                                          | moved to other regions and received the status of internally displaced persons| 112       | 32         |
|   |                                                                          | Moved abroad                                                                  | 21        | 6          |
| 2 | What country are you currently in?                                       | your answer:                                                                  | EU countries, Great Britain and Canada |
|   |                                                                          | I am working online at my primary place of employment in Ukraine              | 11        | 52         |
|   |                                                                          | I am undergoing internships at foreign universities or am employed part-time  | 6         | 27         |
|   |                                                                          | in them                                                                       | 4         | 21         |
| 3 | What are you doing abroad?                                               |                                                                               |           |            |
| 4 | Do you feel safe?                                                        | yes                                                                           | 59        | 17         |
|   |                                                                          | no                                                                             | 291       | 83         |
Table 4. Cont.

| № | Question                                                                 | Answer Options                                                                 | Results                                                                 |
|---|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 5 | Can you perform your professional duties at a pre-war level?              | yes                                                                            | 77 22                                                                  |
|   |                                                                          | no                                                                             | 273 78                                                                 |
| 6 | How do you engage in war?                                                | service in the Armed Forces of Ukraine volunteering                          | 18 5                                                                   |
|   |                                                                          | direct assistance to the community of your university                         | 45 13                                                                  |
|   |                                                                          | I don’t help in any way                                                       | 73 21                                                                  |
|   |                                                                          | other                                                                          | 148 42                                                                 |
| 7 | Do you think it is possible to fully implement the study programs of your academic courses and the planned scientific workload in the current situation? | yes                                                                            | 84 24                                                                  |
| 8 | What problems prevent you from fulfilling your professional duties to the fullest extent? | Other answers: Being detached from the access to the material and technical base of universities, communication problems between teachers and students due to the lack of communication and the Internet |
| 9 | Did the war affect your professional activity in terms of objectivity in assessing student performance? | yes, when assessing the success of students during the military operations, along with objective evaluation criteria, there were subjective evaluation criteria—compassion, leniency, etc., which were caused by a difficult life situation under wartime conditions | 287 82                                                                 |
|   |                                                                          | no, when assessing the success of students during the period of military operations, I objectively evaluate the knowledge and skills of students | 63 18                                                                  |
| 10| Were you interested in the position of the students regarding Ukraine’s relations with the Russian Federation before the war? | yes                                                                            | 42 12                                                                  |
|   |                                                                          | no                                                                             | 308 88                                                                 |
| 11| Are you interested in the position of students regarding Ukraine’s relations with the Russian Federation after the start of the war? | yes                                                                            | 266 76                                                                 |
|   |                                                                          | no                                                                             | 84 24                                                                  |
| 12| Please list what, in your opinion, are the main threats of the war to higher education in Ukraine | your answer: reduction of academic staff due to underfunding of universities; destruction and damage to the material and technical base; loss of students and entrants due to young people’s departure abroad, etc |
Table 4. Cont.

| № | Question                                                                 | Answer Options                                                                 | Results                                                                 |
|---|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 13 | In your opinion, the main threats of the war to higher education in Ukraine are: | reduction of academic staff due to underfunding of universities, the destruction and damage of the material and technical base, loss of students and entrants due to the departure of young people abroad, other reasons | Quantity | % |
|    |                                                                          | 200 | 57 |
|    |                                                                          | 77  | 22 |
|    |                                                                          | 42  | 12 |
|    |                                                                          | 31  | 9  |
| 14 | In your opinion, the key factors in the development of teachers’ potential in the post-war period may be | other answers | raising morale and patriotism; investment in education; international cooperation; rethinking educational policy |

The next block of questions related to adaptation to new conditions because of the displacement caused by the war. Thus, from this sample to the question “Do you feel safe?” only 17% answered “Yes”. Other teachers, 83%, answered “No”, that is, even in the regions of Ukraine where active hostilities are not taking place, they feel in danger and, according to their estimates, are unable to concentrate on the performance of their professional duties at the pre-war level.

To the question “Can you perform your professional duties at the pre-war level?” only 22% answered “Yes”, and the rest 78% answered “No”. Another question regarding the new teaching conditions that have occurred “Do you think it is possible to fully implement the teaching programs of your academic courses and the planned scientific workload in the current situation?” received the following answers: 76% answered “No”, 24% answered “Yes”. That is, the absolute majority of teachers consider it impossible to fully implement the study programs of their academic courses and the planned scientific workload under the conditions caused by the war.

Next, the respondents were asked to answer the open question “What problems prevent you from fulfilling your professional duties in full?”. The respondents cited the following problems: detachment from the material and technical base of universities, communication problems between teachers and students due to the lack of communication opportunities and the internet, etc.

Investigating the personal potential of teachers, in particular its psychological component, the question “How do you engage in war?” was asked. The answer option “service in the Armed Forces of Ukraine” was chosen by 5% of respondents, “volunteering”—13%, “direct help to the community of the university”—21%, “I do not help at all”—19%, “other”—42%. Thus, as a result of the survey, it was established that at least 39% of respondents have an active position (service in the Armed Forces of Ukraine, volunteering, and direct assistance to the community of their university).

The next question was “Did the war affect your professional activity in terms of objectivity in assessing student performance?” to which the vast majority of 82% of the surveyed teachers answered “Yes, when assessing the success of students during the military operations, along with objective evaluation criteria, there were subjective evaluation criteria—compassion, leniency, etc., which were caused by a difficult life situation under wartime conditions”, and only 18% remained objective and chose the answer “No, when assessing the success of students during military operations, I objectively evaluate the knowledge and skills of students”.

Another question regarding the interaction of teachers with students was the following: “Were you interested in the position of the students regarding Ukraine’s relations with the Russian Federation before the war?”. Of the respondents, 12% answered “Yes” and 88% answered “No”. To compare the relationship between teachers and students in the pre- and
post-war periods, the following question was asked: “Are you interested in the position of students regarding Ukraine’s relations with the Russian Federation after the start of the war?” Of the respondents, 76% answered “Yes”, and 24% answered “No”. That is, an increase in the level of teachers’ interest in the position of students regarding Ukraine’s relations with the Russian Federation has been established. If before the war in 2022, 12% of the surveyed teachers were interested in the students’ position, then after the full-scale invasion, the number was 76%.

To establish the threats of the consequences of the war in the field of higher education in Ukraine, respondents were first asked to answer the open question “Please list what, in your opinion, are the main threats of the war to higher education in Ukraine”. The interviewees gave their answers, the processing of allowed for the most common ones to be formulated as follows: reduction of academic staff due to underfunding of universities; destruction and damage to the material and technical base; loss of students and entrants due to young people’s departure abroad, etc. The next stage was to vote for the most common answers to the following question: “In your opinion, the key factors in the development of teachers’ potential in the post-war period may be”. Of the respondents, 57% voted for the option of “Reduction of academic staff due to underfunding of universities”, for the option of “Destruction and damage to the material and technical base”—22%, for the option of “Loss of students and entrants due to the departure of young people abroad”—12%, “Other reasons” was chosen by 9% of respondents. The last question “In your opinion, the key factors in the development of teachers’ potential in the post-war period may be” had an open answer. According to the answers of the respondents, we can state that the key factors in the development of the potential of teachers in the post-war period are as follows: raising morale and patriotism; investment in education; international cooperation; rethinking educational policy.

5. Conclusions

As a result of the survey, in which 350 Ukrainian teachers took part, the following results were obtained. More than half of them stayed at their primary place of residence, a third left for other regions and received the status of internally displaced persons, and only 6% left abroad. As a result of adaptation to new conditions due to the war, only 17% of the surveyed feel safe. Other teachers, even in the regions of Ukraine where active hostilities are not taking place, feel in danger and, according to their estimates, are unable to concentrate on the performance of their professional duties at the pre-war level. Studying the personal potential of teachers, in particular its psychological component, the issue of their participation in the war was considered. As a result of the survey, 39% either serve in the Armed Forces of Ukraine or are engaged in volunteering and direct assistance to the community of their university.

In the survey, it was found that the main threats of the war to the higher education of Ukraine, according to the respondents, are the reduction of academic staff due to underfunding of universities—57%; destruction and damage to the material and technical base—22%; loss of students and entrants due to departure of young people abroad—12%; other reasons—9%.

Furthermore, according to the answers of the respondents, the key factors in the development of the teachers’ potential in the post-war period will be as follows: raising morale and patriotism; investment in education; international cooperation; rethinking educational policy.

Having analyzed the problems of higher education in the pre-war period, and assessing the consequences of the war, which is still ongoing, a new image of a “progressive university teacher” was proposed. Such a teacher only knows his subject perfectly but also has considerable knowledge and skills as a psychologist, diplomat, manager, etc., as well as constantly works and improves his professional and personal potential. Moreover, based on the renewal of the university teachers’ potential, the training of highly qualified specialists with a high level of moral qualities will be carried out among the university
graduates, who will be in demand in the labor market. This will contribute to the needs of the country’s recovery and ensure the sustainable development of society in the post-war period. This research can complement and enhance the theoretical discussion and practical experience on sustainable development through higher education.

Renewal of the university teachers’ potential in the post-war period will allow the improvement of the educational process in higher educational institutions to significantly increase the level of professional training of students and ensure the sustainable development of society. Such renewal of the university teachers’ potential in terms of sustainable development in the post-war period will ensure a balance between economic growth, respect for the environment, and social justice.

Author Contributions: Data curation, A.S.; formal analysis, X.M.; methodology, I.G.; writing—original draft, R.G., A.R. and O.T.; writing—review & editing, I.K. All authors have read and agreed to the published version of the manuscript.

Funding: Supported by General Project of Philosophy and Social Science Planning of Zhejiang Province (20NDQN287YB); Supported by the Fundamental Research Funds for the Provincial Universities of Zhejiang (GK209907299001-224); Supported by Hangzhou Dianzi University ITMO Joint Institute (SGJ2021JG011).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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