Distance Learning in Higher Education Institutions in Conditions of Quarantine and Military Conflicts

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Abstract

Application of distance learning in Ukraine, the European Union (Poland), African countries, Australia, Asia, America, island countries in quarantine. Analysis of the legal and regulatory framework for the introduction of distance learning in higher education institutions in Ukraine. Application of Microsoft Office, e-learning, cloud technologies, online services in distance learning in quarantine caused by Covid-19.Author's online survey through computer networks and Google Forms of higher education students and its analysis. Online survey of research and teaching staff of the State Service for Educational Quality of Ukraine and its analysis. Opportunities for distance learning in conditions of military conflicts.

Keywords:
distance learning, Ukraine, Poland, onlinesurveys, computernetworks, quarantine, armedconflict.

1. Introduction

Distance education has a thorough history of scientists, which has been conducted since the end of the twentieth century. Researchers Zane L. Berge & Susan Mrozowski reviewed the research literature on distance education for the ten years from 1990 to 1999, analyzed four outstanding, peer-reviewed, English-language distance education journals and abstracts of dissertations on distance education (1419 articles and abstracts were found). This thorough analysis of the works showed that there will be a need to see the future in the field of distance education [1].
Bates, A.W. (2005) published a handbook on the use of technology in flexible and distance learning, weighing the advantages and disadvantages of different media. In the manual "Technology, e-learning and Distance Education" information is grouped around the following important issues:
1) studies the criteria and recommendations for designing and ensuring effective learning using modern learning technologies;
2) focuses on the use of the Internet for distance and flexible learning;
3) considers the development and use of new technologies, such as web video conferencing and speech recognition;
4) focuses on organizational and managerial issues, as well as how they affect the effective use of technology;
5) focuses on integrating online teaching with face-to-face learning on campus. In fact, studies on the integration of technology with learning are presented [2].
Shinenko M.A, Soroko N.V. (2012) in the article "The use of cloud technologies for professional development of teachers (foreign experience)" describes modern approaches to the use of cloud technologies as online services for professional development of teachers.
Nowadays, these technologies are becoming increasingly important in the professional activities of teachers of general secondary education (hereinafter –GSE). This is explained, first of all, by new opportunities for the presentation of dynamic and relevant, based on Internet technologies, electronic applications for education and training

opportunities for students, including higher education, using distance learning.

Microsoft Office 365 cloud technologies are a free solution for organizing e-mail, interacting, and collaborating with learners. The following tasks are solved:

– organization of e-mail in the domain of the educational institution, available in any browser, mobile phone, or e-mail client using Exchange, Imap, POP3 standards;

– organization of an online schedule of lessons, which is available directly from the mail;

– organization of personal and shared file storage;

– creating space for joint work, etc.

Microsoft offers opportunities to integrate its cloud technologies into higher education institutions and GSE. It is based on the interaction of teachers and students with the use of basic services in the cloud, namely, e-mail systems, calendars and contacts Outlook Line; SkyDrive web applications and archives; Lync Online instant messaging systems; mini-sites for organizing collaboration, etc.

At the same time, the functionality of cloud technologies significantly expands the options for creating distance learning courses (for example, using Google Groups), analytics systems (for example, using Google Analytics), monitoring the quality of education (for example, using Google Doc), etc. some Internet services)[3].

Mishchenko O., Smyrnova T., Tkachenko T., Potamoshnieva O., Yuzyk O., Berezhnyi Yu. determined the essence, structure and features of the methodological competence of the teacher and identified the factors, content and functional characteristics of educational structures as structural components of education. The characteristic of the concept and didactic potential and efficiency of network communities in the formation and development of methodological competence of the future teacher in the process are valuable and the deployment of structures in the process of mastering the activity is substantiated [4].

If we take into account the solution to the problem of distance learning in different countries around the world caused by the Covid-19 virus, it should be noted that as of early April 2020, literally less than a month (Poland declared an epidemic on March 13, 2020) since the introduction of distance learning in all educational institutions in the country, a group of scientists consisting of Tomash Bilicki, Marek Kachmarzyk, Marlena Plebanska, Anna Koludo, Natalia Walter, Danuta Sterna and others, edited by Jacek Pugalski, have published a textbook "Education in times of the COVID-19 pandemic. With the distance of what we promise to be very learned" concerning the specifics of training, education and the provision of psychological support to students in a pandemic caused by the Covid-19 virus.

Lukash Tomchyk's article "What can I learn from those who have been teaching this education since time immemorial?" in which the author recommends to study and take the experience of organizing distance learning from countries (African countries, Australia, Asia, Latin America, island countries), which have previously faced the described problems for many years. Many projects, for example in Egypt, Algeria, Bahrain, Israel and other MENA countries, are funded by private enterprises in line with the idea of corporate social responsibility, or there are ministerial projects that are carried out centrally. Most e-learning platforms are only a supplement to desktop education, to a lesser extent they are a solution for people struggling with physical limitations. The African experience allows us to note several important patterns. First of all, distance education is not only a tool for social and educational inclusion, but also an attractive and profitable service. E-learning, which is practiced in Africa, also notes that distance learning serves a somewhat vague goal, which means, first, increasing the value of human capital and, consequently, accelerating economic development. In 2017 alone, the distance education market in Africa was valued at $ 530 million. Among the remote platforms on the continent are: OkpaBac (an application that is configured to prepare for exams for certificates), Samaskull (Senegalese analogue of Coursera), Eneza (virtual teacher assesses progress in student learning; online dating with real teacher), Moringa School (programming study), Obami (school information sharing), Ubongo (learning through entertainment for the youngest users), Tutor.ng (association of students and teachers from around the world), Sterio .me (a platform that supports school education – providing students with materials using mobile communications)[5]. Each of these technologies helps the student by supplementing or replacing school education. These platforms are used for students who do not have physical access to schools, as well as those wishing

to improve their knowledge, prepare for state exams or master narrow specialties (key competencies such as knowledge of digital tools, language skills, group collaboration) [5, p. 93-98].

After a detailed study of Broadley T. (2007), Lukash Tomchyk concluded, however, that the use of digital media education is not new to many Australian pediatric hospitals. For example, from the experience of the Royal Children's Hospital in Melbourne, where new technologies are used in a variety of ways, adapted to the age of students and the stage of development of their disease. Distance education, due to the state of health of young patients, not only provides them with access to educational content, but also in the vast majority of cases contributes to their socialization. It should be added that in these conditions to support e-learning is used from simple devices that young patients have access to in the hospital, using smartphones and tablets (Nisselle et al., 2012).

In turn, a study by another Australian team of 10-14 year olds with health problems that hampered school education found that the use of e-learning reduced the perception of data on physical disability, leading to better learning outcomes. Speaking about the experience of researchers in the field of e-learning around the world, it is worth emphasizing the aspect of the problems faced by distance learning authorities. The characteristic constraints described below are intended for long-term actions carried out gradually, without time pressure (in contrast to the currently known situation of intensive inclusion of distance education in the epidemiological situation) [5, p.96].

And this is only a partial analysis of research in the field of distance learning, which is based on cloud technologies, e-learning, online services, etc.

However, there are no studies that would analyze online surveys of applicants and research and teaching staff of higher education institutions of Ukraine in order to identify possible problems of introduction and implementation of distance learning in higher education institutions of Ukraine in quarantine caused by Covid-19 and in connection with martial law in the state. There is also no scientifically analyzed relevance of online resources that are relevant to distance learning.

2. Methodology

The purpose of this study is to analyze the legislative and regulatory framework of higher education, which is aimed at providing distance learning in Ukraine. To analyze the regulatory framework in Ukraine, which relates to the activities of higher education institutions, including postgraduate education, which provides distance learning during quarantine and martial law. Uncover online resources, software, systems, hardware of higher education institutions. Show the basic forms and methods of learning in distance education. Prove that the organization of distance learning in Ukraine since 2020, caused by Covid-19, was a solid foundation for the organization of distance learning in martial law.

To achieve the goals and solve certain research problems, we used general and specific methods: generalization and abstraction; deduction and induction – to pose a problem; analysis of scientific sources and publications – for the analysis of literature and research related to distance learning in higher education institutions in Ukraine and in the European Union (Poland), African countries, Australia, Asia, Latin America, island countries; analysis of the author's method of online survey according to the author's method of surveying applicants (685 people) for readiness for distance learning in quarantine and emergencies (martial law), created in Google Forms; analysis of an online survey of research and teaching staff of higher education institutions of Ukraine (6024 people); abstract-logical – for theoretical generalization and conclusions on the results of the study.

3. Research Results

In Ukraine, since 2013, the Regulation on Distance Learning (Order of the Ministry of Education and Science №466 of 25.04.2013) "On approval of the Regulation on distance learning" [6]. According to the regulations, distance learning means individualized process of acquiring knowledge, skills, abilities and ways of human cognitive activity, which occurs mainly through indirect interaction of distant participants in the learning process in a specialized environment that operates on the basis of modern psychological and pedagogical and information and communication technologies (Section I. General Provisions). The provision applies to higher

education institutions and postgraduate education institutions as well.

The purpose of distance learning is to provide educational services through the use of modern information and communication technologies at certain educational or educational and qualification levels in accordance with state educational standards; according to the programs of preparation of citizens for admission to educational institutions, training of foreigners and advanced training of employees.

Section II "Implementation of distance learning" defines the conditions for the implementation of distance learning:

– for any reason (health status, living outside pedestrian access to educational institutions, emergencies of natural or man-made nature, military conflict, living (staying) abroad (for citizens of Ukraine), in the temporarily occupied territory of Ukraine or in settlements on the territory of which public authorities temporarily do not exercise or do not fully exercise their powers, etc.) may not attend classes in educational institutions;

– according to the results of the last annual assessment of academic achievements, mastered the program material of the relevant class at a high level (10, 11, 12 points).

In this article we will consider the provision of distance learning in higher education in quarantine and military conflicts.

In particular, in Ukraine, based on the need to use distance learning technologies in the conditions introduced by the Cabinet of Ministers of Ukraine on March 11, 2020 № 211 "On prevention of the spread of acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2" distance learning in higher education institutions was introduced on March 11, 2020 [7].

Section V "Ensuring of distance learning" of the provisions on distance learning stipulates that pedagogical, scientific and pedagogical workers and methodologists of educational institutions where distance learning is organized, should improve their skills in organizing and mastering distance learning technologies (at least once every 5 years and a volume of at least 108 academic hours). The qualifications of employees who have improved their skills must be confirmed by a document on advanced training in the field of distance learning.

Distance learning system support includes: hardware (personal computers, network equipment, uninterruptible power supplies, servers, video conferencing equipment, etc.) that provide development and use of web resources for educational purposes, management of the educational process and the necessary types educational interaction between the subjects of distance learning in synchronous and asynchronous modes; information and communication support with bandwidth of channels, which provides all subjects of distance learning of the educational institution with round-the-clock access to web resources and web services for the implementation of the educational process in synchronous and asynchronous modes; general and special purpose software (including for people with special needs), which must be licensed or built on open source software products; web resources of academic disciplines (programs) required for distance learning may include:

– methodical recommendations on their use, sequence of tasks, features of control, etc .;

– documents of planning the educational process (curricula, curricula, class schedules);

– video and audio recordings of lectures, seminars, etc .;

– multimedia lecture materials;

– terminological dictionaries;

–practical tasks with methodological recommendations for their implementation;

–virtual laboratory works with methodical recommendations for their implementation;

–virtual simulators with guidelines for their use;

–packages of test tasks for control activities, testing with automated verification of results, testing with verification by the teacher;

– business games with methodical recommendations on their use;

– electronic libraries or links to them;

– bibliographies;

– distance course, which combines the above web resources of the discipline (program) in a single pedagogical scenario;

– other educational resources.

The list of web resources of academic disciplines (programs) required for distance learning is determined by the educational institution depending on the profile of the academic discipline.

To provide distance learning for students, pupils, students, listeners, the educational institution may create its own web resources or use other web

resources that are subject to verification in this educational institution.

During the presentation on "Partnership strategy for distance learning in Ukraine and the Republic of Poland during the Covid-19 pandemic" at the II International scientific-practical-Internet conference "Ukraine-Poland: strategic partnership in geopolitical coordinates", which took place in Kyiv, May 14-15, scientists O.Yuzyk. G.Bilanych and M.Yuzyk noted the following "the essence of success of distance education is three basic elements": 1) technical capabilities both from the teacher and the student, ie equipment, good access to the Internet, software for remote control of education; 2) educational resources; 3) teacher's skills in the field of distance education organization. A key subject of e-learning is still the teacher who actually becomes the designer of the learning process. Getting out of the mode of submission and acceptance of the guide around the world of information from which to build knowledge – this is his current task, forced by the situation. The choice of content, the way they are presented, the methods of introduction, the pace of work, the creation of space for the creativity of students and the presentation of this creativity in joint projects depends on the involvement of students, unleashing their creativity and creating a positive "student" and fashion for learning[8].

In 2020, when quarantine was announced in Ukraine in connection with Covid-19, the State Education Quality Service (hereinafter SEQS) conducted a survey on distance learning in quarantined higher education institutions. An informational and analytical report on the results of the survey on the state of use of distance learning technologies in higher education institutions of Ukraine has been published on the website of the SEQS. A total of 6,024 research and teaching staff took part in the survey.

An extremely important indicator is the level of satisfaction of participants in the educational process with the technologies used in higher education institutions in the conditions of distance work. The results obtained in the study indicate that the majority of respondents, both students and researchers, are satisfied with the introduction of distance learning technologies in higher education institutions. In particular, 70% of student respondents and 91% of research and teaching staff, respectively, expressed their full and partial satisfaction with such forms of education. Only a small proportion of students (19.2%) and research and teaching staff (8%) expressed their dissatisfaction. This means that such technologies help to increase the level of cognitive activity of students and achieve certain results in theoretical, practical skills and forms of final control - this is the right step that helps in training future professionals [9].

Analyzing the results of respondents' assessment of the goals and implementation of distance learning technologies by institutions, we can say that only 45% of higher education institutions in Ukraine consider distance learning technologies and information technologies in general as an integral or priority component of development. This indicates the unpreparedness of both individual institutions and the higher education system as a whole to accept change, the lack of tools to adapt to modern rates of development of education and science. Almost half of Ukraine's higher education institutions work and teach students in the usual ways: textbook, board, teacher. Under such conditions, the issue of providing a truly quality educational service becomes rhetorical [9, p.6].

Analysis of the share of respondents using distance learning technologies to provide feedback (transmission / receipt of information) showed that the main tools of distance learning are asynchronous learning tools - messengers (noted more than 2/3 of both applicants and teachers), e-mail (every second respondent of both categories) and electronic cabinets on the websites of institutions (every fifth respondent both from among students and from among research and teaching staff). At the same time, more than half of the respondents in both categories indicated the use of synchronous learning tools – virtual educational environments. However, in contrast to the assessment of the use of asynchronous feedback tools, for which the position of both categories of respondents does not differ significantly, in the case of the use of synchronous learning tools, teachers and students did not reach a consensus. Only slightly more than half of the surveyed applicants for higher education (56%) testified to their use of synchronous learning tools, while teachers believe that the level of their use is much higher (about 70%). This clearly confirms the lack of systematic information of higher education students about the timing of activities using synchronous learning tools and the relatively small proportion of participants

from students in each individual synchronous event [9, p.9].

We have compiled an author's method of online survey of graduates of higher education institutions who are teachers of general secondary education.

Here is an example of organizing anon line survey of students (teacher sinvario us specialties) on the example of the Rivne Regional Institute of Postgraduate Pedagogical Education (Rivne, Ukraine).

The computer network is global, the transport protocols to the network are TCP/IP. According to the right of access to the resources of our institute, we distinguish the following types of computer networks:

1) students use personal networks;

2) the institution of higher education (institute) uses computer networks of general use for work and training of applicants for higher education.

Microsoft Office 365 cloud technology was used to develop the online questionnaire - a free solution for organizing e-mail, interaction and collaboration of participants.

Responses for refresher students were open on Google Forms from April 2, 2020 to February 16, 2021 at https://docs.google.com/forms/d/1xoy97JbOogOMlcLtpL40f9DKIg0BOTdHgnfPeown1rk/edit#responses

The purpose of the questions is to study the readiness of teachers for distance learning in quarantine and emergency situations. The total number of respondents is 685 people. The number of people who answered – 366.

Analysis of questionnaires

1. Choose the position for which you work in a general secondary education institution.62.3% (228 people) – a teacher of other disciplines; 30.3% (111 people) – computer science teacher; teacher's assistant – 0.8% (3 people); director of a general secondary education institution – 2.5% (9 people); deputy director for academic affairs in school – 1.4% (5 people); deputy director for educational work in school 0.8% (3 persons); deputy director for educational work in school –1.4% (5 people).

2. Please indicate your age. The answers showed the age range of the persons who took part in the survey: the youngest participant was 21 years old, the oldest participant was 74 years old.

3. Age of students you teach: 15.3% (56 people) – 6-9 years; 54.4% (144 people) –9-14 years; 30.3% (111 people) – 14-16 years.

4. Are you free to own programs that allow you to conduct video lessons and video tutorials, online meetings and conferences remotely? 63.9% (234 people) – yes; 36.1% (132 people) – no.

5. What online services from the following would you like to learn how to use:

57.9% (212 people) chose – interactive platforms for distance learning; 42.1% (154 people) chose the answer "online platforms for video conferencing and webinars, online meetings and conferences".

6. What forms of learning to learn opportunities and skills to work with online platforms and programs for the use of distance learning students are you ready?

34.4% (126 people) are ready to study independently

39.9% (146 people) – online learning

11.7% (43 people) –individual training (teacher-student)

9% (33 people) – classroom training

3.8% (14 people) are not ready to learn new technologies in distance learning.

Listeners could write their own answer. 4 people wrote the following:

1 person – not ready to learn new distance learning technologies;

1 person – I try to keep up with the times, I adapt to the needs of today;

1 person – ready for all forms, but we have a bad Internet in the village;

1 person – to any.

The results of the survey of research and teaching staff from the State Service for Quality of Education of Ukraine were taken into account when planning the educational process in higher education institutions and the system of postgraduate education of Ukraine for 2020-2021 academic year and 2022-2023, and the results of our survey based on Rivne Regional Institute of Postgraduate Education contributed to the introduction of 2020-2022 academic year new courses. Also at the national level, the site "Action. Digital education" (https://osvita.diia.gov.ua/courses) added educational series for teachers on "Interactive learning: tools and technologies for interesting lessons" (https://osvita.diia.gov.ua/courses/interactive-learning), "Quarantine: online services for teachers" (https://osvita.diia.gov.ua/courses/online-services-for-teachers) and "Digital skills for teachers" (https:

//osvita.diia .gov.ua / courses / serial-iz-tsyfrovoi-hramotnosti-dlia-vchyteliv). Such purposeful activity of higher education institutions was, as it turns out, propaedeutic, and is effective in the current martial law in Ukraine.

On February 24, 2022, Ukraine has a current Decree of the President of Ukraine №64 / 2022 "On the imposition of martial law in Ukraine" in connection with the military aggression of the Russian Federation against Ukraine, based on the proposal of the National Security and Defense Council of Ukraine of the first article 106 of the Constitution of Ukraine, the Law of Ukraine "On the legal regime of martial law" introduced for a period of 30 days [10].

In Ukraine, a war that takes place between coalitions of states, states or conflicting parties of one state; the presence of bilateral use of military force and weapons; political, economic, ideological, social and other motives; formal act of its announcement; severance of diplomatic relations and annulment of bilateral agreements between the warring parties; introduction of a special legal regime; qualitative change in the state of society "[11].

According to Pilipenko J., "war" is expressed as a single, because it has different, attractive only to her signs of military and armed conflict. That is, in its socio-political and strategic content, any war is a military conflict, but not every conflict is a war [the same].

According to the Regulations on the Organization of Distance Learning, one of the conditions for the introduction of distance learning is military conflict. Although we believe that the situation can clearly state the reason – the war. This would simplify the understanding of the purpose of distance learning.

During the war, higher education institutions continue distance learning using cloud technologies and online educational platforms. Senior teachers (grades 5-11) have the opportunity to use the online platform for distance and blended learning "Ukrainian School Online" (hereinafter –USO), which was developed by the Ministry of Education and Science of Ukraine in conjunction with the Ukrainian Institute for Educational Development and the Ministry of Digital transformation of Ukraine and launched on January 11, 2020. USO – E-SCHOOL.net.ua is a modern online resource for blended and distance learning of secondary and high school students with materials that have passed the examination and meet state educational standards.

The USO provides students with video explanations, syllabi, tests, and the ability to track their academic progress. And teachers – the necessary guidelines and examples of modern educational technologies. Currently, the content of the platform is designed for two weeks of training according to the calendar plan, and it will be updated weekly. The functionality of the platform will be constantly improved and expanded. In the conditions of war, as of March 14, 2022, the content of the platform is designed for two weeks of training according to the calendar plan and it will be updated weekly. The functionality of the platform will be constantly improved and expanded [12]. On the website of the Ministry of Education and Science in the section "Ukrainian school online" there are classes for grades 1-11 [13].

4. Results and discussions

Discussing the results of the study, we would like to raise the issue of the importance of organizational and educational-methodological support of distance learning in both secondary and higher education institutions of Ukraine. Based on the analysis of the answers to the online survey among research and teaching staff of Ukraine and higher education, we raise the importance of preparing research and teaching staff to work in distance learning. We believe that the regulatory framework in Ukraine (distance learning regulations from 2013) should be updated by adding the organization of distance learning in wartime (which is currently experiencing Ukraine). To supplement this document with the introduction of another section – "Software and hardware and methodological support for higher education and research and teaching staff, teachers in wartime."

Also, the analysis of the online survey shows that according to indicators, there is a significant number of students and research and teaching staff in Ukraine who have problems with direct skills of work and study in quarantine and, accordingly, these problems will be transferred to war. Higher education institutions should systematically conduct refresher courses for their research and teaching staff to acquire competencies in the field of education using distance learning technologies.

We raise the issue of the importance of preparation and release of methodological products, which should be a table instruction when working with

electronic resources, distance learning technologies and online services. Systematic training and purposeful work at the state level, aimed at introducing distance learning technologies and providing students, teachers and research and teaching staff with appropriate hardware will make the distance learning process clear, concise, successful.

5. Conclusion

The organization of distance learning in higher education institutions of Ukraine, taking into account new technologies in software, cloud technologies, online services allows us to conclude that we are ready to complete general secondary education and higher education in quarantine and armed conflict (war in Ukraine). Covid-19 distance learning has prepared general secondary and higher education institutions (students and educators) for wartime training. Regulatory framework - "Regulations on the organization of distance learning in Ukraine" provides for distance learning using hardware, web resources for educational purposes, management of the educational process and the necessary types of educational interaction between distance learning subjects in synchronous and asynchronous modes; provided round-the-clock access to web resources and web services for the implementation of the educational process in synchronous and asynchronous modes; general and special purpose software (including for people with special needs). Institutions of higher education in the training of future specialists with the use of distance learning technologies should develop guidelines for the use of programs, video and audio recordings of lectures, seminars, etc .; multimedia lecture materials; virtual laboratory works with methodical recommendations for their implementation; virtual simulators with methodical recommendations on their use; packages of test tasks for control measures, testing with automated verification of results, testing with verification by the teacher; business games with methodical recommendations on their use; electronic libraries or links to them.

An online survey of teachers and educators points to problems with distance learning (reluctance to work online or prepare teaching materials for online learning by higher education teachers; a significant percentage of teachers require training or refresher courses). Qualifications that include the acquisition of competencies for mastering the skills of work and study in distance learning. There is a need for manuals (instructions), which are aimed at a more detailed study of online resources, resources for online conferences and more.

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