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DIGITAL LITERACY IN THE OPEN EDUCATION OF UKRAINE AND THE EU DURING COVID-19

ЦИФРОВА ГРАМОТНІСТЬ В ОТКРИТІЙ ОСВІТІ УКРАЇНИ ТА ЄС ПІД ЧАС COVID-19

Summary. During the COVID-19 pandemic, new opportunities and forms of teaching, learning, communication and research opened up for millions of students, teachers and researchers. It is clear that the impact of COVID-19 on the education system has been enormous.

The article analyzes the problems of the crisis in the educational sphere during the COVID-19 pandemic, ways out of it and forms of support by governments of different countries and international organizations. The survey found that in an UIA global survey on the impact of COVID-19 on higher education worldwide, almost two-thirds of respondents who answered questions about their chosen form of education said that teaching was conducted remotely. This result is consistent with U-Multirank data,

which show that almost 60% of universities worldwide reported online learning conditions in their strategic planning before COVID-19. The pandemic and the announced quarantine have made adjustments in the training of research and educational staff in almost all adult educational institutions around the world. The transition to online education using cloud services and modern Internet technologies has led to certain challenges in the system of professional development of research and educational staff. The article analyzes the approaches to online training in adult educational institutions in Ukraine. The results of the research have several significant implications for the science and practice of online education and its prospects for the system of professional development of research and educational staff. During COVID-19, prospects for online training of research and educational staff were offered. The main recommendations are: the organization of training courses on online learning methods for research and teaching staff in the digital environment of the educational institution.

Keywords: cloud services, online education, information technology, digital environment, research and educational staff.

Introduction. Achieving the defined goals of digital development of Ukraine is based on the development and upgrading digital competencies of citizens to ensure their readiness to use digital opportunities in personal and public life. As noted in the Human Development Report 2016, acquisition of skills necessary for the XXI century should become part of the lifelong learning process aimed at critical thinking, creativity and communication [1, p.2].

On December 9th, 2016, the Ministry of Economic Development and Trade of Ukraine hosted a presentation of the Digital Agenda of Ukraine 2020 Project with the participation of the First Deputy Prime Minister - Minister of Economic Development and Trade of Ukraine Stepan Kubiv. This document defines the basic principles for developing digital space in Ukraine and building up its digital economy [2]. The need for deeper digitalization of educational processes is emphasized in the documents of various international organizations. Thus, the final document of the meeting of Ministers of Education of the G20 on September 5th, 2018 states: "It is important that education does not lag behind social and technological innovations, such as: artificial intelligence, big data and the Internet of Things [3, p. 42].

The UNESCO recommendations emphasize that it is not enough for a modern teacher to be technologically literate and able to develop appropriate technological skills and the skills of his/her students. The modern teacher must be able to help students use ICT for successful collaboration, problem solving, teaching skills, and ultimately fully participate in society? Private life and work [4, p. 4].

We share the UN claim on Internet access as a fundamental human right, as an open, secure and free space, as a network that disseminates thoughts, ideas, information, knowledge and enables people to communicate and interact socially [5, p.3]. During 2017-2018 the institutional basis for the development and reform of the national education system was significantly strengthened. Verkhovna Rada (Parliment) of Ukraine, with the active participation of the Ministry of Education and Science of

Ukraine, adopted the Law of Ukraine "On Education". The law is a framework regulating further reforms in education and is the basis for the adoption of relevant laws "On Preschool Education", "On General Secondary Education", "On Extracurricular Education", "On Vocational Education", "On Adult Education", amendments to Law of Ukraine "On Higher Education" [6, p.202]. Training of highly qualified educational workers who meet modern market requirements in the conditions of permanent social changes as well as during New Ukrainian School Reform, is one of the important structural components of the higher education system of Ukraine. That is why the Ministry of Education and Science of Ukraine in 2018 paid considerable attention to the development of the Concept for Pedagogical Education Development. The purpose of the Concept is to improve the system of pedagogical education aiming to create a base for training new generation of teachers, to create conditions for involving specialists of other professions and to provide conditions for the formation and development of modern alternative models of continuous professional and personal development of teachers. The abovementioned issues are key conditions for success of the Concept for Implementation of State Policy in the Field of Reforming General Secondary Education "New Ukrainian School" for the period up to 2029 (order of the Ministry of Education and Science of Ukraine "On approval of the Concept for Pedagogical Education Development" from 16.07.2018 № 776). According to the Concept of reforming pedagogical education, it envisages planning activities in the following areas: I. Developing a modern model of the pedagogical profession in the context of the society needs, prospects for development of the national economy and global technological change. II. Transforming higher and professional higher education in pedagogical specialties. III. Identifying promising ways of continuous professional development and professional development of teachers. [6, 171].

Measures to prevent the spread of the COVID coronavirus covered all spheres of Ukrainian society. They also directly influenced the system of organization of the educational process and training of research and educational workers, in particular. The transition to distance learning caused widespread introduction of the latest information and communication technologies (ICT) to educational process. Under such conditions, the focus on experience and trends in this area of the European and Ukrainian education systems significantly influenced the renewal of the training process in Ukrainian educational institutions, including actualizing the effectiveness of cloud technology diversification to organize professional development of research and educational staff. Diversification is understood as a corporate strategy of entering new products, new services or new markets, which involves significantly different skills, technologies and knowledge, monitoring direction, trend detection and study of these trends [7].

Ukraine's entry into the global information space and the intensive development of information and communication technologies caused rapid accumulation of documents and information resources with digital media. The Charter on Preservation of Digital Heritage of UNESCO, adopted in 2003, states that the digital heritage is a unique treasure of human knowledge, created both digitally or converted into digital form from existing analogue resources [8].

The expediency of using cloud services in professional development of research and educational staff during COVID-19 is associated with the focus not only on anticipating trends, but also on predicting the possible transformation of priorities and needs in online learning. Cloud services allow detecting modern information technologies at an early stage and influence their promotion. This is especially true in today's world of challenges. Many opportunities are now open to educators. Educational platforms offer online courses. But how to find "your own one" and spend time usefully, and - most importantly - get the necessary knowledge? And especially in current time - with jobs migrating online and life throwing up a lot of opportunities. The answer is to find high-quality and reliable educational platforms.

Research methods used: analysis of the results of questionnaires of students - research and educational staff - and their generalization; identification of the reasons for the low level of formation of their motivational readiness for professional self-improvement; study of cloud services and characteristics of information technologies and opportunities for their use in the digital environment of educational institutions for postgraduate training; reports of scientific and pedagogical workers who teach in educational institutions on postgraduate training.

Analysis of recent research and publications

Despite the sudden announcement of national quarantine in the country, universities managed to quickly organize the process of online education. Thus, 80% of respondents were ready and prepared for online education, and 18.6% were not properly prepared for online work. So, despite the lack of experience of the lecturer, they were ready to organize online education. Online training was conducted on various online platforms with video communication - Moodle, Google Meets, Zoom and others - using online conferences, debates, discussions, lectures and seminars [9].

Cynthia Luna Scott in her UNESCO Research and Foresight in Education "The Future of Learning 3: What is pedagogy for the 21st century?" states that retraining programs for educators should change according to the orientations and principles of teaching of the twenty-first century and teaching [10, p.15]. Redecker and others (2011) argue that this twenty-first century teacher education should pay more attention to educational design, team building that facilitates learning, and new ways to promote creativity and innovation. ICT should be integrated into teacher education programs and become commonplace as a tool used throughout the teaching path (Ó Grádaigh, 2014). Ala-Mutka and others (2010) argue that teacher education should be updated to support the development of skills in new technologies. They also place great emphasis on the need to develop learning activities in support of the skills that students in the twenty-first century must master.

"Digital Agenda of Ukraine - 2020" is a short-term and initial tool for the development and stimulation of domestic markets for consumption, implementation and production of digital technologies for the next 3 years. It contains a vision of economic transformation from "analogue" to "digital", measures to implement appropriate incentives for digitalization of socio-economic life, education, medicine, etc., challenges and tools for the development of digital infrastructure, citizens'

acquisition of digital competencies, as well as identifies critical areas and projects of digitalization of the country [11].

The results of studying the problem of deteriorating quality of education, outdated teaching methods; dissatisfaction of employers with the quality of education, as specified in the Order of the Cabinet of Ministers of Ukraine "On approval of the medium-term plan of priority actions of the Government until 2020 and the plan of priority actions of the Government for 2017" from 03.04.2017 № 275-r as well as Ukraine's commitments to the IMF indicate the existence of a number of unresolved issues in education that leads primarily to insufficient opportunities for all pedagogical and research and educational workers to acquire new knowledge [6, p. 30]. Therefore, the use of cloud services in professional development of research and educational staff in open education is the future opportunity for lifelong learning.

Literacy, traditionally defined as the ability to read and write, has now taken into account the rapid spread and use of digital devices, resources and services. The concept of "digital literacy" has become a basic component of education, scientific and technological progress and is defined as a set of important life skills [12]. Based on international experience, the UNESCO Information for All Program (IFAP) has formulated "indicators of the development of the information society", defining digital literacy as the most important life skill. The concept of "digital literacy" is associated with the name of Paul Hilster, an American writer and journalist, in the past - a professor at the University of Illinois (Chicago), an electronics engineer. His book "Digital Literacy" was published in 1997 and became the world's first monograph on the problem of digital literacy. In his book, Paul Hilster notes, "Internet requires that we perceive it as a combination of traditional forms of media."

In 2008, the European Parliament adopted a resolution on media literacy in the world of digital technologies (2008/2129 (INI)), where it emphasized that media literacy is a basic element of information consumption policy and should cover all categories of people throughout their lives [13, c12].

The Concept for Introduction of Media Education in Ukraine (approved by the Presidium of the NAPS of Ukraine on May 20th, 2010) is based on the study of the state of media culture of Ukrainian population and the international experience of media education. The main paragraphs of the Concept correspond to the tasks formulated in the "Paris Agenda" (UNESCO recommendations on media education) (dated June 22, 2007) and the European Parliament resolution on media literacy in the world of digital information (dated December 16, 2008) [11, p 70], reaffirmed in 2014 by Paris Declaration on MIL.

Forming the purpose of the article

The purpose of the article is to analyze the results of diagnostics of motivation of research and educational workers on the formation of readiness for professional self-improvement and to outline the prospects for its improvement as one of the main factors in improving the quality of their training.

Digital trends are trends in the development of digital technologies. Their analysis allows us to predict the development of a particular phenomenon in the future [5, p. 12].

For many spheres of life and economy of Ukraine the use of "digital" trends is an extremely important issue; they are in fact ready-made strategies for relevant decisions, initiatives and actions; their use can be critical to overcoming many of the country's economic and social challenges.

The rapid spread of digital technologies makes digital skills (competencies) of citizens the key ones among other skills. Thus, digitalization and cross-platform are currently the main trends in the general labor market. In other words, the ability to work with digital technologies is gradually becoming permanent and necessary for most specializations, i.e cross-platform [5, 18].

The uniqueness of digital competencies is that thanks to them, citizens can more effectively acquire competencies in many other areas (for example, learn languages, subjects, professions, etc.) [5, 18].

Presenting main material

The Commonwealth of Learning Intergovernmental Organization has published "Recommendations on Distance Education during COVID-19". This organization was created to promote the development and sharing of open learning, the introduction of resources and technologies for distance education. Recently, the term "distance learning" has become widely used. The Commonwealth of Learning Recommendations state that distance learning is an emergency measure that tries to repeat the process of teaching and learning in the classroom online, and can also be considered as a form of distance learning [14].

UNESCO views globalization as a process that goes far beyond economic issues: it affects lifestyles and behavior, changes the way we think about decision-making and management as well as forms of artistic expression. Only global trends awareness will enable the international community to achieve the greatest results while respecting existing differences. That is why globalization is now the focus of UNESCO. In 2000, the Director-General of UNESCO identified the main priorities that correspond to UNESCO's mission in modern conditions: 1) continuing education for all throughout life; 2) ethical aspects of the information community; 3) ethical aspects of science and technology; 4) ethical aspects of the environment; 5) ethical aspects of dialogue between different cultures [3]. Digital literacy (or digital competence) is recognized by the EU as one of the 8 key competences for lifelong learning. In 2016, the EU introduced an updated Digital Competence framework (DigComp 2.0) consisting of 5 main blocks of competencies and a total of 21 competencies included in them, namely: 1. Information and data literacy; 2. Communication and collaboration; 3. Digital content creation; 4. Sefety; 5. Problem solving [5, c18-19]. By analogy with IQ or EQ used to measure the level of general and emotional intelligence, skills in digital technology received the name "DQ (Digital Quotient)", i.e. "digital" intelligence.

DQ contains 3 levels:

- "digital citizenship", i.e. the use of digital technologies in everyday life, to interact with each other, communicate, view digital content, etc .;

- "digital creativity", i.e. the use of digital technologies to create content, media, applications, etc .;

- "digital entrepreneurship", i.e. the use of use of digital technologies for business, professional activity, etc.

Development and promotion of publicly available online and offline courses on digital literacy, including blended learning to reach a large number of people from different categories of the population based on the adopted European framework of digital competencies (DigComp 2.0) [5, p. 21-22]. In terms of professional digital skills (programming, etc.) the main tasks in the public educational segment is to implement competence-based approach, resulting in cross-platform digital competence, i.e. when subjects are studied using digital technologies, thus concomitantly developing digital skills [5 , c. 22]. UN and UNESCO have paid considerable attention to the possibilities of distance learning in the period of COVID-19.The list of educational applications, platforms and resources below aim to help parents, teachers, schools and school administrators facilitate student learning and provide social care and interaction during periods of school closure. Most of the solutions curated are free and many cater to multiple languages. While these solutions do not carry UNESCO's explicit endorsement, they tend to have a wide reach, a strong user-base and evidence of impact. They are categorized based on distance learning needs, but most of them offer functionalities across multiple categories.
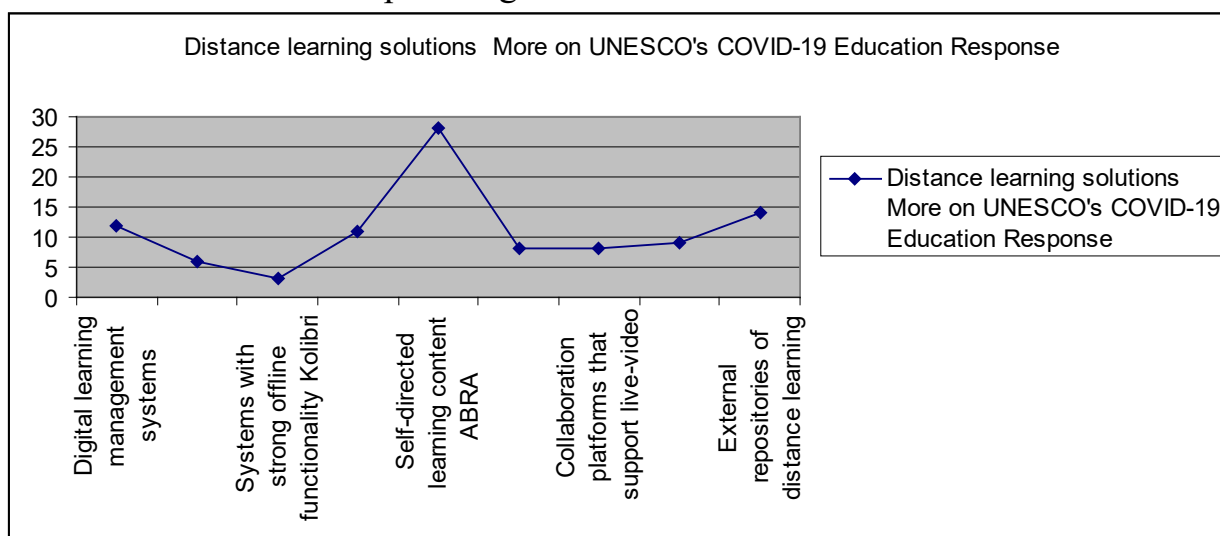
The Ministry of Education and Science of Ukraine and postgraduate education institutions have paid considerable attention to the possibilities of distance learning in the period of COVID-19. At the same time there is an increased number of pedagogical and scientific-pedagogical workers who are thus motivated to acquire theoretical and practical skills in mastering cloud services.

In Ukraine, the Ukrainian Open University of Postgraduate Education was established on the initiative of the public organization "Consortium of Postgraduate Pedagogical Education Institutions", and the University of Educational Management played a leading role in this.

In order to technically provide distance learning in the system of advanced training for the Ukrainian Open University of Postgraduate Education, an authentic web platform Adult Learning Management System (LearningManagementSystemAdultlearning) - LMS AdL was developed considering peculiarities of adult learning.

In pursuance of the Resolution of the Cabinet of Ministers of Ukraine "Procedure for professional development of pedagogical and scientific-pedagogical workers" dated 21.08.2019 № 800, as amended in accordance with the Resolution of the Cabinet of Ministers of 27.12.2019 № 1133, Ukrainian Open University of Postgraduate Education is developing on the basis of CIPE as a system of non-formal education. Accordingly, the Ukrainian Open University of Postgraduate Education" (UOUPE) web-site was created that contains [15]:

- electronic educational environment for distance learning [16];
- information and consultation center for organization of distance learning [17];
- virtual departments:
  - Andragogy Department [18];
  - Department for Education Management [19];
  - Department for Vocational Education [20];
  - Psychology Department [21];
  - Department for Digital Technologies [22]
  - Department for New Ukrainian School [23].

The first virtual department in Ukraine - the Andragogy Department - was presented at the Adult Education Days in 2017. This innovative development was supported by the NAPS of Ukraine. Currently, 19 Habilitated Doctors and 34 Doctors of Philosophy are involved in the activity of virtual departments. UOUPE offers students advanced training courses with modern content in distance learning and educational services. As of 01.10.2020 more than 2,100 students are registered in UOUPE, more than 500 students have completed their studies. For special and methodological support of the educational process in UOUPE 44 special courses have been developed, 36 electronic classrooms of lecturers have been created.

Special attention was directed to the training of pedagogical, research and educational and education management staff for the use of digital technologies for distance learning. About 300 students were trained in the relevant courses at UOUPE.

The Ukrainian Open University of Postgraduate Education is also taking measures to ensure the professional development of educational personnel. Thus, in 2020 more than 70 methodical events were held online (in the form of webinars, conferences, forums, tolokas, marathons, etc.), including 2 open meetings of virtual departments. More than 5,000 people took part in the events, the number of further views on the networks is more than 8,000. To provide psychological support to educators working on distance learning at the Ukrainian Open University, the "Dialogue" web-site was created.

Pages of UOUPE research and educational workers, training groups as well as departments function in social networks. In total, the virtual audience numbers up to 40 thousand users.

Providing quality, modern and affordable general secondary education ("New Ukrainian School") is a priority determined by the Order of the Cabinet of Ministers of Ukraine "On approval of the medium-term plan of priority actions of the Government until 2020 and the plan of priority actions of the Government for 2017" from 03.04.2017 № 275-r [1, p 30]. The key to a successful start of NUS is to provide the state with favorable conditions for the training of highly qualified teachers, their professional development and improvement, to determine the range of professional competencies that meet current social requirements and market needs. As a result, large-scale professional development of 22,000 primary school teachers who will go to first-graders was carried out in 2017-2018 by the Ministry of Education and Science of Ukraine to prepare them for the implementation of NUS innovations. An important step of the Ministry of Education and Science of Ukraine to improve the system of pedagogical education was the development and approval in 2018 of the Concept for Development of Pedagogical Education. Its implementation aims at improving quality of teachers' training, updating their composition in educational institutions, improving the architecture and content of continuous professional development. The Government and the Ministry of Education and Science of Ukraine provided financial support for the start of the New Ukrainian School. In 2018, expenditures in the amount of UAH 1,905 million were envisaged from the state budget for NUS. In particular, UAH 305.7 million was allocated for the publication, storage and delivery of textbooks; UAH 370.3 million -for advanced training of NUS teachers in 2018; UAH 11.8 million - for the development of a distance learning course to improve the skills of teachers; UAH 998.78 million - to provide primary school students with teaching aids and furniture. UAH 163.8 million has been allocated for primary schools for purchasing personal computers/laptops and equipment for printing, copying, scanning and laminating with consumables. UAH 54.6 million has been allocated for the creation of a national educational electronic platform for the placement of educational resources. Teachers are key players in secondary education reform, as they are the ones who have to execute the planned changes, each in his/her own classroom. In order to support teachers, the Ministry of Education and Science of Ukraine has started a large-scale training of teachers - all those who will teach first-graders from September 1 in 2018 had to undergo retraining.

The MES order approved a Standard In-Service Training Program for these teachers. It consists of a distance online course on the EdEra portal and three contact sessions at regional institutes of postgraduate pedagogical education where professional trainers will consolidate teachers' knowledge in practice. The active phase of training within the distance course on the EdEra portal lasted from February 1st, 2018, until the end of May 2018. During this time, there were several modules created on the EdEra online platform for training. Each teacher could get through it. To start with, 2 modules were presented - "Overview" and "Class Organization". The module "Integrated Learning" was opened on February 26th the same year, "Methods of

Teaching in Grade 1" - on April 1ˢᵗ, "Neuropsychology" - on April 20ᵗʰ, and "Inclusive Education" - on May 7ᵗʰ, 2018.

The distance course, posted on the website of the EdEra online education studio, is one of the mandatory stages of professional development of teachers who will teach first-graders from September 2018. It presents the new State Standard of Primary Education, provides practical skills of classroom management, and teaches methods of competence and integrated learning. An important part of the course are sections on the basics of neuropsychology (the science of understanding the functioning of the child's brain, identifying the causes of learning difficulties and eliminating them) and inclusive education. From February 15 to March 6, 2018 on the basis of institutes of postgraduate pedagogical education the first instructional session for teachers took place. In March-April 2018, teachers passed the second [6, 91]

Fig. 1.5 shows that there is a tendency to significantly increase the share of expenditures of the Consolidated Budget of Ukraine for general secondary education (from 42.4% in 2014 to the planned 48.0% in 2018. This is against the background of a decrease in the share of expenditures on higher education (from 28.3% in 2014 to 21.8% in 2017). The share of expenditures on other levels of education has changed insignificantly [6, p. 14].
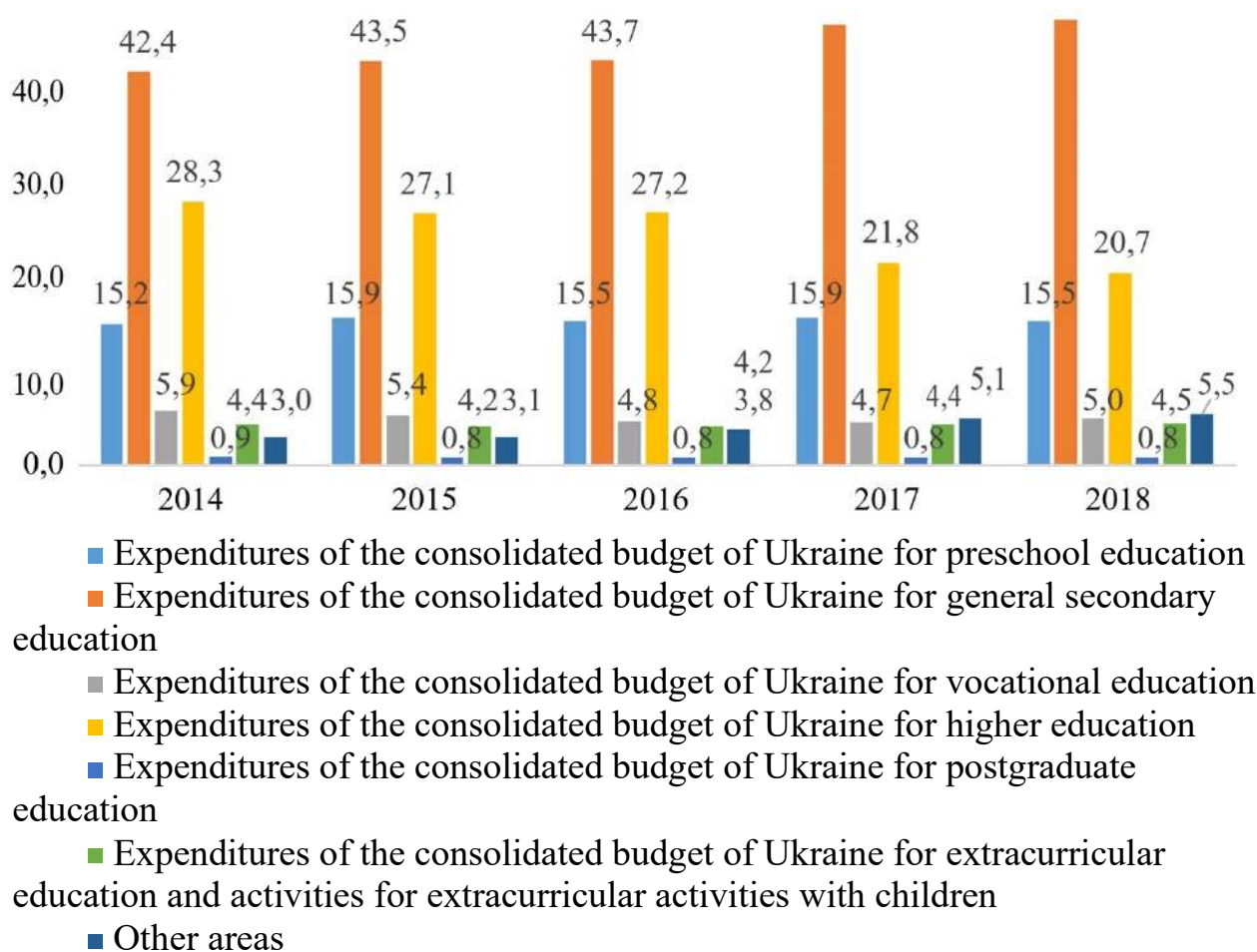

■ Expenditures of the consolidated budget of Ukraine for preschool education
■ Expenditures of the consolidated budget of Ukraine for general secondary education
■ Expenditures of the consolidated budget of Ukraine for vocational education
■ Expenditures of the consolidated budget of Ukraine for higher education
■ Expenditures of the consolidated budget of Ukraine for postgraduate education
■ Expenditures of the consolidated budget of Ukraine for extracurricular education and activities for extracurricular activities with children
■ Other areas

Fig. 1.5. Expenditures of the consolidated budget of Ukraine by levels of education

Also, UAH 11.8 million was allocated for the development of a distance learning course for the abovementioned NUS teacher training (Fig. 3.8) [6, p. 39]

UAH 11.0 million for 22 thousand primary school teachers to take the course

UAH 0.8 million for course development

11,8 млн грн

Fig. 3.8. Expenditures for a distance learning course to improve the skills of teachers

According to the MES newsletter України Information on the material base and use of modern information technologies in day care institutions of general secondary education of the Ministry of Education and Science of Ukraine, other ministries and departments and private institutions (2018-2019 and 2019-2020 academic years) [24, c27] we see that not in all areas there is an equally rapid increase in the provision of computer equipment. As can be seen from Fig. 3.26, the leaders of change are Zhytomyr (plus 2250 computer jobs) and Dnipropetrovsk region (plus 1358). It is obvious that the level of provision of office equipment affects the ability of teachers to access cloud services, master them and their further use in the educational process.
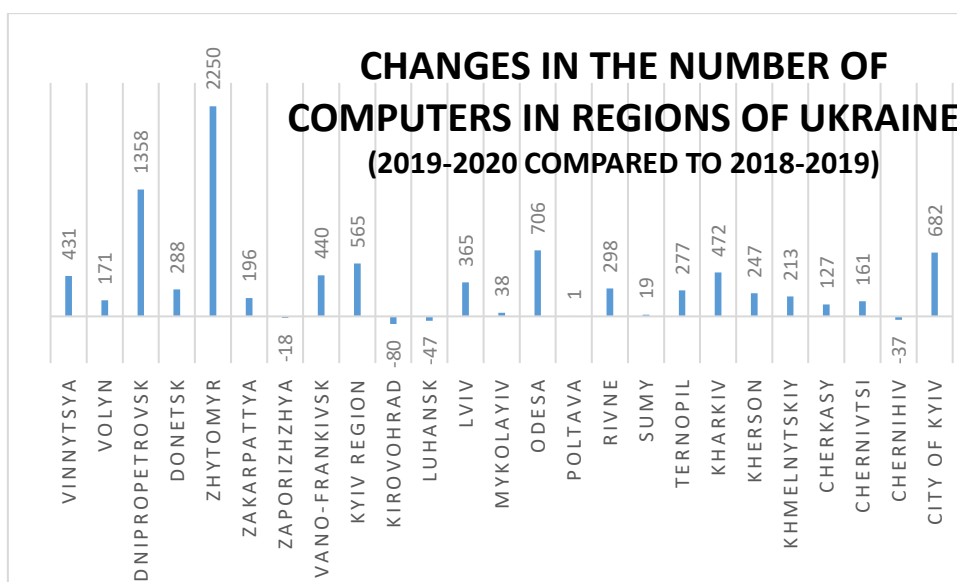
CHANGES IN THE NUMBER OF COMPUTERS IN REGIONS OF UKRAINE
(2019-2020 COMPARED TO 2018-2019)

VINNYTSYA 431
VOLYN 171
DNIPROPETROVSK 1358
DONETSK 288
ZHYTOMYR 2250
ZAKARPATTYA 196
ZAPORIZHZHYA -18
IVANO-FRANKIVSK 440
KYIV REGION 565
KIROVOHRAD -80
LUHANSK -47
LVIV 365
MYKOLAYIV 38
ODESA 706
POLTAVA 1
RIVNE 298
SUMY 19
TERNOPIL 277
KHARKIV 472
KHERSON 247
KHMELNYTSKIY 213
CHERKASY 127
CHERNIVTSI 161
CHERNIHIV -37
CITY OF KYIV 682

Рис. 3.26. Changes in the number of computers in general secondary educational institutions in 2019-2020 compared to the previous period

Motivation for change, care for children and their education during the quarantine in the spring of 2020 inspired scientists and practitioners of the International Renaissance Foundation, MES of Ukraine, NGO "Smart Education" to

create a manual "Organization of distance learning at school. Guidelines". This guide is a response to the coronavirus pandemic and forced quarantine in Ukrainian schools in the spring of 2020, when Ukrainian children were unable to attend school for more than two months, and a guide for educators on modern cloud services that will be useful for distance learning.

In the research process several other platforms for teachers and research and educational staff were identified. Their details, specifications and course topics are described in Table 1 "Popular platforms for teachers and research and educational workers" [25].

Platform	Specifications	Course Topics
Higher School of Educational Management - online platform of the MCFR Digital Publishing House for advanced training of specialists of educational institutions https://school.pedrada.com.ua	Training is held in groups and begins on the 1st of each month. The training program is designed for two calendar months	• Documents for the Head of Preschool Institution: State Supervision and Control • Personnel Documents - 2020 for the Head of Educational Institution • Smart Cards in Integrated Learning and Professional Development • Smart Cards in Preschool Institution • Crisis Management and Communications in the Institution
"Prometheus" - Ukrainian public project of mass open online courses https://prometheus.org.ua	Designed courses last several weeks	• Science of Teaching: What Should Every Teacher Know? • Deep Learning Through Transformational Pedagogy • Implementation of Innovations in Schools • Media Literacy for Educators
EdEra - Online Education Studio https://www.ed-era.com/	Provides online courses, textbooks and special projects	• Online Course for Primary School Teachers • Online Course for Teachers and School Leaders on Distance Learning

		• Pro Power Point • #blend_it: Mastering Blended Learning and others
VUM platform – Interesting facts not only for teachers, but also for schoolchildren and students. https://vumonline.ua		• School For All: Safe School Environment • How to Conduct EdCamp for Your Community.
Lesson Educational Project Webinars, conferences, competitions for educators https://naurok.com.ua/courses		• Stem Office/Laboratory in Primary School as a Prequel to Subject Rooms: Biology, Chemistry and Physics • Media Literacy and Critical Thinking: from Theory to Practice • Project-Based Teaching Methods • Pedagogy of Trust.
Platform "Be able" - by Ivan Ivanov, author and developer of the platform, the founder of the Center for New Education., certified Microsoft expert teacher, organizer of online competitions for educators. https://umity.in.ua	Courses in innovative pedagogy and ICT	• Teach By Storytelling • Orientation In The Methodology Of Training • Develop Interactive Learning Materials • Use Video And Audio In Teaching.

Table 1 "Popular platforms for teachers and research and educational workers"

Here is a generalized experience to quarantine and distance learning during quarantine due to the coronavirus pandemic. But there is no doubt that we will all need this experience, because quarantines due to seasonal flu outbreaks occur every year. In addition, the world is becoming more mobile, education is becoming more individualized and flexible; therefore, every day there are new reasons for children and adults to study distantly for some time.

Conclusions. Thus, based on research and analysis, the willingness to implement cloud servers in educational institutions and new distance learning technologies in postgraduate education for research and teaching staff, we found that in practice research and teaching staff are only used for distance learning. Partially distance vocational training in different ways and using different methods, depending on the

material and technical capabilities of institutions, the level of mastering by teachers of IT tools and web technologies. Most educators recognize the promising nature and feasibility of implementing a system of remote technology in the process of specific subjects. At the same time, problems in the use of distance vocational training associated with technical and material provisions, which causes difficulties in distance learning, qualitatively functional use of electronic platforms; design of distance courses; low level and teachers, which complicated the introduction of distance learning technologies; Integration of theoretical and practical training in the conditions of distance learning (development of sustainable education process taking into account the need for the formation of practical skills); mobility and flexibility (learning to distribute your opportunities properly), etc. Analysis of the current conditions of distance learning in the system shows that it is important to implement it to train skilled workers for certain sectors of education. However, the level of development of certain components of teachers' readiness for distance learning indicates the need to organize training both in the system of training and in the organization of methodical work. At the same time, the content of each component (motivation and value of the component, cognitive component, operational and activity component, evaluation and reflex component) readiness of teachers to implement distance vocational training can be used to develop a training program for teachers to use information technology in vocational training skilled workers The applicable nature of the study lies in this aspect.

Despite the importance of developments in higher education in Ukraine, according to the time constraints on this issue, thorough research has not yet been conducted. There is no systematic analysis of online education during COVID-19 and recommendations. The purpose of the next study is to collect statistics and develop the legal framework for online education in «…Ukraine and the EU. monitoring the effectiveness of distance vocational learning usage in subjects' teaching» [26].

Therefore, the topic of this article is relevant, modern and important, and requires further research.

The article was prepared within the framework of the study "Transformation of professional development of pedagogical and scientific-pedagogical workers in the conditions of the Open University of Postgraduate Education".

References:

1. Рамка цифрових компетентностей для громадян України (DigComp UA for Citizens) https://www.ist.knu.ua/wp-content/uploads/2020/07/DigComp-Framework-UA-for-Citizens.pdf

2. У Міністерстві економічного розвитку і торгівлі України відбулася презентація проекту «Цифрової адженди України – 2020» https://www.kmu.gov.ua/news/249575382

3. «Стратегічні питання розвитку освітніх оцінювань в Україні до 2030 року» https://testportal.gov.ua/wp-content/uploads/2019/07/190523_Strategiya-osvitnih-otsinyuvan_UTSOYAO.pdf

4. UNESCO's ICT Competency Framework for Teachers https://unesdoc.unesco.org/ark:/48223/pf0000265721

5.   Проект «Цифрової адженди – 2020»
https://ucci.org.ua/uploads/files/58e78ee3c3922.pdf

6.   Про затвердження середньострокового плану пріоритетних дій Уряду до 2020 року та плану пріоритетних дій Уряду на 2017 рік
https://zakon.rada.gov.ua/laws/show/275-2017-%D1%80#Text

7.   Wikipedia:https://en.wikipedia.org/wiki/Diversification_%28marketing_strategy%29).

8.   Кириченко М. О., Отамась І. Г. «Діджиталізація в мовах інтеграції України в Європейський Союз» Інформація, комунікація, суспільство 2020 [електронний ресурс] : Матеріали 9-ї Міжнародної наукової конференції ICS-2020. – Львів: Видавництво Львівської політехніки, 2020. – Режим доступу: http://ics.skid-lp.info/ics_2020Proceedings.pdf,(c. 117-118).

9.   N. Stukalo, A. Simakhova, «COVID-19 Impact on Ukrainian Higher Education», Universal Journal of Educational Research, 8(8), 3673–3678, 2020. [Електронний ресурс]. Доступно: http://www.hrpub.org

10.   Cynthia Luna Scott. THE FUTURES of LEARNING 3: What kind of pedagogies for the 21st century? UNESCO Education Research and Foresight, Paris. [ERF Working Papers Series, No. 15].
http://repositorio.minedu.gob.pe/bitstream/handle/123456789/3747/The%20Futures%20of%20Learning%203%20what%20kind%20of%20pedagogies%20for%20the%2021st%20century.pdf?sequence=1

11.   Річний звіт Національного агентства із забезпечення якості вищої освіти за 2019 рік / за заг. ред. проф. Сергія Квіта. — Київ : Національне агент-ство із забезпечення якості вищої освіти, 2020. — 244 с.

12.   Цифровое будущее. Каталог навыков медиа- и информационной грамотности. – Москва: Межрегиональный центр библиотечного сотрудничества (МЦБС), 2013. – 68 с.

13.   Медіаграмотність на уроках суспільних дисциплін : посіб. для вчителя / за ред. В. Іванова, О. Волошенюк, О. Мокрогуза – К. : Центр вільної преси, Академія української преси, 2016. – 201 с.

14.   Guidelines on Distance Education during COVID-19. Commonwealth of Learning, 2020. [Elektronnyi resurs].
Dostupno: http://oasis.col.org/bitstream/handle/11599/3576/2020_COL_Guidelines_Distance_Ed_COVID19.pdf?sequence=4&isAllowed=y

15.   Сайт «Український відкритий університет післядипломної освіти» (УВУПО) http://uvu.org.ua/

16.   Електронне освітнє середовище для дистанційного навчання http://uvupo.ues.net.ua/index.php/ua/

17.   Інформаційно-консультаційний центр організації дистанційного навчання http://uvu.org.ua/ikcodn/

18.   Віртуальна кафедра андрагогіки http://uvu.org.ua/kafedra-osvity-doroslykh/

19.   Віртуальна кафедра управління освітою http://uvu.org.ua/kafedra-upravlinnia-osvitoiu/

20. Віртуальна кафедра професійної освіти http://uvu.org.ua/kafedra-profesiinoi-osvity/

21. Віртуальна кафедра психології http://uvu.org.ua/kafedra-psykholohii/

22. Віртуальна кафедра цифрових технологій http://uvu.org.ua/kafedra-tsyfrovykh-tekhnolohii/

23. Віртуальна кафедра Нової української школи http://uvu.org.ua/kafedra-nush/.

24. Інформаційний бюлетень. Відомості про матеріальну базу та використання сучасних інформаційних технологій в денних закладах загальної середньої освіти Міністерства освіти і науки України, інших міністерств і відомств та приватних закладах (2018/2019 та 2019/2020 н.р.) https://iea.gov.ua/wp-content/uploads/2020/03/mat.baza_19-20.pdf

25. «Організація дистанційного навчання в школі. Методичні рекомендації» https://mon.gov.ua/storage/app/media/zagalna%20serednya/metodichni%20recomendazii/2020/metodichni%20recomendazii-dustanciyna%20osvita-2020.pdf

26. L. Petrenko, S. Kravets, O. Bazeliuk, L. Maiboroda, I. Muzyka. Analysis of the current state of distance learning in the vocational education and training institutions / E3S Web of Conferences 166, 10010 (2020) https://doi.org/10.1051/e3sconf/202016610010 ICSF 2020 Доступно: https://lib.iitta.gov.ua/720179/1/L.%20Petrenko_2020_10010.pdf