

UDC 37.01.37.048.4:37
doi: 10.15330/jpnu.8.1.90-98

BOOM IN DISTANCE LEARNING DURING THE CORONAVIRUS PANDEMIC: CHALLENGES AND POSSIBILITIES

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Abstract. The article highlights brief theoretical aspects of the origin of distance learning tracing the experience of foreign countries as well as Ukraine's practice in this regard. The paper outlines practical and social aspects of distance education; definition of what successful distance learning should look like; effective solution to the problem of implementing distance or blended learning by the academic staff of the Precarpathian national University. The necessity of engaging both teachers and students in integrating innovative digital technologies in academic process of education institutions to ensure a quality level of practical classes, creating favorable conditions for self-realization and professional development of future primary school teachers is substantiated. Major accent is placed on the efficiency of the use of particular digital tools like Kahoot, Mentimeter, Pear Deck and Flipgrid for innovative organization of education environment, creative presentation of theoretical information, consolidating students' knowledge, practical skills and abilities, formative and summative assessment of learning outcomes, development of students' competences within certain courses, as well as systematic professional self-improvement. It was found out that among the difficulties most often faced by the education institutions in working with students was identified as follows: providing equal access to online or blended education under the condition of Coronavirus pandemic in rural, mountain and low-income communities, etc. The authors proved the quality of introduction and application of distance learning at the Pedagogy Faculty of the PNU in the process of teaching/studying the academic courses of the language and literature cycle can be assessed by means of the mentioned in the research digital instruments. This will contribute to the practical orientation of the educational process, active participation of each student in the learning process, increasing motivation and engagement in all forms of cooperation in the education environment.

Keywords: distance learning, digital tools, future primary school teachers, teacher training, educational process.

1. INTRODUCTION

The spread of the coronavirus disease known as COVID-19 has caused necessity to adopt and adapt to new working and studying conditions for people of different countries beginning with 2020. Education institutions around the world are responding to numerous bans and quarantine rules with a shift to distance learning. The crisis has already triggered an online boom for education and made us become more prepared to cope with this emergency situation.

Creative educators always attempt to keep up with the times of the latest developments of innovative technologies; however, nowadays the humanity requires new knowledge and new ideas to adapt to the current situation on the planet. It demands on the scientists and researchers to search and

generate new approaches and solutions for many sectors to survive and move forward. Even those who have primary education as part of the existing economic system are also forced to slip into work. In this context, the pursuit of education is a matter of concern. Many centuries ago, Plato proclaimed that “necessity is the mother of innovation” and we clearly feel this need today.

2. RESULTS AND DISCUSSION

Supposedly only few of us thought of the origin of Distance Learning (DL). Some sources trace DL as far back at the 1700s. In 1728, the first recorded instance of distance learning occurred in Boston, USA, when a “Caleb Phillips” advertises private correspondence courses in short hand in the Boston Gazette. He mailed lessons to his students leaving in rural areas. Almost a century later in 1840s, Sir Isaac Pitman ran correspondence courses teaching his revolutionary short hand system. Pitman would mail texts on postcards to students, and students would mail their assignments back to him. In 1858, the University of London becomes the first university to offer distance-learning degrees. For organized training in 1843 a free partnership was created correspondence teaching shorthand, where everyone could learn. Thus, it was the first in the UK to emerge experience of using distance education. In 1892, the term “distance education” was first used in a pamphlet by the University of Wisconsin-Madison in the USA [14]. In 1911, distance learning appeared in Australia when the University of Queensland of Brisbane started conducting the courses. Similar systems for schoolchildren have become used in Canada and New Zealand [15]. In Great Britain the 70's of the XX century became an important stage of steady development of distance education. About 90 distance colleges of different types were opened. Thus, distant in-service teacher training courses of professional activity began to operate on a regular basis in many colleges and universities in the UK. Other oldest distance education centers appeared in Europe, namely in Spain, Germany, France, and the Netherlands [4].

The development of distance learning in Ukraine started far much later than in Western European countries and the USA and was carried out under conditions of extremely low level of informatization of Ukrainian society. A small amount of electronic equipment of Ukrainian education institutions and lack of specialized support of distance learning had a negative effect on its implementation in our country. The implementation of distance education (DE) in Ukraine is taking into account already existing achievements in this field. There are several stages in the dynamics of this process. The first steps towards the development of DE were made in the late 1990s. In February 1998, the Verkhovna Rada adopted the Law of Ukraine “On the National Program of Informatization”, which defines the tasks of informatization of education and determines the directions of their implementation. In 2000, the Ministry of Education and Science of Ukraine approved the “Concept for the Development of Distance Education in Ukraine”, which envisages the creation of an education system in the country that ensures the expansion of the range of consumers of educational services, the implementation of a lifelong learning system and the individualization of education [9] “Digital Agenda of Ukraine – 2020” adopted in 2016 contains conceptual frameworks, priority areas, initiatives, projects of “digitization” of Ukraine until 2020 [8]; and on January 17, 2018 by its Order, the Cabinet of Ministers of Ukraine №67 “On Approval of the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020” approved the Action Plan for its implementation”.

Theoretical, practical and social aspects of distance education have not been sufficiently developed in our country till now and even today this work leaves much to be desired. Numerous foreign scientists (C. Bissell, Ch.Pappas, J.Traxler, C.Kivunja, P.Altbach, L.Reisberg, L.Rumbley, A.Antonio, N.Martin, A.Stagg, D.Bawden and many others) researched the problems of origin, definition and implementation of distant learning in education institutions of different types. Among domestic researches, we would like to single out works on conceptual pedagogical provisions for distance learning by V. Bykov, I. Kozubovska, T. Pylaieva, L. Vlasenlo, V. Oliinyk, P. Stefanenko and others.

It is still important for us educators to have a clear definition of what successful distance learning should look like. To define success, we often assume that every single student has the necessary technology base, motivation, support, and time to participate in distance learning. Online learning,

digital learning, e-learning and virtual learning often stand for distant learning and are apparently synonymous and interchangeable by scientists in similar contexts.

John Traxler, Professor of Digital Learning, Institute of Education at the University of Wolverhampton in his article on Distance Learning - Predictions and Possibilities addresses in essence three questions [18, 19] on the definition and purpose of the distance learning; global political, economic and technological pressures on the institutions of higher institution; delivering distance learning; typical innovations and trends in educational technology in distance learning.

The distance education system in Ukraine is in its developmental stage: the world experience in the field of distance learning is being studied, and a corresponding one is being developed; general theoretical base, distance-learning centers are established; foreign practical experience is accumulated; however, the potential of pedagogical higher education institutions is not used enough yet. Currently the problem of distance education is being advanced by almost all universities in Ukraine, and Vasyl Stefanyk Precarpathian National University (PNU) is not the exception. The academic staff of the university are active participants of international projects and share gained knowledge on best foreign practices of implementing distance learning with their colleagues. A perfect example of such exchange is realization of the tasks of the project of the EU Erasmus + KA2 – “Modernization of Pedagogical Higher Education by Innovative Teaching Instruments (MoPED)”, № 586098-EPP-1-2017-1-UA-EPPKA2-CBHE-JP [13].

In the modern educational space of Ukraine distance learning is getting a feature of social technology as it contributes to the effective solution of a number of social problems, in particular providing access to education under the condition of Coronavirus pandemic. In various forms and modifications it helps provide an opportunity to receive education at the place of student’s residence; offers the possibility of organizing the process of self-education, planning and implementation of individual educational trajectory, depending on one’s own capabilities and needs; extends the circle of people who have access to all kinds of educational resources beyond age, social constraints, health condition; increases social and occupational mobility of the students population. However, it is a well-known fact, that rural, mountain and low-income communities have less Internet access than their urban, suburban, and more affluent counterparts do.

Education leaders are tackling these and more unexpected challenges of providing distance learning as the primary way of instruction for weeks, months, and possibly even longer. Ukrainian students are moving to a new form of education - distance learning [22]. How can education systems that struggle hard to deliver reasonable outcomes overcome the added challenges present at distance learning? Among these complex issues, we might single out: possibilities to meet the needs of students with special needs; enormous role schools and universities play in our students’ safety of using Internet; equal conditions to have the technological resources and support at home needed for effective distance learning programs to work.

Depending on a valid adaptive quarantine rules (introduction of restrictive measures depending on the spread of the virus) Ukrainian students – primary, secondary, high and university – might be homebound and unable to travel. In Ukraine, the spring semester of 2020 was interrupted by national quarantine, which began on March 17. In response, education institutions of all levels switched to online education on a massive scale. Schools and universities boost their online capacity to deliver courses to their students. For instance, on line lessons for secondary and high students have been broadcast on national TV channels. Distance or blended learning have been in the process of all universities and different institutions have their own developed experiences of online education. While all universities use local online learning management systems (on-line platform) and videoconferencing technology to some degree, there are no general or unified mandatory standards for online education.

In this regard, UNESCO is sharing 10 recommendations to ensure that learning remains uninterrupted during this period:

- Examine the readiness and choose the most relevant tools.
- Ensure inclusion of the distance learning programs.
- Protect data privacy and data security.

- Prioritize solutions to address psychosocial challenges before teaching.
- Plan the study schedule of the distance learning programs.
- Provide support to teachers and parents on the use of digital tools.
- Blend appropriate approaches and limit the number of applications and platforms.
- Develop distance learning rules and monitor students' learning process.
- Define the duration of distance learning units based on students' self-regulation skills.
- Create communities and enhance connection [7].

In this paper we attempt to describe Ukraine's experience in this context and offer some suggestions for improvement of such practice. There are numerous technological innovations suggesting educators possibilities of self-improvement and conducting classes on-line. Academic staff and students of Vasyl Stefanyk Precarpathian National University (Ivano-Frankivsk, Ukraine) were provided with an excellent opportunity to promote their pedagogical mastery on the platform Coursera for Campus. The university administration assisted in free access to the courses for over 5000 teachers and students of different faculties and departments and subsequently, many took the opportunity having passed the courses and got certified in certain research field. The Coursera for Campus platform collaborates with the leading universities all over the world and offers online courses in the fields of engineering, humanities, biology, social sciences, mathematics, business, computer science and more. The University stimulates the staff to become familiar with the different forms of distance learning.

Besides, PNU has a long experience using the platform *d-learn.pnu.edu.ua* where students are exposed to all necessary didactic materials and pedagogical support in all the academic courses, they have been studying at the university like notes of lectures, instructions to practical tasks, ppt presentations on topics and other important resources to complete the subject on-line successfully. Moreover, students can pass testing on any subject here as well. However, the university academic staff is not limited to use only the introduced distance-learning platform but is free to practice any other of those suitable for this activity.

Sharing our personal experience of implementing DL we communicate with students using alternative open electronic resources except *d-learn.pnu.edu.ua*, as the academic courses we teach have their own specifics and need more possibilities to develop the competences and help students achieve expected learning outcomes subjects. One of the digital tools we aim to draw educators' attention to is Kahoot. It is an interesting and interactive resource, which integrates game play and testing. Kahoot! is a free educational platform that is suitable for any academic course students study in both general secondary education institutions and higher education institutions. Besides, it can be applied as a classroom activity or for distance learning purposes. It is useful for testing, formative assessment and reflection (see Fig.1) [16].

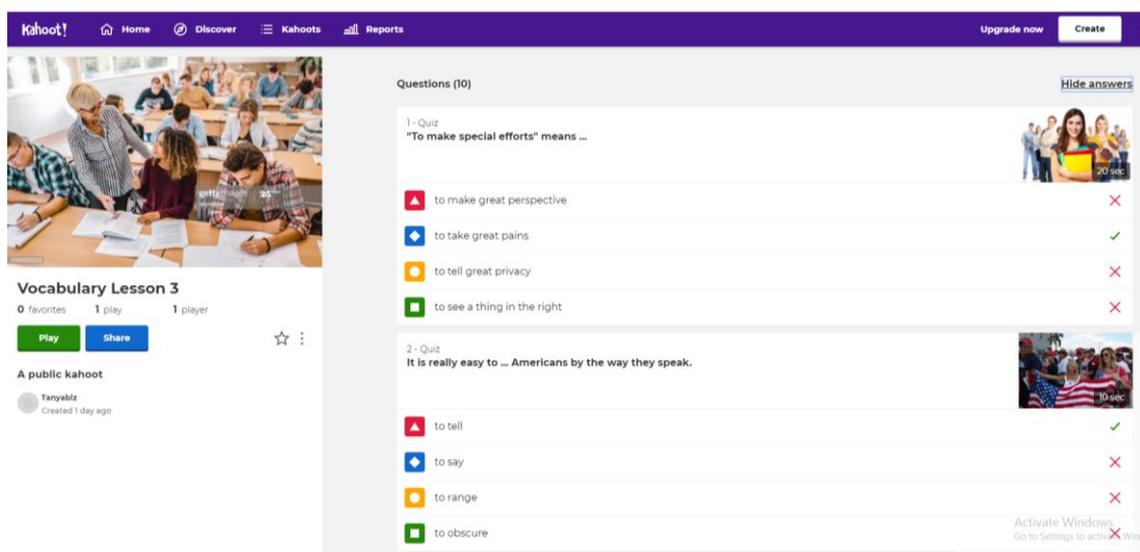


Fig. 1. Screenshot of the test for Practical English with the students of Primary Education and English.

In fact, working with this e-learning resource, the teacher sees that the system offers several types of Kahoot! When using Kahoot in an educational activity, it is important to understand what kind of task the teacher sets for the students by creating a quiz, and on this basis, it is necessary to ask educational questions.

Exploring the e-learning resources of the quick and simultaneous interaction of students and teachers, we draw attention to the popular browser Pear Deck application among the representative of the pedagogical community. With its assistance the teacher is able to simultaneously send and display on the smartphones of all students prepared in advance images, presentations and videos. A great benefit is the ability to synchronize it with Google Drive, for example, the educator uses one's own saved material (images, audio, video, presentations, book screenshots, etc.) and instantly places them in Pear Deck. The teacher provides access to their virtual class through a code that students enter on their own devices, where they have the opportunity to develop training materials.

Another good example for distance learning is educational resource Mentimeter. It caught our attention as it offers extensive educational capabilities. Just like Pear Deck and Kahoot it helps interact with all the participants in the educational process. Mentimeter is also an online educational resource that can be used to poll the whole class and show students' immediate feedback within the real time. As in Kahoot and Pear Deck the teacher creates questions and displays them to the audience. The system automatically generates a task digital code - it must be voiced to students, provided with a pin, or a QR code for scanning (we rather recommend to use the latter one as it takes less time and effort). The teachers who actively introduce Mentimeter into the education process are advised to use it while understanding which topic students have difficulty to deal with most or, on the other hand, involve students in, for example, class activities encouraging their participation in lesson planning or choosing what they want to discuss in the classroom. Thus, one can immediately navigate what aspects should be paid increased attention to [5].

At last, another tool which proved to be efficient in the context of teaching courses of the language and literature cycle is Flipgrid. This is the leading video discussion platform used by millions of PreK to PhD students, educators, and families around the world. Flipgrid brings the back row to the front and helps learners of all ages find their voices, share their messages, and respect the diverse voices of others. The app might be successfully used for assessing students' speaking skills. It gives them the chance to think about what they want to comment on, and then record - and re-record - as many times as they like until they feel like they've done well. This platform allows students to post quick video responses and simultaneously teachers then are free to give direct feedback (via video or comments) to a particular student individually or to the whole group. It helps with privacy in only letting registered users see each other's videos. Being teachers in quarantine or practicing blended teaching/learning, we all try to use all the possibilities Flipgrid can offer for student collaboration, feedback and learning. See Fig. 2 [17]:

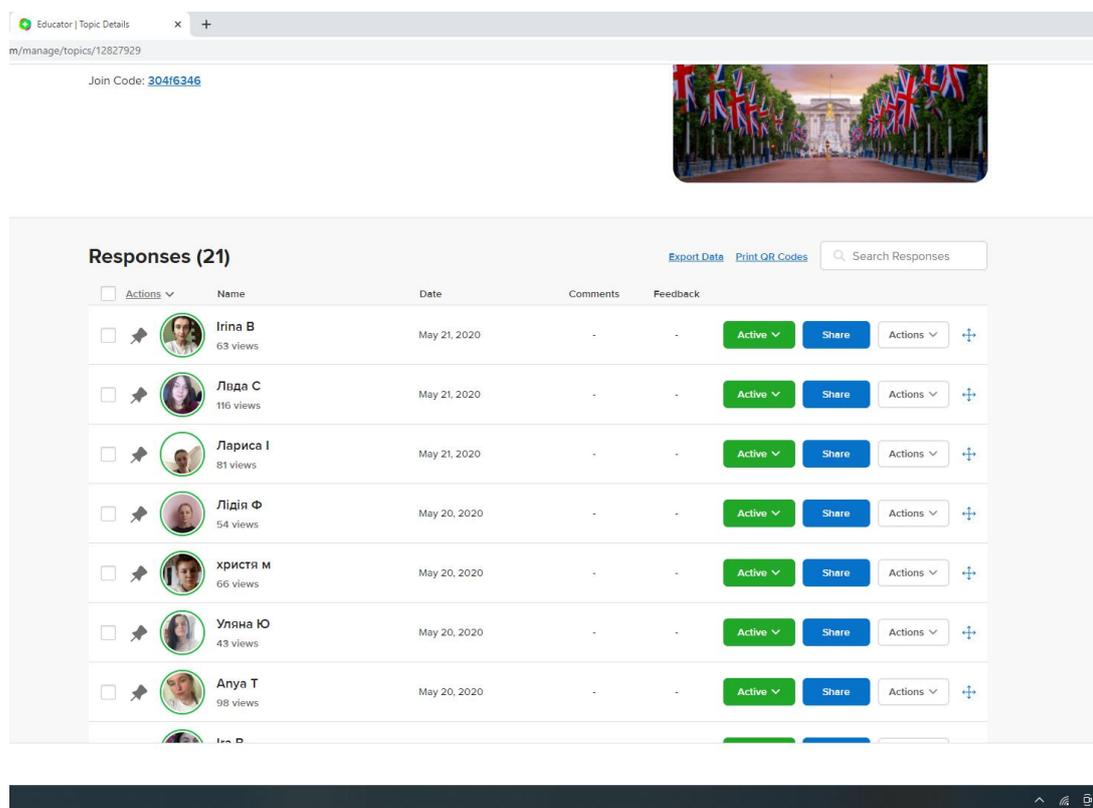


Fig. 2. Screenshot of the class in Practical English with the students of Primary Education and English.

Thus, the use of particular digital tools like Kahoot, Mentimeter, Pear Deck and Flipgrid in the blended classroom can assist with innovative organization of education environment, creative presentation of theoretical information, consolidating students' knowledge, practical skills and abilities, formative and summative assessment of learning outcomes, development of students' competences within certain courses, as well as systematic professional self-improvement.

We do not deny the fact, there are many other useful possibilities to arrange distance learning and make it engaging, absorbing and beneficial for students. This is up to the educator to make the choice.

This problem hopefully may be solved on the national level as Ukraine is going to become one of the first three countries to launch Learning Passport, a global online educational platform developed by the United Nations Children's Fund (UNICEF) and Microsoft Corp. As government officials declare, this service is designed to overcome the educational crisis of the COVID-19 pandemic. As the ex-Minister of Education and Science of Ukraine Lubomir Mandzi mentioned: "The new challenge for the education system is to develop tools and solutions for distance learning that are convenient and understandable for all educators and students. We support the launch of the Learning Passport platform for Ukraine. After all, these are new opportunities for education of our citizens both in terms of quarantine and after its completion" [12]. The content of the platform for Ukrainian children and youth promised to include online books, videos, and additional support information for parents of students with special educational needs. For each country, the platform is designed to provide online curriculum resources and additional materials in the native language. These materials have been selected by experts to best meet the needs of students and teachers [12].

Teachers working to help students achieve their goals may strive to offer quality education content for the distance-learning environment. However, the shared reality of the in-person and the distance learning contexts is that teaching is much less important than focusing on whether and how students are learning. There are countless EdTech apps that can help educators gather this information, analyze it and integrate in a distance-learning space. Which is better? Definitely the human one: teachers providing face-to-face assistance to students who need help in live or asynchronous settings. Distance

learning has the strategic advantage of making it easier in some cases for teachers to pinpoint specific academic struggles.

3. CONCLUSIONS

The quality of implementation and application of distance learning at the Pedagogy Faculty in the process of teaching/studying the academic courses of the language and literature cycle can be assessed by means of such indicators as: efficiency (the degree of absorption of knowledge, the ability to apply the accumulated knowledge in practice, academic success, individual learning process, flexible consultation); accessibility; resource intensity (no need to attend lectures or seminars, financial costs, material resources, classrooms, teachers, etc.); timekeeping (time for learning, reporting to students, etc.); democratic relations “teacher – student”, “student-teacher”, “student-student”; comprehensive software; leading educational technologies.

The necessity of engaging both teachers and students in integrating innovative digital technologies in academic process of education institutions to ensure a quality level of practical classes, creating favorable conditions for self-realization and professional development of future primary school teachers was proved in the course of the practical experience of the researchers. The efficiency of the use of particular digital tools like Kahoot, Mentimeter, Pear Deck and Flipgrid for innovative organization of education environment, creative presentation of theoretical information, consolidating students’ knowledge, practical skills and abilities, formative and summative assessment of learning outcomes, development of students’ competences within certain courses, as well as systematic professional self-improvement was demonstrated. It was found out that among the difficulties most often faced by the education institutions in working with students was identified as follows: providing equal access to online or blended education under the condition of Coronavirus pandemic in rural, mountain and low-income communities, etc. The authors proved the quality of introduction and application of distance learning at the Pedagogy Faculty of the PNU in the process of teaching/studying the academic courses of the language and literature cycle can be assessed by means of the mentioned in the research digital instruments. This will contribute to the practical orientation of the educational process, active participation of each student in the learning process, increasing motivation and engagement in all forms of cooperation in the education environment.

The current geography of global digital education suggests COVID-19 may result in stronger capabilities of regions of Ukraine with sufficient resources, connectivity and infrastructure. However, it is also likely to expose severe insufficiencies in less prepared communities, such as rural and mountain. The question still remains when the current crisis passes and things will go “back to normal” or will we see a sustained increase in the mainstream adoption of distance learning? The experience of 2021 shows that education institutions of different levels have developed the ability to shift to distance learning, offline learning or blended learning quickly when they need to and go back to normal once the issues “fade”, in the world where emergency situations look increasingly like the norm.

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Received: 28.01.2021; **revised:** 25.03.2021.

Близнюк Тетяна, Будник Олена, Качак Тетяна. Виклики та можливості дистанційного навчання під час пандемії коронавірусу. *Журнал Прикарпатського університету імені Василя Стефаника*, 8 (1) (2021), 90–98.

У статті висвітлено теоретичні аспекти організації дистанційного навчання з урахуванням прогресивного зарубіжного та вітчизняного досвіду. Окреслено практичні та соціальні аспекти дистанційної освіти; визначено механізми ефективного дистанційного навчання; представлено досвід дистанційного та змішаного навчання викладачів Прикарпатського національного університету імені Василя Стефаника. Обґрунтовано необхідність залучення як викладачів, так і студентів до інтеграції інноваційних цифрових технологій у педагогічний процес закладів освіти задля підвищення якості надання освітніх послуг, створення сприятливих умов для самореалізації та професійного розвитку майбутніх учителів початкової школи. Авторами акцентовано на ефективності використання таких цифрових інструментів, як: Kahoot, Mentimeter, Pear Deck та Flipgrid для інноваційної організації освітнього середовища; творчої презентації навчально-наукової інформації; закріплення знань студентів, їхніх практичних навичок і вмінь; формувального та підсумкового оцінювання результатів навчання; розвитку компетентностей у межах вивчення певних дисциплін, а також систематичного професійного самовдосконалення. У статті висвітлено труднощі, з якими найчастіше стикаються заклади освіти у роботі зі здобувачами: забезпечення однаково якісного доступу до Інтернету в організації навчання в умовах пандемії коронавірусу у сільських (гірських) та малозабезпечених громадах тощо. Доведено, що якість дистанційного навчання на педагогічному факультеті згаданого вище університету в процесі вивчення академічних курсів мовно-літературного циклу обумовлена застосуванням запропонованих цифрових інструментів, що сприяє практичній спрямованості професійної підготовки, активній участі кожного учасника у навчанні, підвищенню мотивації та активізації співпраці в освітньому середовищі.

Ключові слова: дистанційне навчання, цифрові інструменти, майбутні вчителі початкових класів, професійна підготовка, освітній процес.