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# DISTANCE LEARNING TOOLS AND TRENDS: LOCAL SURVEY OF UKRAINIAN EDUCATORS

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**Abstract:** *The paper considers distance learning tools and trends, as they are very relevant during quarantine. It also examines Ukrainian educators' level of knowledge and skills in using modern distance learning tools and trends. For this purpose, the present authors have designed and implemented a local survey for the Ukrainian university teaching staff (target group) who need to use distance learning tools and trends in their research and professional activity during quarantine. The authors offer ways of improving the Ukrainian educator's level of knowledge and skills in the use of distance learning tools and trends in their professional activity, especially under the quarantine conditions and the ways of development of the Ukrainian educators' digital competencies through the training and retraining of the teaching staff based at the National Pedagogical Dragomanov University in order to prevent gaps in their professional activity.*

**Keywords:** digital technologies, distance learning tools, distance learning trends, quarantine.

## INTRODUCTION

The key resource of the digital society is citizens who are able to effectively and productively use digital technologies for their own needs (self-realization, work, study, leisure), as well as to achieve common economic, social and civilian goals. In this regard, the formation of digital skills and competencies of Ukrainians acquires special significance, which cannot be realized without the transformation of education (Economic Strategy of Ukraine, 2030).

The directions of modernization of education largely depend on the needs of the labor market, which, recently, is very dynamic. In the conditions of rapid development of high technologies, higher education institutions, first of all, pedagogical ones, need

to make adjustments in aspects of their activity, in particular, to update the content of training.

The digital transformation of education opens wide prospects for improving the efficiency of the educational process, deepening the professionalism of educators. Requirements to teachers and lecturers are constantly updating. New and more sophisticated sets of competencies are required to meet the rapid changes in the digital society. The rapid spread of digital devices, their diversity, and popularity among students leads to the need for developing the digital competence of educators (Morze, Vember, & Hladun, 2019, p. 33).

The situation in the world, which has arisen due to the pandemic 2020, is leading to fundamental changes in the educational systems of many countries, including Ukraine. Due to quarantine measures, blended and distance learning technologies come to the fore. Now skills in using distance learning tools are necessary for all educators.

***Research goal.*** This paper reviews the results of the recently completed study specifying readiness level of Ukrainian educators to use the distance learning tools. This attempts to address the following questions:

- analysis of the theoretical backgrounds of the research;
- analysis of the distance learning tools;
- analysis of the readiness level of the Ukrainian educators (from target group) to use of the distance learning tools according to the survey conducted.

***Hypothesis***: taking into account rapid development of the digital technologies, authors believe that the efficiency of the education in general will be increased by improving the development level of their Digital Competences, especially skills in using distance learning tools.

***Research methods.*** The present authors have used the following research methods and tools for the investigation (2020):

- survey;
- interview of the Ukrainian educators;
- documents and content analysis;
- analysis of research papers.

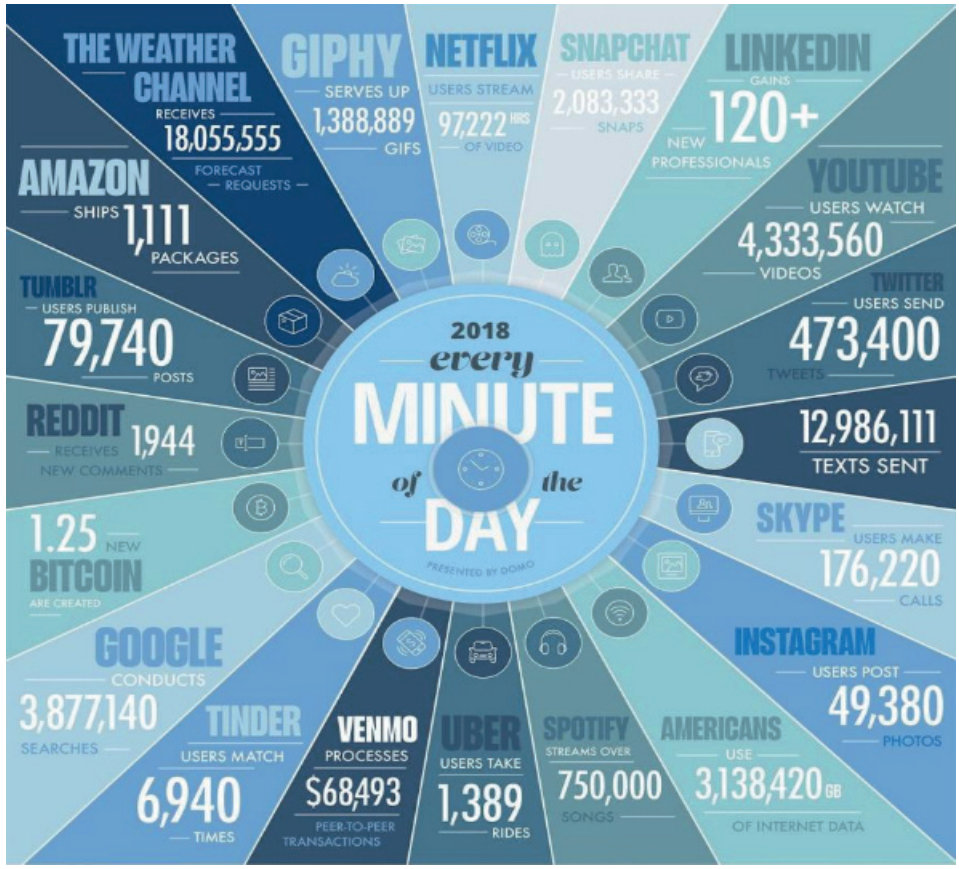
194 Ukrainian educators have taken part in the present research. The Ukrainian educators from the target group (university teaching staff from the National Pedagogical Dragomanov University, Kyiv, Ukraine), have been involved in this process.

The survey was created during this project which purposed to gain data on the readiness level of the university teachers to use the distance learning tools.

## 1. THE THEORETICAL BACKGROUNDS OF THE RESEARCH

Nowadays, the development of digital technologies leads to the transformation of business models, resulting in the constant introduction of new products and services, changing the work format/mode (outsourcing, online platforms, improved automation, robotics, etc.). Working in real-time mode with the use of digital data dramatically changes the ways of management, production, sale and use of products (Vyshnevskyi, Harkushenko, Kniaziev, Lypnytskyi, & Chekina, 2020).

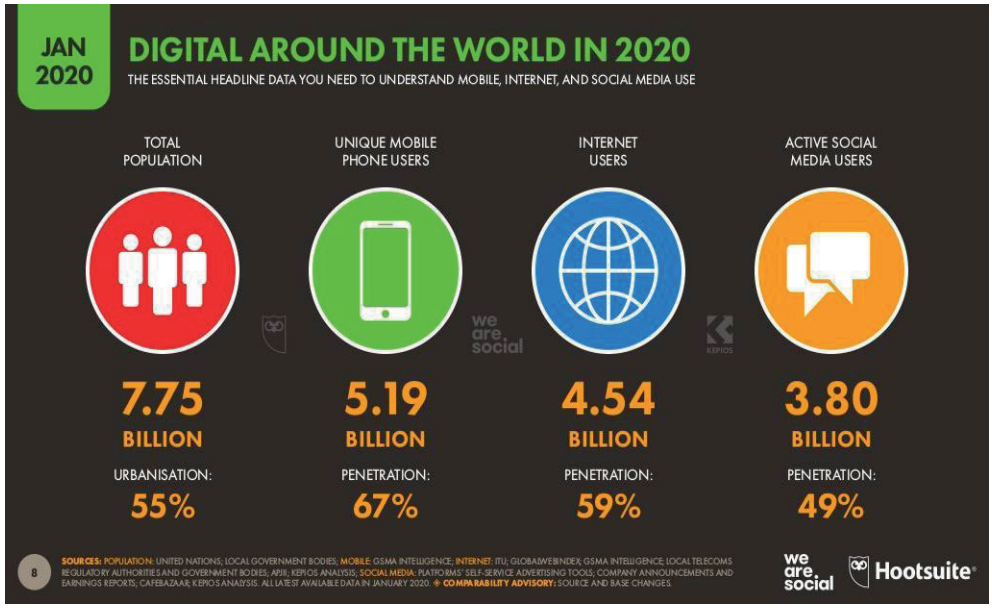
Fig. 1 (infographics) shows an example of the digital technologies entering to our daily life. The information graphics has been developed according to the data of such web portals as Statista, LinkedIn, Internet Live Stats, Expended Ramblings, Slash Film, RIAA, Business of Apps, International Communications Union, and International Data Corporation. This information visualization shows what happened in 1 minute of human activity using digital technologies in 2018 (Data Never Sleeps 6.0, 2018),




**F i g u r e 1. The results of daily human activities using digital technologies in 1 minute in 2018**

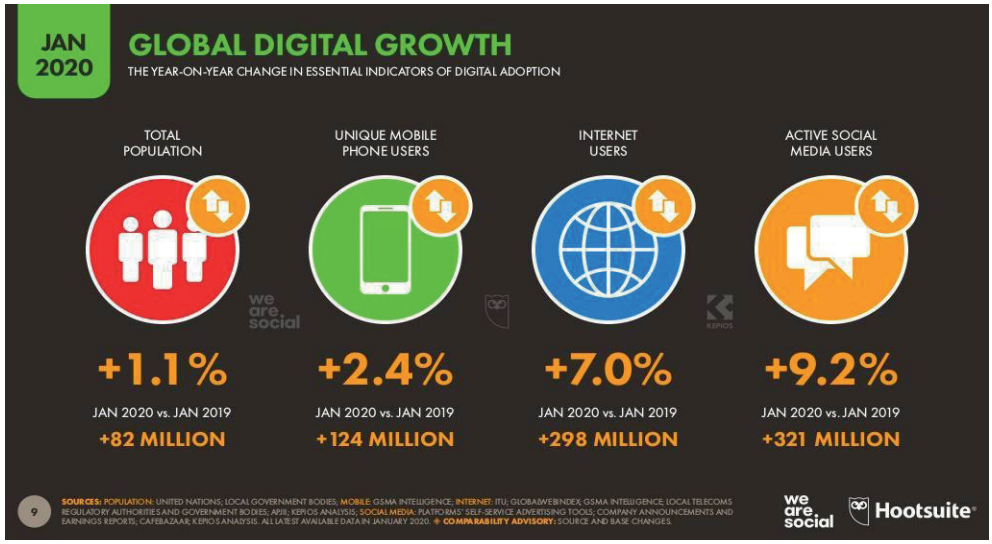
S o u r c e: URL: https://issuu.com/learningtreeintl/docs/data_never_sleep_6_-_infographic (accessed on 11.07.2020).

The statistics data of the *Datareportal* (supported by the agency We Are Social and the social media management platform *HootSuite*) also acknowledge that now the digital technology is an integral part of human life. At the beginning of 2020, it has been determined that more than 4.5 billion people are Internet users, i.e. almost 60% of the world's population can already be online, while 3.8 billion are already active users of social networks (Hootsuite & We Are Social, 2020). It is noted that 5.19 billion people in the world use mobile devices (Fig. 2).




**F i g u r e 2. Statistics on the use of digital technologies in the world**
S o u r c e: URL: https://datareportal.com/reports/digital-2020-global-digital-overview (accessed on 18.07.2020).

The dynamics of changes (increase) in the use of digital technologies in the world is presented in Fig. 3.




**F i g u r e 3. Increasing dynamics of the use of digital technologies in the world**
S o u r c e: URL: https://datareportal.com/reports/digital-2020-global-digital-overview (accessed on 18.07.2020).

This shows that digital technology is an integral part of human life. Digital transformation is becoming the basis of global economic development, which provides benefits to both consumers and businesses that adapt to the technological changes. Thus, in light of the pandemic 2020, digital and distance learning tools are very important tools of the modern education at all levels.

## 2. ANALYSIS OF THE READINESS LEVEL OF THE UKRAINIAN UNIVERSITY EDUCATORS TO USE DISTANCE LEARNING TOOLS ACCORDING TO THE LOCAL SURVEY CONDUCTED

The present research has based on the target group who needs to use distance learning tools in their professional activity. This target group consisted of 194 Ukrainian university educators from the National Pedagogical Dragomanov University (Kyiv, Ukraine).

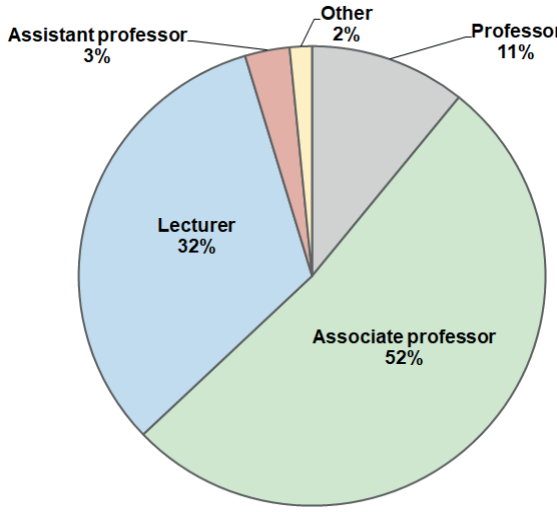
The online survey was elaborated (in Ukrainian) using Google Forms for gaining data on the Ukrainian educators' readiness level to use ICT in their professional activity, especially distance learning tools. We guaranteed participants that only anonymized data would be shared.

The survey was open for 3-month period between March 2020 and June 2020 (quarantine time). It contained information about modern distance learning tools.

The survey included 26 questions divided into three groups:

- general information (about educational role, discipline, age, sex etc.);
- questions related to the educators' professional activities with the use of distance learning tools under the quarantine conditions;
- determining the general distance learning readiness of the University educators under the quarantine conditions (problems, readiness for training, etc.).

The distribution of respondents by educational role is shown in Fig. 4.




**F i g u r e 4. Distribution of respondents by educational role**

S o u r c e: Own work.

As we can see from Fig. 4, the largest group of respondents is *associate professor* (52% of the participants – 101 people). The number of *lecturers* is 63 people (32% of the participants) and the number of *professors* is 21 people (11% of the respondents). The smallest group of participants is *assistant professor* (3% of the participants – 6 people). The "*other*" group includes moderators and department assistants who are not teachers. They are support staff of the university.

This is important to analyze and describe the readiness level of the educators from National Pedagogical Dragomanov University (Kyiv, Ukraine) to use distance learning tools and online learning tools under the quarantine conditions. They are teaching of the future teachers. Their future professional activity depends on how effectively university instructors will teach future teachers with the use of distance learning tools and online learning tools. Namely, the more effectively the university teachers will teach future teachers to use distance learning tools and online learning tools, the more effectively the latter will use them in teaching at school.

The data on the readiness level of the Ukrainian educators from the target group to use distance learning tools and online learning tools are presented in Tables 1–2 and Fig. 5–8 below.

***Q.****: Do you create distance learning activities during quarantine?*

All respondents answered "*yes*", but the next questions and answers will show the tools used by them.

***Q.****: What distance learning platforms do you use?*

Survey responses on distance learning platforms usage are shown in Table 1 (multiple answers are possible, that is why the total responses can be more than 100%):

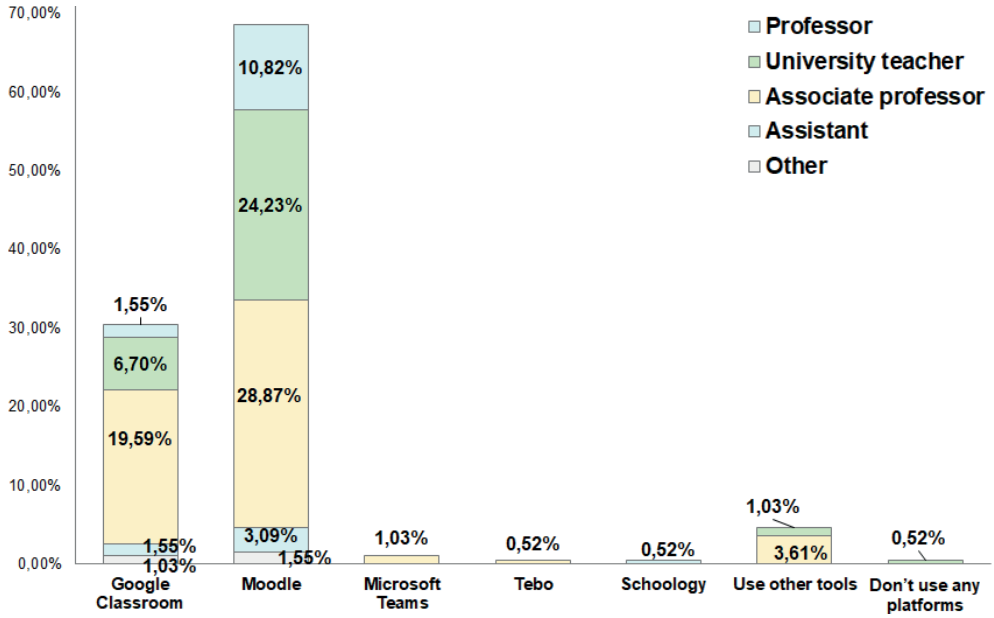
**Table 1**

**Responses distribution on distance learning platforms usage**

| Distance learning platforms | Responses |
|---|---|
| Google Classroom | 30,41% |
| Moodle | 68,56% |
| Microsoft Teams | 1,03% |
| Tebo | 0,52% |
| Schoology | 0,52% |
| Other tools | 4,64% |
| Don't use any platforms | 0,52% |

Source: Own work.

Survey responses on distance learning platforms usage distributed by educational role are shown in Fig. 5 (multiple answers are possible, that is why the total responses can be more than 100%).




**F i g u r e 5. Survey responses on distance learning platforms usage distributed by educational role**

S o u r c e: Own work.

As we can see from Fig. 5, almost all university educators have used distance learning platforms, especially *Moodle* (68,56%) and *Google Classroom* (30,41%). National Pedagogical Dragomanov University has its own educational environment based on *Moodle* (moodle.npu.edu.ua). That is why the common response to this question was "*Moodle*". In addition, educators have used *Google Classroom*, because it is freeware and friendly interface distance learning platform. Among the answers "*Other tools*" respondents sometimes wrote "*e-mail*", "*Zoom*", "*Telegram*", "*Viber*", "*Skype*" etc. It shows that educators do not know that these tools are not distance learning platforms.

***Q.**: What tools for video conferencing meeting do you use in your professional activity?*

Survey responses on video conferencing meeting tools usage are shown in Table 2 (multiple answers are possible, that is why the total responses can be more than 100%). As we can see from Table 2, the largest group of respondents (53,09%) have used *Skype* as a video conferencing meeting tool. The popularity of this tool can be explained by the fact that teachers have previously used it for personal communication. As for *Zoom*, it is used by half of respondents (50%), which can be explained by a simple interface and the availability of browser and free versions of this software. At the same time, about 15% of educators from the target group did not use any tools. This means that there is a need to improve their skills in the use of distance learning tools and online learning tools.

**Table 2**

**Responses distribution on video conferencing meeting tools usage**

| Video conferencing meeting tools | Responses |
|---|---|
| Google Hangouts Meet | 11,34% |
| Zoom | 50% |
| Microsoft Teams | 2,06% |
| Skype | 53,09% |
| Viber | 6,19% |
| Telegram | 2,06% |
| YouTube Live | 8,76% |
| Other tools | 3,61% |
| Don't use any tools | 14,95% |

Source: Own work.

***Q.****: What tools do you use for designing and creating electronic teaching materials (tasks, exercises, practices, tests, etc.) in your professional activity?*

Survey responses on using tools for designing and creating electronic teaching materials are shown in Fig. 6 (multiple answers are possible, that is why the total responses can be more than 100%):

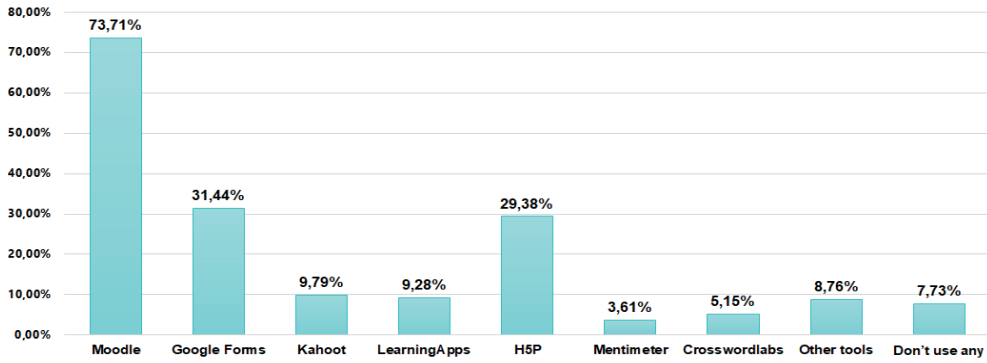



**Figure 6. Survey responses on using tools for designing and creating electronic teaching materials**

Source: Own work.

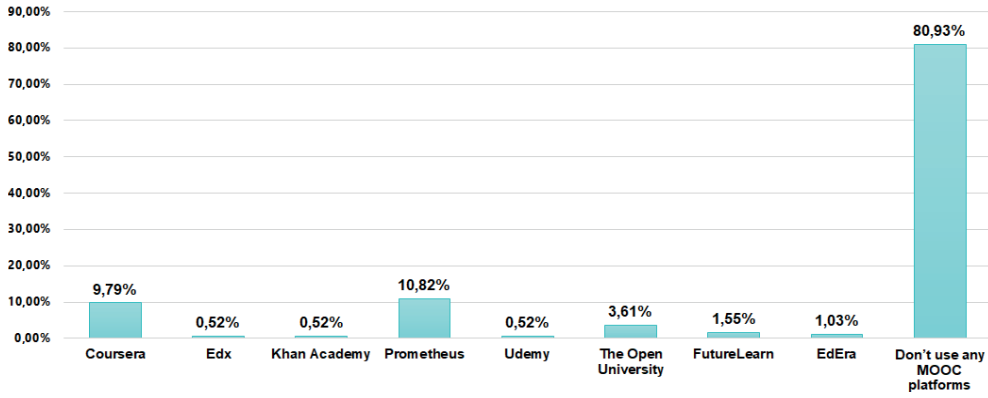
Fig. 6 shows that the most popular tools for designing and creating electronic teaching materials are *Moodle* (73,71%), *Google Forms* (31,44%) and *H5P* (29,38%). In this case, materials developed using *H5P* can be embedded in *Moodle*.

The group "*other*" includes the following tools: *Quizizz*, *Testmoz*, *Socrative*, *Liveworksheets*, *Actionbound*, *Edpuzzle*, *Wordwall*, *Baamboozle*, *Classtime*, *Hot potatoes*, *Crosswordlabs*, *Easy generator*, *Idoceo*, *Google Classroom*. But their use are not very popular (8,76%) among the tools used by the university teachers. This means that the teachers try to use *Moodle* (as a tool of education and information environment of the university).

At the same time, some respondents do not use any tools (about 8%), which indicates a lack of technical means for the development of electronic teaching materials and / or the need to improve their skills in the development of relevant digital competencies. The last issue needs further research.

***Q.**: Do you use MOOC platforms for the organization of distance learning?*

Survey responses on using MOOC platforms for the organization of distance learning are shown in Fig. 7 (multiple answers are possible, that is why the total responses can be more than 100%).



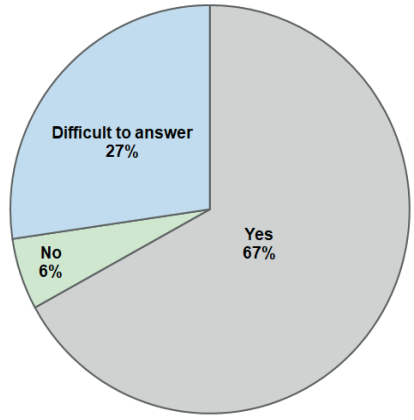

**F i g u r e 7. Survey responses on using MOOC platforms for the organization of distance learning**

S o u r c e: Own work.

Analysis of the MOOC platforms usage is shown that educators from the target group prefer using *Prometheus* (http://prometheus.org.ua) – 10,82% of the participants, and *Coursera* (https://coursera.org) – 9,79% of the participants. *Prometheus* is the Ukrainian project for developing MOOCs (Strutynska & Umryk, 2016, p. 302). One of the reasons for using this provider by educators from the target group is the fact that all courses are in Ukrainian. *Coursera* is probably also used by them because it has many courses in Russian and/or with Russian (sometimes with Ukrainian) subtitles. The analysis of these data (in Fig. 7) has shown that probably most respondents (almost 81%) do not have enough information on how to use MOOCs for the organization of distance learning. It shows that educators from the target group need to improve their knowledge and skills in using MOOC and to embed them in distance learning.

***Q.**: Would you agree to advanced training (retraining, second higher education, self-study) in order to implement distance and online learning technologies in the educational process?*

Survey responses on the readiness of educators from the target group for advanced training in the use of distance and online learning technologies in their own professional activity are shown in Fig. 8.




**F i g u r e 8. Survey responses on readiness of educators from target group to advanced training for the use of distance and online learning technologies in their own professional activity**

S o u r c e: Own work.

As we can see from Fig. 8, most of the Ukrainian educators from the target group (67% of the respondents) are ready to advanced training for the use of distance and online learning technologies in their own professional activity. We are planning to outline the ways to improve their Digital Competences in this field in our further research.

## 3. THE WAYS OF IMPROVING UKRAINIAN EDUCATORS' DIGITAL COMPETENCES IN USING DISTANCE LEARNING TOOLS

The survey results show that the level of knowledge and skills of the target group in the use of the distance learning tools need to be improved.

Basing on the experience gained in this research and on the feedback received from the target group, authors are planning a scenario for the next ways of improving the Ukrainian educator's level of knowledge and skills in the use of distance learning tools and trends in their professional activity, especially under the quarantine conditions:

- analysis and adaptation of the best European practices in the use of the distance learning tools in the professional activity for training the Ukrainian educators;
- creating new modules concerned with the use of distance learning tools during teaching-learning process for retraining of the Ukrainian educators;
- implementation of new modules for improving the educators' Digital Competencies in using distance learning tools with the support of the Digital Educational Technology Center of the National Pedagogical Dragomanov University;
- inclusion of some units into the existing university courses for implementation of the distance learning tools and trends in the National Pedagogical Dragomanov University.

The authors also offer to improve the teaching-learning process in the field of digital competencies development through the training of future teachers in the National Pedagogical Dragomanov University to prevent of the gaps in their future professional activity.

## CONCLUSIONS

Schools and universities around the world have completely or partially closed their doors to most students. On the one hand, the situation of educational institutions needs to be drastically changed, but on the other hand, it is a good chance to raise awareness and deepen skills related to using of distance learning technologies and understanding of distance trends among educators around the world.

The process of digitalization of all spheres of human life is unavoidable, and according to the practice of the world's leading universities, education should not keep aloof from this process. The problem of using distance learning technologies is extremely acute and relevant. Therefore, the analysis of the educators' level of skills and awareness in this matter is the starting point for decisive changes in improving the competence of educators and organizing the educational process in general.

In the future, the present authors are planning plan to design the models of the teaching-learning process in quarantine conditions.

## ACKNOWLEDGEMENTS

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