

How to Teach Pedagogy Courses Online at University in COVID-19 Pandemic: Search for Answers

Olena TERENKO¹, Olena
OGIENKO²

¹Associate professor, Phd, A.S. Makarenko
Sumy State Pedagogical University, Sumy,
Ukraine, eterenko@gmail.com

²Professor, Dr., A.S. Makarenko Sumy
State Pedagogical University, Sumy,
Ukraine, el.ogienko@gmail.com

Abstract: The worldwide spread of COVID-19 pandemic poses new challenges to higher education, in general, and to pedagogical education in particular. The transition to distance education can minimize the impact of the pandemic on the teacher training system. The purpose of the article is defining approaches to teaching online pedagogy courses at the university. Didactic effect was determined of the complex use of Moodle and Prometheus online platforms, Zoom webinar software, mobile learning technologies and various web servers for teachers in the course of online teaching of pedagogical disciplines to future teachers. The results of the study indicate their flexibility, multidimensionality and ability to provide interactive learning. It has been found that an important condition for the effectiveness of distance learning in quarantine is the provision of educational and information support for teachers and students. Most of the students positively accepted the proposed methodology, and the teachers noted an increase in students' motivation for learning and their cognitive activity. The results of the study indicate the appropriateness of using the selected platforms and tools in teaching online pedagogy courses at university.

Keywords: *pandemic; distance learning; teacher training; university; pedagogical disciplines; online learning platforms and tools; mobile learning; interactivity.*

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Introduction

COVID-19 has forced the whole world to wake up in a different reality. COVID-19 at the same time has become an educational challenge and a catalyst for finding new approaches and innovative solutions to the organization of the learning process. The transition to distance education, the use of e-learning and mobile learning technologies, various virtual learning platforms can minimize the impact of the pandemic on the education system, in general, and pedagogical education in particular. The problem of distance education has long been in focus of many scientists, and is an international problem. Iwai (2020), for example, stresses the need and urgency to use distance learning at universities in the conditions of the COVID-19 pandemic. Goh and Sandars (2019) argue that education is increasingly becoming a digital world with a range of new technologies that are transforming and challenging pedagogical activities. Kearney and Maher (2019) focus on the expediency of using mobile devices in teacher training and professional development. Raffaghelli et al. (2016) present a systematic review of the literature on digital scholarship. Martin et al. (2019) developed a conceptual framework focused on online course design, assessment and facilitation. Trust (2017) and Ogienko (2016) emphasize that in teacher training, the use of technology enables learning through creation and problem-solving, develop creativity, and critical thinking. The analysis of the scientific literature has shown that the problem of using distance education in teacher training in the context of the COVID-19 pandemic has not been the subject of recent research.

The purpose of the article is to identify approaches to online teaching of courses in pedagogy at university in conditions of COVID-19 pandemic.

Our article is based on the research of the authors on the complex use of Moodle and Prometheus online platforms, Zoom webinar software, mobile learning technologies and various web servers for online teaching of pedagogy courses at university.

Materials and methods

In our study, we used mixed research design which involves quantitative and qualitative methods. The research was carried out at A.S. Makarenko Sumy State Pedagogical University (Sumy, Ukraine) (January – March 2020). Permission to conduct the study was granted by the decision of the Academic Council of the university. The study participants were 2nd

year students of the Faculty of Philology and the Faculty of Natural Sciences (78 students in total) who studied pedagogical courses (“Pedagogy”, “Innovative technologies in education”) under quarantine. The ethical basis for involving students in the experiment was their voluntary consent.

At the beginning of the study, a survey was conducted among the university staff (university administration (12 persons), teachers of pedagogical disciplines (35 persons)) by means of an online questionnaire with the use of Google Forms app. The questions of the survey were related to their attitudes and readiness to conduct the entire training process at university online: availability of web resource management software, interaction tools, facilities, training programs, learning materials, teachers’ IT competencies, teachers’ motivation, students’ motivation. We also interviewed 78 students with the help of an online questionnaire using Google Forms. The questions related to their attitudes and readiness for distance learning, motivation and interest in distance learning, potential difficulties, readiness for independent learning, and level of information culture.

The main criteria for the selection of online platforms and tools for the study of pedagogical disciplines were their accessibility, ease of use, provision of audiovisual contact.

The basis for the transition to distance learning of pedagogical disciplines was the electronic learning environment of the university on the basis of Moodle platform which contained all the necessary educational materials for students.

Since the profession of the teacher belongs to the socio-economic type of work, where communication that accompanies the pedagogical activity becomes a professional factor, and the pedagogical activity is realized through pedagogical action (Ogienko, 2016, p. 85), the verbal communication becomes decisive in the process of teacher training. In view of this, we used the Zoom webinar software for conducting webinars and discussions to provide audiovisual contact with future teachers.

An important addition to our work was the use of mobile learning technology (m-learning) which we view as a new educational paradigm for SMART education and the basis for creation of new learning environment where students can access learning materials at any time and place and which makes the learning process inclusive and motivating to learning (Kearney & Maher, 2019).

In order to optimize the educational process, enhance students’ activity, increase their motivation to study, we used web services to create interactive tasks and feedback, particularly, LearningApps web service – for

designing tutorials in pedagogical disciplines, creating an individual profile of each student and combining their accounts into a teacher's own account; Formativ web – for monitoring students' work online and providing feedback; Kahoot Web Service – for creating online quizzes, tests and surveys. The use of Prometheus platform gave students an opportunity to choose a cycle of “Modern Teacher Education” courses which include “Introducing Innovation in Schools”, “Design Thinking in School” courses and others. We discussed the video lectures, performed the tasks and realized communication in the forums and at the webinars of the “Innovative technologies in education” course.

In order to identify problems that students encountered while studying with the use of our methodology, we conducted a survey of students by means of an online questionnaire with the use of Google Forms app. The questions of the questionnaire were related to the comfort of use of the online platforms and tools chosen by us, volume of the learning materials, students' interest, their motivation and difficulties in learning.

Results and discussion

The results of the survey at the beginning of the study showed that almost all respondents expressed their concern and uncertainty about the new challenge – complete transition of the university to distance learning mode (91%). The teaching staff was concerned about the lack of well-designed web-based curriculum resources (41%), web-based resource management software (59%), distance learning and learning management tools (48%), proper level of IT competence of teachers (33%), learning materials (29%), students' motivation (69%). Students noted the difficulties related to visual impairments (6%), unstable internet access (21%), self-study skills (31%), lack of “live” communication (47%). However, in spite of the existing difficulties, all respondents (100%) agreed that the transfer to a distance learning mode is the only correct solution in the quarantine conditions and expressed their readiness to overcome the existing difficulties. Such survey results have led to creation of methodological guidelines for teachers of the pedagogical departments regarding the development of curricula and placing them on the university's educational portal; conducting webinars for teachers with the use of online platforms; providing each e-learning course with an explanation for students regarding course designs and organization of learning under quarantine.

The results of the study showed that the transition to distance learning of future teachers was promoted by the pre-created e-learning environment of the university based on Moodle.

The transition of teacher training to online mode requires consideration of the fact that the essential feature of the students' future pedagogical activity is constant verbal communication with the participants of the pedagogical process. Therefore, the criterion of interactivity in the choice of online platforms and resources for the study of pedagogical disciplines was of primary importance. We believe that the Zoom webinar software system is a good choice when studying pedagogical courses because it provides audiovisual contact for learners. For example, we used Zoom for seminars, which gave students an opportunity to engage in discussions, view educational content on their smartphones. Students noted that in such mode of instruction they were more motivated to study, and felt no discomfort.

At the same time, the use of mobile learning has allowed to fundamentally change two main components of the pedagogical process: access to learning tools and forms of implementation of the educational interaction. Its use in the study of pedagogical disciplines made it possible to ensure the interaction between the teacher and the student; control the students' performance in the remote mode; create virtual groups for operational interaction between students; increase students' motivation through the use of familiar electronic devices and virtual environments.

We have found that the value of using web services for teachers is in that they help to increase students' activity and motivation, create interactive tasks, and provide feedback.

Analysis of answers of students involved in the study of pedagogical disciplines by our method showed that the majority of them were satisfied with the outcomes of learning (87%), 13% of the students indicated that they were partially satisfied and would like to see more video lectures and presentations. When asked "What problems did you experience while studying the course?" the majority of students answered: technical (43%), in particular, inconveniences in accessing the application, transmitting information; methodical (29%), in particular, the information was not always presented clearly, there was not enough "live" communication. 27% of respondents did not experience any problems. On the one hand, these indicators testify to the appropriateness of further use of these online platforms and tools and, on the other hand, – to the need of focusing on those online tools that provide interactive teaching of pedagogical disciplines.

We have shared our experience of organizing teacher training in quarantine conditions, but at the same time we understand that the choice of online resources for teaching pedagogical disciplines is a debatable question and cannot be answered unanimously because it requires the consideration of both objective and subjective factors.

Conclusion

Our study shows that teacher training in the COVID-19 pandemic is an international problem. Its solution requires the unification of the education community, the study and analysis of educational experiences around the world. Today, support and understanding are more important than ever. In view of the difficulties faced by teachers and students in condition of the pandemic, we shared our experiences of and reflections on the choice of distance learning technologies and Internet resources that allowed us to avoid interruption of the learning process at university in these unusual crisis conditions.

As our experience shows, it is advisable to study the pedagogical disciplines at university with the combined use of the online Moodle and Prometheus platforms, Zoom webinar software, mobile learning technologies and various web servers for teacher. This provides flexibility, multidimensionality and interactive mode of learning. We emphasize that an important condition for the effectiveness of distance learning in quarantine is the provision of educational and information support for teachers and students regarding the features of online instruction. It should be noted that the majority of students had positive attitudes to the proposed methods of studying pedagogical subjects online, and the teachers noted the increase in students' motivation for learning and their cognitive activity.

We hope that our approach to online teaching of pedagogy courses at university will be of use to the international education community. We would also like to point out that the transition to online teacher training requires empathy, understanding, and active communication between all participants of the learning process. Both teachers and students are now adapting to new conditions and must be patient with each other. It is a big challenge and we admire how actively all concerned are involved in these changes and learning together.

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