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The Potential of Online Learning in Modern Conditions and its Use at Different Levels of Education

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> Abstract --- The purpose of the work is to explore the potential of online learning in modern conditions and to assess the possibilities of its use at different stages of the educational process. The reason for the mass appeal to this form of education is that the entire education system from primary to higher level underwent a transformation during the period of isolation associated with the spread of COVID-19. Practice has shown that in the current conditions, the existing resources of educational institutions can effectively transform formal education into online education with the help of virtual classes and other key online tools. Today, taking into account the unstable epidemiological situation in the world, online training continues to be relevant for various educational organizations and is used today along with the traditional form of training. For this reason, the study of the potential of this form of education will not lose its relevance for a long time. The use of online learning technologies places high demands on teachers. Excellent knowledge of the subject area, professional computer knowledge, communication skills, clarity of expression, emotional connection with students and other necessary skills to meet the needs of online platforms, as well as the ability to solve small

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problems during and after online classes are considered as online learning skills and methods necessary for teaching online in this pandemic. The experience of working in a virtual classroom, patience, empathy, caring for students, excellent presentation skills with an appeal to a given topic, correct handling of learning tools, accessible, with convenient functions, were additional skills necessary for managing the online learning process.

Keywords---educational process, online discussions, online learning, traditional form of education, virtual classes.

Introduction

In 2020, the world is faced with the need to resist a new infectious disease that has overtaken the whole world. The virus that caused the lightning spread of this disease was called COVID-19 and originated in the city of Wuhan in China. The spread of the virus occurs with close contact of people, and its main danger to humans is a high level of various complications and mortality. The COVID-19 pandemic has caused the greatest global crisis in all sectors of the economy. The International Labour Organization (ILO) estimates that 195 million jobs may be lost during the pandemic (Ali, 2020).

One of the most preferable ways to suppress the consequences of this crisis is to take measures to contain COVID-19 in their respective territories, such as selfisolation. This measure is defined by the protocols of the state of emergency, applied by the competent authorities (in this case, these are the central authorities and the governments of various countries), it consists in restricting people from leaving their places of residence and represents a general quarantine.

Due to the quarantine, there is an increasing movement of the vector towards online learning due to the closure of schools, institutes and universities for an indefinite time as the only remaining option to limit the spread of the virus. Teachers from all over the world were forced to rethink, update and rebuild the education system in an urgent need in an unprecedented current situation (Moore et al., 2011).

At the present stage of the spread of coronavirus infection, online education is a pedagogical transition from traditional to innovative teaching methods – from classroom-based forms of training to pedagogical scaling, from personal to virtual and from seminars to webinars. Previously, e-learning, online education and corresponding courses were widely considered as part of non-formal education, but at the moment there is an opinion that such training can gradually replace the system of formal education if emergency circumstances of various nature arise (Aristovnik et al., 2020).

Materials and Methods

In the process of writing the article, articles and monographs were studied within the framework of the research topic, as well as comparative research methods were used.

Results

Due to the COVID-19 crisis, teachers and students at different stages of the educational process found themselves in a situation where they were forced to use digital academic experience as the highest benefit of the online learning process. With the help of digital technologies, teachers can organize the educational process, since during the period of self-isolation, only online training was available to students (Agafonova et al., 2015).

During the entire time of the spread of coronavirus infection, there were periods when it became impossible to attend classes as usual, since maintaining social distance was of paramount importance. In addition, the online training mode provides a sense of psychological security for students during the spread of COVID-19.

The second aspect concerns changes in the educational process, within which there are two options: either to adopt a new online learning mode, using the experience of other educational organizations, or to introduce their own innovations in teaching (Igor et al., 2015). Research is always aimed at finding a more convenient model for implementation. After four months of general self-isolation, there was a shift in the paradigm of online learning, which was taken for granted and adopted by most educational organizations as an alternative to traditional training (Hrastinski, 2009).

When switching to distance learning, administrative officials of schools and universities recommended that classes be held asynchronously. At universities, videoconferencing was used during working hours, it answered students' questions to clarify the content and, if necessary, maintained additional contacts with students. Didactic content was presented through pre-recorded lecture presentations using various tools such as VoiceThread and voice over PowerPoint. Virtual online meetings were held using various platforms, such as Microsoft ® Teams and Zoom (George, 2020).

Modern technological advances allow teachers to use several ways of designing online content. When developing online courses, it is very important to take into account the preferences and perceptions of students in order to make learning effective and productive. The student's preferences are related to the willingness or desire of the student to participate in joint training and factors that affect the readiness for online learning (Kent et al., 2016).

Along with school education, researchers note the importance of using online education in higher education. The concept of readiness for online training in the sector of vocational education and training is proposed in the literature. The researchers described the readiness for online learning mainly in terms of three aspects:

- The student's preference for the method of teaching as opposed to face-to-face classroom training;
- The student's confidence in the use of electronic communication for training, which includes competence and trust in the use of the Internet and computer communication;
- The ability to participate in autonomous learning.

Later, several studies were conducted for the practical implementation of the concept of readiness for online learning. The factors that, according to the researchers, influenced the readiness for online learning were:

- Self-study;
- Motivation to study;
- Availability of high-speed Internet access;
- The desire to communicate online, etc.

Any efforts to improve the effectiveness of online training should be aimed at understanding the perception of users. Studies have documented both favorable and unfavorable perceptions of online learning by students. Several studies show that the interaction of a teacher with students has a significant impact on the perception of online learning by students. The advantages of on-line training include:

- The possibility of learning through interaction;
- Flexibility of online learning;
- The opportunity to interact with teachers and peers in an online format;
- Social presence, etc. (Satorra & Bentler, 2010).

It was concluded that the effectiveness of the online class depends on the wellstructured content of the training course, well-trained teachers, advanced technologies, as well as feedback and clear instructions. Online learning platforms provide a number of tools that can be used for sampling to ensure a good match between tasks and technology; it is important to align the platform's functionality with learning activities in order to minimize stress for students. In addition, the availability of real-time IT support affects the format and flow of the course when real-time disruptions occur, since students' frustration with technology can negatively affect learning and satisfaction with the course, regardless of its content.

Several researchers compared the effectiveness of online or web-based lessons with regular training in traditional classrooms. The types of possible meetings that can take place on the Internet, compared with regular classes, are significantly different, and the influence of communication in a particular environment can have a direct impact on the attitude of students and teachers (Schmid, et al., 2021).

In the course of the research, students 'and teachers' perception of the online learning experience compared to regular classroom classes was studied, and ambiguous results were obtained that require further study. Some of these studies analyzed the nature and degree of interactions that are available online, the flexibility and accessibility of web-based instruction, etc. It was also concluded that there was no significant difference between online training and face-to-face training in terms of their effectiveness, as well as in terms of their academic performance. Studies have also confirmed the fact that online classes will be just as effective as traditional ones if they are designed accordingly.

Discussion

The researchers conclude that online learning can be carried out synchronously, asynchronously and in the form of a hybrid combining online learning with faceto-face training, as well as synchronous and asynchronous activities. The positions of various scientists confirm that each of them has its own advantages. For example, studies confirm that students may prefer synchronous delivery, as it helps to develop interaction and communication between students and facilitators, and among the advantages of asynchronous methods is the ability of students to repeat online actions and view material at their own pace using guided instructions.

Studies show that the majority of secondary school and university students preferred online classes to cope with the curriculum due to self-isolation as a result of the COVID-19 pandemic, but there were also those who suggested suspending classes or providing reading materials until the lockdown is lifted. The reason for the emergence of these two positions was the peculiarities of the respondents ' perception of online classes (Seufert et al., 2020).

The successful components and obstacles identified by the authors in the online learning environment are also interesting. A number of works allowed us to get some fundamental ideas about the prospects of online learning. One of the main factors listed to determine the success of online classes was the structure of online classes.

In order to increase the productivity of students, long classes should be avoided and a sufficient break should be taken between two consecutive classes. This will not only avoid cognitive load, but also take care of the physical stress caused by prolonged use of electronic gadgets (Evans et al., 2019).

The technical skills of teachers and students associated with the use of a computer and the Internet are the main factor determining the effectiveness of online classes. Convenience and flexibility were identified as the strengths of online classes. The researchers note that according to the students' thoughts, it was convenient to work on an online course in joint groups, without changing the schedule for everyone, as it would be with traditional classroom teaching (Bensley et al., 2011; Engum et al., 2003). It was also determined that students often had access to course resources from their home computers, the most convenient place for them. Therefore, care should be taken to improve online classes depending on the convenience of the student, and it would be better if the recorded videos are

uploaded to the school or university website so that the student can access the videos according to the convenience.

It should be taken into account that the education system in modern universities pays great attention to the transfer of practical skills to students. But conducting practical classes online is not an easy task. As a result of adapting to the changed times, innovative solutions are being developed, such as 3D virtual laboratories (Zhang et al., 2014; Asoodar et al., 2014).

The competence of the teacher in communication, as well as his ability to use multimedia content for effective presentation is very important at this stage. The results of the study clearly emphasize that the lack of teacher competence may be the main reason for the decline in the effectiveness of online classes, and also require further study of the potential of recent initiatives in the field of online practical classes to further develop suitable models or applications to meet real needs.

Interactivity has been recognized as one of the main driving forces of the success of online classes. For example, some authors believe that the development and maintenance of a collaborative learning space in an e-learning environment is important for maximum satisfaction of participants. The authors also note a strong correlation between the social presence of students and their overall satisfaction with the environment (Altam et al., 2020).

Online classes should involve participants in frequent, meaningful activities that help them stay focused. The importance of the frequency of interaction during online classes was also explained by the researchers. It was found that the lack of efficiency in receiving responses to requests also turned out to be a problem in online training. Therefore, the teacher should take care to immediately answer students' questions (Heuberger & Clark, 2019).

Also in the literature, proposals have been developed to improve the efficiency of online training. It was found that appropriate content, connectivity, recorded videos and proper follow-up make online classes on par with the traditional classroom situation. Thus, online learning, among other things, also enhances educational opportunities (Ritonga et al., 2021).

In the near future, schools and universities may apply a hybrid mode, when classes are held online, and practical classes are held in small batches with social distancing. The results of the research can be very useful in the development of content, as well as the structure of online classes.

Thanks to efforts to prevent the spread of the new coronavirus, the contours of the education system are changing, and online education is becoming the main means of learning. Universities and institutions are switching to online platforms in order to keep up with their curricula. It may be too early to say how students and teachers will cope with online learning as they understand the limitations and reorient themselves to solve them, but the perception and readiness of teachers and students is an important factor that is fixed in the specialized literature. The authors note that the majority of students showed a positive attitude to online classes even after the partial lifting of restrictions related to self-isolation. Online learning was recognized as beneficial because it provided flexibility and convenience for students.

Students preferred well-structured content with recorded videos uploaded on university websites. They also pointed out the need for interactive classes with quizzes and tasks at the end of each lesson to optimize the learning process. However, most students also believe that online classes can be more difficult than traditional classes, due to technological limitations, late feedback and the inability of the teacher to effectively use information and communication technologies. Therefore, all these factors should be taken into account when developing an online course to make it more effective and productive for the student. It is quite possible that after the COVID-19 pandemic reduces its activity, it will be possible to observe a further increase in the number of educational systems using online platforms for training courses, for example, in a hybrid mode in combination with regular classes.

However, there are studies in the literature concerning the assessment of factors that form students' dissatisfaction with online education. The results of the analysis show that the most important factor behind the dissatisfaction of students is distraction and decreased concentration, as well as insufficiently organized interaction of students with teachers and colleagues. 72% of participants are easily distracted during live online classes. As for interaction, more than half of the participants (62%) reported poor interaction with teachers and colleagues (Kalman et al., 2020). The other two factors introduced are psychological problems and management. 60% of students have experienced psychological problems, such as feeling more bored, anxious and frustrated during online training than with traditional training, which is consistent with the results of previous studies. Moreover, 62% of the participants had a problem with how to balance their studies and life activities. In addition, almost half (48%) of the participants had time management problems related to search. This conclusion confirms the recently published results of a study of online learning and student satisfaction during the COVID-19 pandemic. The results of the analysis show that students expressed a lot of concern about learning problems and were mostly bored, anxious and disappointed. Disruptions in online learning and the fear of losing the academic year increase the psychological distress of students (Hemanth, 2020).

As for the level of difficulty of exams and quizzes, students reported that the level of difficulty is increased compared to traditional training, since half of them (50%) so they think. On the other hand, an average of 45% of participants reported that workload is one of the factors of their dissatisfaction. They reported that the workload of online training increases compared to traditional training, because they have more exams, quizzes, tasks, and class work has turned into homework. Finally, technology and Internet connectivity, as well as inadequate support, were not the main factors. 35% of the participants in this study reported poor connectivity due to multiple simultaneous users, 17% reported a lack of adequate devices and technological literacy. On the other hand, 17% reported a lack of support from colleagues, teachers and an administrator, and only 5% of

participants reported that they had to use online platforms to seek support. This study confirms that the factors behind students ' dissatisfaction with online learning during the COVID-19 pandemic are comparable to traditional learning. These factors distract and weaken attention, technology and Internet connection, insufficient support, workload, level of complexity, interaction, psychological problems and management (Rahiem, 2020).

Conclusion

The use of online learning technologies places high demands on teachers. Excellent knowledge of the subject area, professional computer knowledge, communication skills, clarity of expression, emotional connection with students and other necessary skills to meet the needs of online platforms, as well as the ability to solve small problems during and after online classes are considered as online learning skills and methods necessary for teaching online in this pandemic. The experience of working in a virtual classroom, patience, empathy, caring for students, excellent presentation skills with an appeal to a given topic, correct handling of learning tools, accessible, with convenient functions, were additional skills necessary for managing the online learning process.

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