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## **MODERN ONLINE TECHNOLOGIES OF DISTANCE EDUCATION**

The introduction of distance education began in Ukraine in recent decades, but did not gain wide popularity and importance, because conventional education was the best option for applicants for higher education. However, as in any process, there is always a developmental stimulator. In this case, such an incentive, and unfortunately a negative one, was the global COVID-19 epidemic. Due to the spread of the COVID-19 epidemic on March 11, 2020, the Cabinet of Ministers of Ukraine has decided to introduce quarantine for all types of educational institutions. Pursuant to the Resolution of the Cabinet of Ministers of Ukraine No. 211 "On Preventing the Spread of Acute Respiratory Disease COVID-19 Caused by the SARS-CoV-2 Coronavirus on the Territory of Ukraine" No (2020), all higher education institutions switched to distance learning mode on March 12, 2020. Over time, in some regions, the epidemiological situation allowed for the educational process both remotely and in a mixed form. But the most important task has been the problem of professional application of technologies and information digital tools and means for organizing the educational process.

According to Google Trends – the topic of 'distance learning' increased in popularity at the start of lockdown (which equated to over 10,000 UK searches per month at the peak).

The full-scale war in Ukraine led to the continuation of distance education.

Distance education courses and programs provide students with flexible learning opportunities. These became especially important in the spring of 2020 when the coronavirus pandemic began to disrupt education in the whole world.

In the USA in fall 2020, some 75 percent (11.8 million) of all undergraduate students were enrolled in at least one distance education course, and 44 percent (7.0 million) of all undergraduate students exclusively took distance education courses. The number of undergraduate students enrolled in at least one distance education course was 97 percent higher in 2020 than prior to the pandemic in fall 2019 (11.8 million vs. 6.0 million). The number of undergraduate students exclusively enrolled in distance education courses was 186 percent higher in 2020 than in 2019 (7.0 million vs. 2.4 million).

Educational applications and websites are used in digital classrooms to assist students in improving their learning experience. Feedback loops and technology are two critical components of a digital classroom. Feedback loops are essential for students to obtain real-time feedback from their teachers. Teachers can use feedback loops to provide feedback depending on many factors such as student, lesson, group, etc. PPTs, video presentations, e-learning methods, online training, and other digital approaches are increasingly used in the teaching-learning process.

Now digitization is needed not only in the learning process, but also in the confirmation of education:

New digital documents will appear in Diya: education diplomas and school certificates.

You can use smartphone documents instead of paper documents in all life situations. When getting a job, entering a university or registering with the employment service.

During the full-scale war, many Ukrainians lost their diplomas and certificates. They were forgotten at home during evacuation, left in temporarily occupied cities, some were simply destroyed during enemy rocket attacks.

Renewing education documents is a rather complicated bureaucratic process. Therefore, their digitization is not only about convenience, but also about simplifying life for thousands of IDPs.

The government has already supported the relevant resolution. Diia team, together with the Ministry of Education and Science and the State Tax Service, is starting to work on the development.

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## **ADVANTAGES AND PROSPECTS OF E-LEARNING**

### **WHAT IS THE DEFINITION OF “E-LEARNING”?**

E-learning, also known as online learning or electronic learning, implies acquisition of knowledge through the use of electronic technologies, such as: computers, mobile devices and media channels. To put it simple, e-learning is defined as “electronically enabled learning” that ranges from instructional videos on YouTube to e-learning platforms of universities or entire online study programs and digital masterclasses.

In general, e-learning is carried out on the Internet, where learning materials are available at any time and any place.

#### **Advantages**

##### **Flexibility**

The first advantage of e-learning is flexibility in terms of time and place. Learning content is usually made available in short modules and can be accessed at any time. Whether you log on while at work or during your free time - the learning material can be easily made part of your daily routine. Even if you miss a live online workshop, written summaries or a video of the session is usually available to be downloaded. E-learning is very useful for people working or in education, or people who want to know more about their favorite hobbies or interests.

##### **Efficiency**

Since e-learning courses can be adapted to the individual learner, the time required to complete a course is significantly reduced. Also, methods such as computer-supported collaborative learning may be used to encourage students to work together on learning tasks, allowing social learning.

##### **Low Cost**

An e-learning package can be reused as often as the user wishes without additional fee. In addition, there are numerous free course offers as well as “freemium access”. Since e-learning usually allows more course participants at the same time, it is often less expensive than conventional learning offerings.

##### **The Future of E-Learning**

In 2022, the market for augmented and virtual reality exceed the \$200 billion mark and made devices a bit more affordable for private households. The possibilities for integrating AR and VR in e-learning are endless. Students would switch between individual and collaborative learning dynamically, based on their own learning pace, while teachers, with the help of AR, monitor the classroom and provide necessary interventions in cases where computer systems are not yet designed to handle.

Based on a study published in the International Journal of Advanced Education and Research, the share of AI in the e-learning sector will increase by about 49% in the next 5 years and further improve performance. However, in this vision, the technology's role is to enhance, rather than replace, human teachers' capabilities.

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