

“Інновації та перспективні шляхи розвитку інформаційних технологій” (ІПШРІТ-2023)



м. Черкаси, 6 грудня 2023 року

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II Міжнародної науково-практичної інтернет-конференції

«ІННОВАЦІЇ ТА ПЕРСПЕКТИВНІ ШЛЯХИ РОЗВИТКУ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ»

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ЧДТУ
2023

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Матеріали подані в авторській редакції. Відповідальність за достовірність фактів, цитат, власних імен та інших даних несуть автори.

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INFORMATION AND COMMUNICATION TECHNOLOGIES FOR THE ORGANIZATION OF STUDENTS INDEPENDENT WORK UNDER DISTANCE EDUCATION

At the current stage of the development of society, which is defined as the Fourth Industrial Revolution or Industry 4.0, information and communication technologies (ICT) have brought about changes in almost all spheres of life. And education is no exception. In the conditions of globalization, which is a characteristic feature of modern society, distance education is recognized as the education of the future. This is due to the fact that distance education has a number of significant advantages [1]. Namely, it allows every student to receive high-quality educational content from the world's leading universities. The student himself organizes his educational process, namely, he can study at a pace convenient for him, spend as much time studying the material as he needs, and work at any time and in any place convenient for him. To implement this training format, it is enough to have technical capabilities, namely, to have a laptop or another gadget and the ability to connect to the Internet. However, these advantages are fully realized only when the student consciously chooses such a learning method. In Ukraine, the transition to distance learning is forced. In the conditions of martial law, only such a training format allows the educational process to continue, while ensuring the safety of participants in this process. In these conditions, some advantages of this process may turn into disadvantages. Namely, not every student is ready to independently organize their studies. Therefore, it is necessary to find such forms of ICT use that would motivate the student to study. And it is not only about forms of control, but also about the development of cognitive activity.

The Ukrainian education system has accumulated a lot of experience in using ICT to increase the effectiveness of learning both in face-to-face format and in teaching of students in the correspondence form of education. Simon Kuznets Kharkiv National University of Economics (S. Kuznets KhNUE), like many other higher educational institutions of our country, uses Modular Object-Oriented Dynamic Learning Environment (Moodle) to implement distance learning. On this platform, the lecturer creates a personal website for the discipline he teaches. All the necessary educational content is freely available on this website, from theoretical material to material for self-study. Conferences on the cloud-based video conferencing platform Zoom are used for remote training in synchronous mode. If the classes are held online, these classes are video recorded and presented on the lecturer's personal website. It should be noted that all these tools are mainly used to provide educational content and to monitor student attendance and academic success. Of course, the presence of an electronic log of attendance and a log of evaluations on the website allows lecturer to create external motivation. But this is not enough for effective learning. A student must have internal motivation for creative assimilation of knowledge. And such motivation can also be created even in the conditions of distance learning, using the possibilities of ICT.

There are many practices to activate the learning process when learning takes place face-to-face. One of the most attractive among such practices is gamification, that is, the use of game elements in the study of a certain topic or several topics. For example, the concept of design thinking was used during teaching of mathematical disciplines by the Department of Higher Mathematics and Economic and Mathematical Methods (S. Kuznets KhNUE). Namely, business games were developed that allowed future economists and managers to master applying mathematical methods to predict the development of economic processes. And this significantly increased the effectiveness of training [2]. There are also practices of activating the educational process in the conditions of distance learning. During the last decade, massive open education courses on various online learning platform began to appear in the world. Examples of such courses are Coursera, Udemy, edX. Their attractive, above all, is that they offer a wide range of courses, which proposed the educational content by the best universities and from leading teachers. However, the advantages of these courses do not end there. In addition to lectures, discussions, quizzes, and live communication between students are held on the Coursera platform within the boundaries of a particular course [3]. This contributes to the involvement of students in learning the material, contributes to the development of not only their hard skills, but also soft skills.

In order to develop the internal motivation of students to study mathematical disciplines, our Department generalized the experience of face-to-face learning and used business games for learning such topics as the Jordan-Gauss method for solving systems of linear equations, as well as the function of several variables. In addition, multimedia exercises were offered for independent work of students. The LMS Moodle platform and Zoom Video Communications in online format were used to implement these methods. The final control based on the results of the 2022/2023 academic year and the intermediate control based on the results of the 2023/2024 academic year showed that, despite the fact that learning was carried out remotely, the activity of students and their success increased due to the activation of the educational process. Therefore, for the effective use of ICT opportunities, lecturer should make efforts to create not only useful, but also interesting content.

The experience gained in using ICT during the educational process is very valuable. The modern stage of the economy, which is defined as the Knowledge Economy, assumes that every person will improve his knowledge throughout his life, and the embodiment of Lifelong Learning concept will be implemented in online and/or offline formats. In this regard, skills in using ICT in the educational process are recognized as useful for both students and teachers.

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