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Problems of Introducing Information and Communication Technologies into the Educational Process during the COVID-19 Pandemic

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Abstract: Informatization of postmodern society is a promising path to economic, social and educational development. The informatization of education is aimed at the formation and development of the intellectual potential of the nation, the improvement of the forms and content of the educational process, the introduction of computer teaching and testing methods, allows solving problems at the highest level, taking into account world requirements. One of the important directions in the development of informatization of education in the context of a pandemic is new computer technologies. Interactivity, intensification of the learning process, feedback - are the real advantages of these technologies, which necessitated their application in various fields of human activity, primarily in those related to education and professional training. Now, in a pandemic, the number of studies has noticeably increased, the subject of which was the use of information and communication technologies in the educational process.

The article deals with the problem of psychological and didactic aspects of the introduction of information communication technologies in the process of teaching students of higher educational institutions.

An analysis of the problems and prospects of using information communication technologies in higher educational institutions was carried out, as a guarantee of building an intensive process of assimilating knowledge, skills and abilities of students of higher educational institutions.

Keywords: *information and communication technologies, postmodern society, educational process, informatization of education.*

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1. Introduction

Education traditionally fulfills the most important historical mission, which can be described as "humanizing a person". The implementation of this mission presupposes a constant struggle with the natural manifestations of a person - indulging their instincts, striving for pleasure at the expense of others, living according to the laws of power. Education in this sense is doomed to the role of some kind of locomotive, eternally pulling mankind from the "animal" past towards humanization and, in a sense, psychological improvement of society.

It was not easy for education at all times to carry its "light" through the "darkness" of ignorance, but today society is faced with completely new threats, which probably require education, as well as science and culture, to mobilize forces to find new solutions and answers to "challenges" modernity. We are talking about the tendencies of the modern postmodern society, such as dehumanization, loss of identity and devaluation of eternal values.

Studies of the problems of postmodernism show that, probably, these tendencies are quite natural and are caused by the global problems of mankind, and all social institutions today are faced with the need to respond to these challenges. The content of education reflects the state of society or the transition from one state to another. The development and functioning of education is conditioned by all factors and conditions of society's existence: economic, political, social, cultural and others.

Socio-economic and political changes in society, strengthening of the statehood of countries, gradual integration into the European educational space, as well as the existence of pandemic conditions, put forward new requirements for the education system, among which the improvement of the professional training of students is of particular importance.

The active development of information and communication technologies (ICT) in the world is one of the reasons for the emergence of the problem of constantly improving the information culture of an individual, regardless of his education and social level. In this regard, the task is to introduce contemporary ICT, taking into account the psychological aspects of their use, first of all, in the process of teaching students of higher educational institutions. Computers are increasingly being used in all branches of production, in management and services, in science and education.

Postmodern society creates all the prerequisites for the personal development of students, accompanied by the introduction of contemporary

information and communication technologies in the educational process of higher pedagogical educational institutions. In this regard, the training of students should be aimed at the formation of the necessary personal qualities and at creating conditions for the development of his professional readiness. The use of information and communication technologies in the educational process requires the student to be computer literate as a set of skills and knowledge necessary for life in a computerized society (Markova, 2019).. But the current state of training students of humanitarian specialties as a whole does not provide a sufficient level of their knowledge of computer technologies (Baek, Jong, Kim, 2008).

A postmodern specialist should not only be able to use a PC, use it to improve their qualifications, self-improvement, but also teach students to acquire knowledge using information and communication technologies. (Noor-Ul-Amin, 2013).

The successful solution of this issue largely depends on the readiness of students to perceive the latest information and communication technologies, to understand their need not only in future professional activities, but also in public life.

2. Theoretical Framework

2.1. Basic didactic principles of ICT use in the higher education system in postmodern society

The term "information and communication technologies" is widely used today and includes all technologies for communication and work (creation, storage, transmission, processing and management) of information.

Information and communication technologies (ICT) are a set of methods, production processes and software and hardware tools, united in a technological chain, ensuring the implementation of information processes in order to increase their reliability and efficiency and reduce the labor intensity of using an information resource (Yildirim, 2000).

Postmodern global trends in the development of education informatization are (Doering, Hughes, Huffman, 2003):

- creation of a unified educational space;

- the emergence of a new direction of the teacher's activity - the development of information technologies for teaching and software and methodological complexes; change in the content of the teacher's activity: from a "reproducer" of knowledge to a developer of a new technology (which, on the one hand, increases his creative activity, and on the other, requires a high level

of technological and methodological training) (Doering, Hughes, Huffman, 2003).

The informatization of education requires the introduction into higher education of innovative methods, means and forms of professional training of future specialists of a new formation, the creation of a powerful information infrastructure in higher educational institutions with a developed information and computer learning environment, the introduction of Internet technologies, e-learning, communication networks (global , national, local).

ICTs encompass all the resources needed to manage information, especially computers, software and networks needed to create, store, manage, transmit and retrieve information.

ICTs can be grouped as follows (Gulbahar, 2008):

- networks;
- terminals;
- services.

Networks include telephone, cellular, telecommunications (telegraph, teletype). Terminals include a personal computer, cell phone, TV, game console. Services cover email and search engines.

Today, universities use such ICT computer, multimedia projector, interactive board, laptop, VCR, TV, as well as a printer, scanner, tape recorder, camera, camcorder.

In contemporary conditions, there is a constant improvement of existing and the emergence of new ICTs. For example, devices such as a visualizer, a specialized scanner, and the like appeared.

Today, there are also new interactive resources that can help the teacher in teaching the material (Bingimlas, 2009):

1. Interactive table. It is a multi-user interactive tool for the simultaneous work of several students promotes teamwork and the development of skills in problem solving and joint decision making.

2. The interactive whiteboard supports the simultaneous work of several students, each of whom can easily move, scale or rotate the image on the whiteboard.

3. Systems for interactive assessment and testing. Such systems provide instant access to test results, which allows teachers to timely solve the difficulties encountered and ensure a high level of assimilation of the material for each of the students. Allows you to monitor performance, monitor learning outcomes, and collaborate to effectively meet each student's educational needs. For example, test systems MimioVote ™, ActiVote from Promethean.

4. Means of visual presentation and document cameras. With your document camera, you can quickly convert images and videos into teaching

materials that you can annotate and save for future use. For example, ActiView by Promethean.

Using ICT in the educational process of an educational institution is not an end in itself, but a pedagogically justified approach, which should be considered in terms of pedagogical advantages in comparison with traditional technologies of organizing independent work.

2.2. Benefits and problems of introducing ICT into the educational process of higher educational institutions during the COVID-19 pandemic

In the context of the rapid development of contemporary information and communication technologies, the primary and most important task of higher education is to prepare teachers for professional activities. At the moment, many teachers do not know how or do not have the opportunity to use contemporary technologies. And in our time, the ability to use knowledge and skills in the field of information technology is one of the most important indicators of the teacher's professionalism. Computer use is an indicator that a person is generally educated.

Computer literacy is essential for every teacher and they need to be familiarized with at least the basics of using a computer before they begin their teaching activities. Of course, every pedagogical university has classes in computer science. This is the beginning for the further development of computer skills. But it is necessary to teach the future teacher to use information technologies precisely in the context of his future work (Palaci, Palací-López, Rodríguez, 2020).

Most educators want to use the latest technology and they see the potential in technology, but many need encouragement to invest their precious time to make further changes. They understand that the opportunities provided by technology make the task harder at first and take a lot of time. But computer literacy is an investment that will cover all of the costs to a large extent in the long run.

Information and communication technologies make teachers more productive, more creative and flexible in their profession. If computer technology has a significant impact on the teaching and teaching of a certain subject, then teachers should feel good about working with the latest technology, seeing in them a means for further development, and not something that interferes with their daily professional life.

There are two significant factors that hinder the process of introducing information and communication technologies into the education

system: the information competence of the teacher in general and the ability to introduce multimedia technologies into his activities, that is, to be not only a user of ready-made software products, but to a greater extent to act as a creator, developer. own methodical software tools (Miłosz, Charytanowicz, Skublewska-Paszkowska, 2020).

The first problem is usually overcome in refresher courses, and this is where the process of professional training of teachers, as a rule, ends. The second problem is the internal problem of each individual teacher. You have to solve it on your own, at the best at the level of self-education. Charalambos (2014) proposes a solution to this problem by introducing a comprehensive professional training program for teachers.

Information and communication technologies make it possible to combine the processes of studying, consolidating and controlling the assimilation of educational material, which, according to traditional teaching, are most often broken. Information technologies make it possible to personalize the learning process to a greater extent, reducing frontal types of work and increasing the proportion of individual-group forms and methods of teaching. Also, information technologies help to increase motivation for learning, the development of creative thinking, and save educational time; interactivity and multimedia visibility contributes to better presentation, and, accordingly, better assimilation of information (Andoh, 2012).

At the same time, information and communication technologies do not supplant traditional methods and techniques, they make it possible to bring the teaching method closer to the requirements of the present. To this end, the use of new information educational technologies based on a contemporary computer base of new interactive methods is being expanded: computer training programs, technical teaching aids based on audio-video equipment, distance learning tools, teleconferences, and the like.

The benefits of ICT include the following (Woyo, Rukanda, Nyamapanda, 2020):

- significantly increase the level of accessibility of education; - provide students with the opportunity to access the educational and methodological complex of the discipline located on the server;

- allow the user to build an individual learning path as convenient as possible;

- enable the teacher to constantly update the content of education; implement any type of lesson, including control and self-control based on the results of students' educational activities.

However, ICTs have certain application problems, in particular (Rana, Rana, 2020):

- weak resource provision and insufficient material and technical equipment of higher education

- the weak didactic component of electronic educational resources determines the lack of a technological approach to learning in many distance learning courses, as well as the orientation of the educational process mainly on the reproductive nature of the activity;

- low level of information competence of teachers, which does not allow them to actively and effectively use ICT in the educational process

- lack of an integrated assessment system and developed criteria for the quality of electronic educational resources.

ICTs acquire particular relevance when distance learning is introduced into the practice of an educational institution, by which we mean a system of organizational, pedagogical and information technologies that allow a person to acquire knowledge at a convenient time and in any place.

A prerequisite for the implementation of full-fledged distance learning is the ability to use contemporary means of communication. Since the introduction of distance learning is a rather long and laborious process, it is necessary to create a mechanism at the level of a certain educational institution for filling in educational and methodological materials, the formation of an information culture of teachers, as well as ensuring the availability of these materials for students.

Preparing the student himself for the introduction of information and communication technologies in the learning process is an important step. In order for a student to fully benefit from information and communication technologies, he needs to be provided with clear instructions and given the freedom to study independently (González-Zamar, Mariana-Daniela, Abad-Segura, Meneses, Gómez, 2020; Fernández-Gutiérrez, Gimenez, Calero, 2020).

Nowadays, students are very familiar with computer hardware and software, but above all, it concerns the sphere of entertainment and social networks. Therefore, their knowledge of information and communication technologies must be directed in the direction we need. Preparing students for the use of ICT is understood as the process of mastering the theory and practice of using ICT for the collection, processing, storage, transmission, production of information, as well as the implementation of information interaction in order to create conditions for more productive work of

students with each other and students with a teacher. The most productive technologies for preparing students for the use of ICT: research and project learning, teaching by example, reflective learning, and the selection of authentic teaching materials for working with these technologies.

3. Conclusions

Consequently, the formation of a competent specialist, his competencies in the process of studying at a university implies the formation of his basic, personal, socially significant and professional competencies in the implementation of traditional and innovative forms and methods of teaching. The use of ICT is of particular importance, which contributes to the process of implementing lifelong learning

The active implementation of information and communication technologies in the educational process presupposes a preliminary substantiation of their rational and complex combination with traditional teaching methods, appropriate technical equipment, development of methodological materials for the organization of educational and quasi-professional activities, and the like. Special attention is required to create appropriate learning technologies focused on the development of professional competence and the personality of a specialist.

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