



THE ROLE AND IMPORTANCE OF DIGITAL TECHNOLOGIES IN HIGHER EDUCATION

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Abstract

This article provides information on enhancing the role and importance of information technologies in educational processes in higher education institutions, and develops proposals and practical recommendations for establishing "idea factories" at departments in all higher education institutions.

Keywords: Higher education, information sources, idea factory, IT, optimization, virtual education, innovations, pedagogical design, digital society, internet, mobile, technical means.

Introduction

At the beginning of the 21st century, significant changes occurred in the field of information technology, affecting all spheres of human society. This process has led to a number of changes in the daily activities of people, in the spheres of production, in the spheres of education, in the objects of education. One of the ways to apply modern innovations in higher education is the development of new forms of teaching in pedagogy. It is necessary to digitalize higher educational institutions based on information technologies.

In the development of digital technologies, pedagogical design developments based on new views and creative approaches are being studied in higher educational institutions. The term "pedagogical design" serves the implementation of scientific and practical work in the field of pedagogy as information systems in education. Pedagogical design (pedagogical design) is a completely new concept in the education system. In developed countries, this area is divided into several parts: instructional design (processing of educational materials), learning design (processing of educational processes), learning environment design (processing of



the educational system), and others.¹ The new concept in the modern education system, the need for the formation of high-quality knowledge, is constantly growing, and traditional means correspond to relatively simple, linear teaching methods. The use of traditional methods in the creation of complex programs in higher education leads to inefficient spending of time and resources, and in order to increase efficiency, it is advisable to use methods of pedagogical design in offline and online forms of education. Under the influence of the development of social service services, collective educational work will be raised to a higher level. Changes in legislation, the economy, and the activities of society ensure the active participation of citizens in educational work, leading to the application of new knowledge in production, the development and creation of new products.

The widespread use of information technologies in the field of education, in turn, leads to the mastery of new fields of science, the restoration of relationships between people, and the development of new approaches to the activities of organizations. Scientific research on the structures of social analysis of the digital society was conducted by S.B. Bondarenko, A.E. Voiskunsky, M. Castelsa, E. Ostrom, B. Wellman², and others.

Today's human society wants the rapid resolution of existing problems and the rapid implementation of positive changes in the field of education. The widespread use of pedagogical design developments in higher education, in turn, leads to the formation of information technologies in cooperation, leading to the application of information technologies in all areas of education. Such changes in education will lead to the development of new society institutions based on digital technologies and the joint elimination of social problems in higher education.

D.Nort believes that such institutions develop on the basis of the rules of game theory, that a person is in a limited circle and controls relations between people, and at the end of the processes makes appropriate conclusions³. At the same time, at the end of the 20th - beginning of the 21st century, the Internet emerged as a new

¹ Aleksandrova I.G. Fundamentals of pedagogical design and experience of its use for conducting classes in full-time and correspondence forms in courses to improve ICT competence. Ito-ctter.ifmo.ru/download/05_pdf

² Bondarenko S.V. Social structure of virtual network communities. Rostov: Rostov State University, 2004.-319p; Voiskunsky A.E. Psychological science in the study of the Internet // Information Society.2001.No1.-32-34 p; Kastels M. Information Age: Economy, Society and Culture/ Moscow: GU VSHE, 2000-608 p; Ostrom E. Governing the commons: the evolution of institutions for collective action. W. B. Networks in the global rural life in contemporary communities.

³ North D. Institutions, Institutional Changes and Functioning of the Economy/ - M. Fund of the Economic Book "The Beginning," 1997.-180 p.



social institution and led to serious structural changes in all spheres, including education and science. The dissemination of the Internet through means of communication fully covered the mass media and played a large role in satisfying people's information needs. Digital technologies have begun to rapidly enter higher education, allowing for full control of the educational process, improving the quality of education, and allowing students to spend their time purposefully. By paving the way for digital technologies, it became possible to solve a number of problems in the field of higher education.

Today, it is necessary to widely use information technologies, the Internet, mobile, technical means to increase the importance of establishing contacts between professors, teachers, and students of higher education and to demonstrate its role in society. Due to the convenience and speed of transmitting information to students mainly through mobile devices, computer technologies, and social networks, the widespread introduction of information technologies into higher education is required. Therefore, it is advisable to create digital content on subjects, provide the necessary literature electronically, widely use ICT in conducting assessments, and widely use new pedagogical technologies in testing. In our opinion, the goal is to bring digital technologies to a new level in the field of higher education. Through the development of independent learning in higher education, the motives for independent mastery of the subject by students are developed, the goal is to create "idea factories" at the departments of each higher educational institution with the development of independent scientific developments by students.

Based on such approaches, it is necessary to introduce information technologies into the higher education system and strengthen approaches based on information technologies in education and the introduction of IT technologies, the organization of "IT and education" systems. As a result of the development of such technologies, it is necessary to increase the number of virtual participants in educational processes.

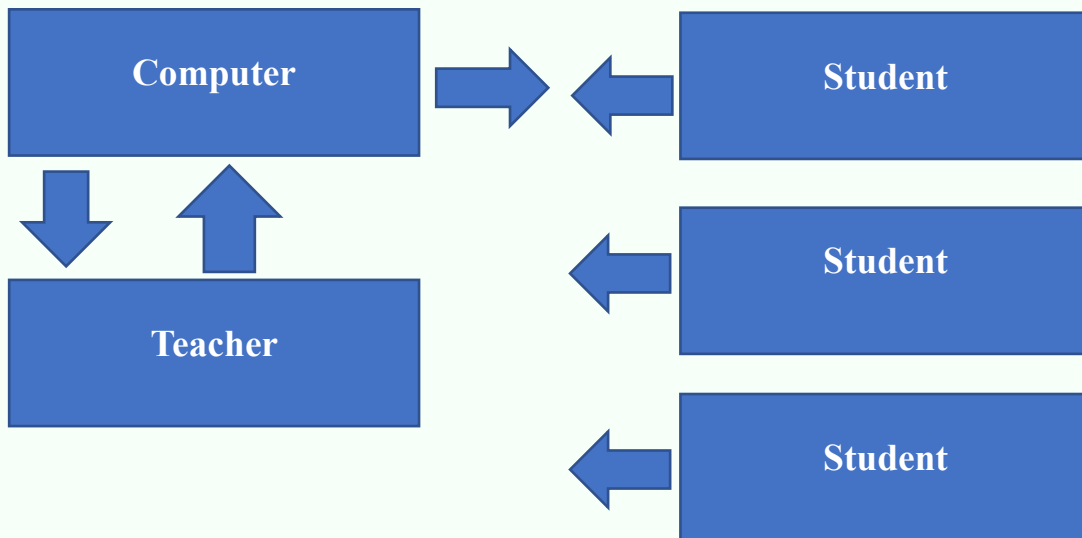


Figure 1. "Teacher-Student-Computer" Virtual Learning System⁴

Through the analysis of the sphere of higher education, the issues of clarifying and implementing information technology approaches are solved. Domestic and foreign authors have conducted scientific research on the use of IT. It is advisable to optimize the design of areas of use of information technologies, implementing "teacher-computer," "student-computer" systems. At the same time, an individual education system is being developed in higher education.

Based on the above information, it is necessary to organize and develop a virtual educational system "Teacher-Student-Computer" in the organization of educational processes in the higher education system (Fig. 1). The "Teacher-Student-Computer" virtual learning system will be implemented in practice with the widespread use of video projectors based on information software protected by copyright. Higher education uses "Teacher-Student-Computer" virtual learning through the use of presentations prepared by professors and teachers (prepared at MS Power Point). For use in this system, all educational and methodological works must be protected by copyright certificates and developed by the author.

⁴ Author's development



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