THE NEED TO IMPLEMENT DISTANCE EDUCATION TECHNOLOGIES IN HIGHER EDUCATION

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ABSTRACT

This article delves into the critical necessity of implementing distance education technologies in higher education. As the global landscape continues to evolve rapidly, the demand for flexible and accessible educational solutions has never been greater. Distance education has emerged as a vital means of addressing these demands, enabling institutions to reach a broader audience while enhancing the overall quality of education. The article outlines several key advantages of distance education, including increased accessibility for students, the ability to tailor learning experiences to individual needs, and the potential for greater engagement through interactive technologies. By utilizing tools such as video conferencing, online learning platforms, and multimedia resources, educators can create a more dynamic and participatory learning environment. Furthermore, the paper examines the impact of distance education on educational quality. Studies indicate that when effectively implemented, distance education can lead to improved learning outcomes, higher student satisfaction, and better retention rates. The article emphasizes the importance of training educators in the use of these technologies to ensure that they can effectively facilitate online learning experiences.

Keywords: Distance education, higher education, educational technologies, interactive learning, enhancing educational quality.

INTRODUCTION

In recent years, the landscape of higher education has undergone significant transformations, largely driven by technological advancements and shifting societal needs. Among these changes, the rise of distance education technologies has emerged as a vital response to the increasing demand for flexible, accessible, and high-quality learning opportunities. The COVID-19 pandemic further accelerated this trend, forcing educational institutions worldwide to adapt to remote teaching methods virtually overnight.

Distance education offers numerous benefits, including the ability to reach a diverse student population, providing opportunities for those who may be geographically or economically disadvantaged. Moreover, it facilitates personalized learning experiences that cater to individual learning styles and paces. As traditional educational models face challenges, the integration of distance education technologies becomes not just an option but a necessity for institutions aiming to remain relevant and effective in the modern educational landscape.

This article aims to explore the need for implementing distance education technologies in higher education, examining the advantages, challenges, and best practices associated with their use. By analyzing current trends and research findings, we aim to highlight the importance of embracing these technologies to enhance educational quality and accessibility. Ultimately, the successful implementation of distance education can lead to improved learning outcomes, increased student engagement, and a more equitable educational environment for all.

MATERIALS AND METHODS

Pedagogical technologies of distance education are a set of teaching methods that provide the educational process of distance education based on the selected teaching concept.

There are different models and forms in the educational system of distance learning, which differ in the following terms of use [1]:

- geographical conditions (for example, the territory of the country, location away from the center, climate);
- general level of informatization and computerization of the country;
- level of development of communication and vehicles;
- level of use of information and communication technologies in the educational process;
- traditions used in education;
- availability of scientific-pedagogical personnel for the distance education system and their potential, etc.

Distance education is mainly carried out using the following technologies:

Reproductive technologies. Reproductive technologies are implemented through the distribution of educational materials. The main purpose of the technology is to send educational and methodical materials to the student. In this case, communication between the teacher and the student is carried out by e-mail.

Interactive technologies. This technology of distance education is based on a model of teaching focused on an individual. An example of an interactive technology is Keys technology. In this case, complete educational and methodological materials (curriculums, educational materials, self-examination tasks, etc.) are delivered to those studying in the network, communication between the teacher and the student is carried out by e-mail [2].

Collaborative learning technologies. Studying in this technology is conducted in small study groups. A virtual environment is created between the teacher and students with the help of multi-functional, team-use technical means of sending information. The collective action of students is under the control of the teacher.

Technological platforms. Distance education platforms mean a set of software and technical tools, which include management and implementation of the educational process aimed at distance education. Today, distance education technological platforms are implemented in the form of "TV-technology", "Case technology", "Network technology".

Telecommunication (TV) technology. In TV-technology, it is envisaged to use the television system in order to deliver teaching-methodical materials to students and to organize constant teacher-tutor consultation. "Live" training can be organized using television and telebridges.

Case technologies. Case technologies are based on the use of textual, audio-visual and multimedia teaching-methodical materials (cases) and constant advice by the teacher-tutor for students to learn independently [3].

Network technologies. Network technologies, telecommunication networks are used to provide students with various interactive levels of interaction with the teacher and student and educational materials. Network technologies are divided into asynchronous and synchronous types.

Asynchronous network technologies. Currently, two groups of asynchronous technologies are used more in our educational system:

RESULTS AND DISCUSSION

- Computer-Based training (SVT) – independent education with the help of computer training programs of various degrees of interactivity.
- Web-Based training (WBT) - different levels independent and collective education based on interactive computer training programs.

Synchronous network technologies. It is a modern technology of distance education, in which the participants of the study are located in a distant area from each other during the educational process. Synchronous technologies are based on the creation of virtual classrooms using video conferencing tools and additional collaboration equipment. Synchronous technologies require the participation of all students in the virtual classroom at the same time and create the possibility of combining different models of teaching during one session [4].

The main technologies of distance education can be divided into the following two groups:

INTERACTIVE technologies [5]:

· Internet distance education portal.
· Video and audio conferences.
· Education by e-mail.
· Self-study through the Internet.
· Remote control systems.
· Online stimulants and training programs.
· Test submission systems.

NON-INTERACTIVE TECHNOLOGIES:

· Video, audio and printed materials.
· Television and radio broadcasts.
· Programs located on disks.

Video and audio conferencing is a way of organizing education by connecting two remote audiences with each other through telecommunication technologies using the Internet and other telecommunication communication channels. However, video and audio conferencing will require a large amount of special equipment, a high-speed communication channel, and the involvement of service professionals to organize training [6].

Independent education on the Internet is a way to independently work on a large amount of information located on many Internet sites and acquire new knowledge.

E-mail education is a way of getting education by establishing communication between the student and the teacher through letters using the most popular Internet services. With its help, we can send and receive various tests, assignments, questions and answers and instructions (in the form of text, graphics, multimedia, programs and other forms) [7].

Remote control systems - a way to acquire knowledge using special systems that create opportunities to control and operate complex software, systems and equipment in real-time. The main task of remote control systems is to give the student only practical knowledge.

Stimulator, e-textbooks and training programs are mainly ways of transferring theoretical and practical knowledge to students online through computer programs. Stimulators and electronic textbooks are now widely used in the field of education.

Testing systems are used to check and evaluate students' practical and theoretical knowledge with the help of special programs.

Distance education portals of the Internet are special Internet sites (on-line resources). The main task of these sites is to organize the educational process or to establish an electronic online communication between the student and the teacher, to allow teachers to enter educational materials on the site, to create an opportunity for students to work on this information and to use other distance education services.

The availability of universal free access to technology is one of the main factors in choosing it. It mainly depends on the composition of the selected group and the learning environment (location of the user: home, workplace, university, training center). Therefore, it is necessary that the technology should be convenient for all members of the study group and not require additional tools from the users.

Bates's 12 golden rules for choosing a distance learning technology are as follows [8]:

- good education means many things;

- any technology has its attractive positive aspects;
- educational technologies are flexible;
- super-technology does not exist;
- provide access to all tools for the teacher;
- it is necessary to connect with all kinds of economic factors;
- communication and communication are important;
- the number of students is the most important factor;
- new technology is not necessarily better than old technology;
- training is required for the teacher to use the new technology more effectively;
- presence of a team is necessary;
- technology is not a problem.

The organization of distance education should begin with the formation of the course task, the selection of the methodology and technology that meets the set goal, and the creation of the following various educational situations:

✓ cooperation pedagogy;
✓ traditional teaching;
✓ educational assignments and practice;
✓ interactive discussions;
✓ modeling;
✓ demonstration;
✓ innovation;
✓ games; solving problems and problems;
✓ coaching.

Organizing online distance learning requires a lot of planning and preparation. Preparation of educational materials and programs is the main component of Distance Education, especially in this form of education.

Table 1: Description of online distance learning

No time limit	Mail can be retrieved and read at any convenient time. Student and teacher strict lesson can be interconnected without a table.
No distance limit	Materials can be sent and received anywhere.
Simultaneous teaching	A form of dialogic learning that allows the teacher and the student to participate in the learning process at the same time.
Asynchronous teaching	A form of dialogic learning that does not require the teacher and the student to participate in the learning process at the same time.
Linear and non-linear training forms	Reading can be organized by the teacher or by the student. It is advisable to use a text or hypertext form of reading.

The following basic principles must be taken into account when organizing a training system based on distance education [9]:

➢ to ensure the priority of the pedagogical direction in the design of the educational process of distance education. The essence of this principle is that when designing a teaching system based on distance education, it will be effective if first of all a didactic model of the educational process is developed, and the pedagogical side of the project is considered a priority;

➢ the principle of pedagogical appropriateness of the new information technologies used;

- the principle of selection of the educational content, that is, the compliance of the content of distance education courses and subjects with the requirements of DTS;
- the principle of ensuring the security of information transmitted or received in distance education;
- the principle of the necessity of primary education;
- matching principle of teaching technology;
- the principle of mobile teaching;
- the principle that distance education should not be opposed to the existing form of traditional education.

Forms of organization of distance education

Chat training is an educational training based on chat technologies. Chat sessions are synchronous, that is, all participants enter the chat at the same time. For this purpose, chat rooms are organized at the distance learning center (country) [10].

Web-based trainings are remote trainings that are conducted in the form of conferences, seminars, work games, laboratory work, and practical trainings using telecommunications and other means. Special educational web forums are used for web classes. The difference between this form of training and chat sessions is that the sessions are conducted asynchronously, that is, users record their information. In this case, the interaction between the student and the teacher can be long-term.

Teleconferencing is carried out by sending information and information using e-mail. Such a teaching system is called "Natural Learning Manner".

Telecommuting. An example of this is participation in distance education with the help of the R.Bot 100 robot. For example, distance education training of disabled children with the help of this robot is being carried out as an experiment in Moscow schools. A disabled student learns by hearing, seeing and talking with the help of a robot while standing next to a computer at home. The teacher asks questions, he answers. Also, with the help of a robot monitor, the teacher watches the student, and the student feels as if he is sitting in the audience among his peers. During the break, he can also communicate with his peers.

The organization of the educational process in distance education can be carried out on the basis of the following stages:

- Defining course objectives. It is determined which knowledge (subjects, science, etc.) should be given and who should be taught.
- Selection of teaching methods. During the educational process, it is necessary to carry out a diagnosis of the level of knowledge and skills, as well as to determine the sources and methods of verification.
- Development of methodological requirements for educational material. It is necessary to determine the methods and volumes of imparting new knowledge.
- Development of lesson schedule. It is necessary to divide the entire course into several modules, to determine what knowledge the student should have after the completion of each module.
- Organization of educational process monitoring.
- Planning inspection processes,
- Planning students' independent work,
- Preliminary evaluation of the results of the educational process;
- Results detection and analysis software.

CONCLUSION

In conclusion, the implementation of distance education technologies in higher education is no longer a luxury but a necessity in today’s rapidly evolving educational landscape. These technologies offer unparalleled opportunities for increasing accessibility, enhancing learning

experiences, and meeting the diverse needs of students. As institutions face growing pressures to adapt to changing demographics and learning preferences, the effective integration of distance education can lead to improved educational quality and greater student satisfaction.
Despite the benefits, challenges such as the digital divide, resistance to change, and the need for adequate infrastructure must be addressed to ensure successful implementation. By investing in technology, providing professional development for educators, and fostering a culture of innovation, higher education institutions can harness the full potential of distance education technologies.
As we move forward, continuous research and adaptation will be essential to refine these educational practices, ensuring they remain effective and relevant. Ultimately, the commitment to embracing distance education can significantly enhance the learning landscape, making education more inclusive and accessible for all.

REFERENCES

1. Allen, I. E., & Seaman, J. (2017). Digital Learning Compass: Distance Education Enrollment Report 2017. Babson Survey Research Group.
2. Garrison, D. R., & Vaughan, N. D. (2008). Blended Learning in Higher Education: Framework, Principles, and Guidelines. Jossey-Bass.
3. Moore, M. G., & Kearsley, G. (2012). Distance Education: A Systems View of Online Learning. Wadsworth Cengage Learning.
4. Salmon, G. (2011). E-tivities: The Key to Online Learning Success. Routledge.
5. Bates, A. W., & Poole, G. (2003). Effective Teaching with Technology in Higher Education. John Wiley & Sons.
6. Siemen, G. (2013). Learning Analytics: The Emergence of a New Approach to Education. Journal of Educational Technology Systems, 42(3), 231-245.
7. Johnson, L., Adams Becker, S., Cummins, M., & Estrada, V. (2014). NMC Horizon Report: 2014 Higher Education Edition. The New Media Consortium.
8. Wang, M. (2013). "The Effectiveness of Distance Learning: A Review of the Literature." International Journal of Business and Social Science, 4(1), 64-72.
9. Tinto, V. (1997). "Classrooms as Communities: Exploring the Educational Character of Student Persistence." Journal of Higher Education, 68(6), 599-623.
10. Topping, K. J., & Ehly, S. (1998). Peer Assisted Learning: A Practical Guide for Teachers. Routledge.