

DISTANCE EDUCATION: AN ADAPTIVE APPROACH TO LEARNING IN THE AGE OF INFORMATION AND KNOWLEDGE

EDUCAÇÃO A DISTÂNCIA: UMA ABORDAGEM ADAPTATIVA À APRENDIZAGEM NA ERA DA INFORMAÇÃO E DO CONHECIMENTO

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ABSTRACT

This study focuses on global trends in the development of education, with a special emphasis on distance learning. The current state and prospects for the development of this form of education both abroad and in Ukraine are considered. Emphasis is placed on the analysis of key challenges and potential threats to the national interests of Ukraine in the context of the lag in the implementation and integration of distance learning. Special attention is paid to recommendations for the popularization of distance learning in Ukraine. Specific measures aimed at improving the quality and accessibility of distance education are proposed. This includes the development and implementation of the latest technological solutions, educational programs that meet international standards, as well as expanding the network of access to educational resources for all categories of the population. The study also includes an analysis of successful world practices in the field of distance education that can be adapted for the Ukrainian context. Studying the experience of other countries makes it possible to determine effective strategies and methods that will contribute to the development of the educational sphere in Ukraine, making it more competitive and modern.

Keywords: educational system, pedagogical conditions, distance education, distance learning.

RESUMO

Este estudo centra-se nas tendências globais no desenvolvimento da educação, com especial ênfase no ensino à distância. São considerados o estado atual e as perspectivas para o desenvolvimento desta forma de educação tanto no estrangeiro como na Ucrânia. A ênfase é colocada na análise dos principais desafios e ameaças potenciais aos interesses nacionais da Ucrânia no contexto do atraso na implementação e integração do ensino à distância. É dada especial atenção às recomendações para a popularização do ensino à distância na Ucrânia. São propostas medidas específicas destinadas a melhorar a qualidade e a acessibilidade do ensino à distância. Isto inclui o desenvolvimento e implementação de soluções tecnológicas de última geração, programas educacionais que atendam aos padrões internacionais, bem como a ampliação da rede de acesso a recursos educacionais para todas as categorias da população. O estudo também inclui uma análise de práticas mundiais bem sucedidas no domínio da educação a distância que podem ser adaptadas ao contexto ucraniano. O estudo da experiência de outros países permite determinar estratégias e métodos eficazes que contribuirão para o desenvolvimento da esfera educacional na Ucrânia, tornando-a mais competitiva e moderna.

Palavras-chave: sistema educacional, condições pedagógicas, educação a distância, ensino a distância.

Introduction

Modern educational systems in developed countries play a key role in ensuring economic and social stability, contributing to constant scientific, technical and economic development. Education becomes the foundation for social progress, improvement of the world order and improvement of the quality of life.

Innovative and integration processes in the national education system are an integral part of the global trend of globalization, becoming the basis for the

harmonious development of national socioeconomic systems. Modern educational models must take into account the socio-economic requirements of society and provide:

Personality development: education should contribute to the harmonious development of the personality, supporting the reproduction of social, national and world cultural values. The educational system should form in young people a system of values based on general human and general cultural principles.

Professional training: education should prepare students to compete in the labor market, developing the necessary skills and competencies for effective participation in the socio-economic life of society.

Integration with global trends: Education systems must adapt to global changes by integrating the latest technologies and approaches in teaching and learning to remain relevant and effective.

Supporting lifelong learning: In a world of rapid change and innovation, education systems must foster a culture of lifelong learning by providing opportunities for ongoing professional development.

Equal access to education: an important aspect of modern education is ensuring equal access to educational resources for all categories of the population, which will promote social justice and inclusiveness.

Thus, modern educational systems play an important role in shaping the future society, taking into account the needs of individuals and the challenges of the globalized world.

At the end of the 20th and the beginning of the 21st century, it became clear that an important direction in the development of society is the transition from the industrial model to the information (post-industrial) society. This transition is considered as the best way to improve people's quality of life and reorient the economy to science-intensive and resource-saving industries. In recent years, many countries are consciously moving towards the formation of an information society, which should create conditions for maximum self-realization of each individual. The drivers of this process are the rapid development of computer and

telecommunication technologies, as well as the development of a developed information and educational environment.

The information society is characterized by the fact that the main object of most people's activity is knowledge and information, which are considered the main resources and the driving force of progress. Information technologies are becoming the main tool of work, and knowledge is an important factor of social differentiation, instead of property. The economy of the information society is focused on the creation and sale of products of intellectual and information activities, which contributes to the growth of the number of workers employed in the processing and production of information. Thus, the transition to the information society includes the relationship between information, the impact of the latest information technologies, and socio-structural changes in society.

Informatization of society is one of the key directions of global scientific and technological progress, which affects internal social relations of countries, interstate and international relations. Covering the spheres of economy, politics and social life, informatization is based on a technological foundation. This process actively affects the material, production, socio-cultural sphere of both an individual and humanity as a whole, making important changes in the way of life and interaction on a global scale.

It is becoming known that backwardness in the field of informatization threatens the preservation of the pace of development of any country. Information is valuable because it helps to make informed decisions in the spheres of social, practical, socio-political and spiritual life of society, and also ensures the functioning of computer systems.

The education process is important for the assimilation of scientific knowledge and the development of the necessary skills and abilities. Education has always been recognized as a necessity for personality development, creative abilities and spiritual growth. Traditional education is aimed at the assimilation of systematized knowledge, abilities and skills necessary for a person's readiness for life and work.

However, the modern information age requires new approaches to education. The classical model of education, which was implemented in most countries, has already exhausted itself. The global educational crisis at the end of the 20th century is a fact, and several main factors contributed to its development:

Limitation and weakness of socialization of the individual in the industrial society.

The lack of organic unity between the rational aspects of education and the preservation of the integrity of the individual and his individuality.

The impact of the processes of informatization and computerization of society on the system of education and communication in this area.

Modern conditions require new approaches to education to prepare people for life in the information society.

Literature review

Problems related to the development of terminology and conceptual apparatus for the development of distance education have become the object of research by many scientists from Europe, including: (Anderson, T., & Dron, J., 2011) considers three generations of distance education pedagogy and their evolution, (Garrison, D.R., & Vaughan, N.D., 2013) explores the role of moderators in facilitating learning in an online environment, (Picciano, A. G., 2017) considers theoretical and practical aspects of distance education, (Salmon, G., 2013), (Siemens, G., & Tittenberger, P., 2009), (Anderson, C. A., 2016), (Rovai, A.P., 2013) examines the barriers and factors influencing the adoption of distance education, (Bates, A. W., & Sangrà, A., 2011) provides guidance on planning and delivering training in the digital age, (Guri-Rosenblit, S., 2014) analyzes the development of distance education over six decades based on literary sources, (Keegan, D., 2013) explores basic principles and approaches in distance education., (Vrasidas, C., & Glass, G. V., 2014) considers the issue of distance education and distributed learning.

The article employed a comprehensive set of research methods to address the tasks at hand. These methods include both theoretical and empirical approaches, as well as mathematical techniques.

The theoretical aspect of the research involved an in-depth study and analysis of various types of literature, including scientific and pedagogical, psychological and pedagogical, reference materials, specialized literature, and relevant regulatory documents related to the research topic. The information gathered from these sources was systematically analyzed, compared, classified, and then synthesized to form a coherent theoretical framework.

Empirical research methods were also crucial in this study. A pedagogical experiment was conducted to gather practical data, and observations were made to assess real-world situations. Additionally, various tools such as questionnaires, surveys, interviews, and testing were employed to collect empirical data from participants and subjects relevant to the research.

Furthermore, mathematical methods played a pivotal role in the research process, especially in the statistical data processing phase. Data collected through empirical research methods were subjected to rigorous statistical analysis. This allowed for the quantitative evaluation of trends, correlations, and patterns within the data, enhancing the overall validity and reliability of the research findings.

By utilizing this multifaceted approach, the research aimed to provide a comprehensive and well-rounded analysis of the topic, ensuring that the conclusions drawn were both theoretically grounded and empirically supported.

Materials

Instead of traditional education with its emphasis on strict differentiation of approaches to learning about the world, open education can be an important alternative direction. It is based on the integration of various ways of acquiring knowledge and provides for continuous learning throughout life, the possibility of changing relationships between participants in the educational process, quick and affordable access to knowledge, as well as the formation of a socially active

personality capable of adapting in the ever-changing and unpredictable world of information.

Therefore, the transition to open education allows overcoming the orientation of traditional educational systems on an excessive amount of facts and information, which does not always correspond to the real needs and demands of modern education. The openness of education is considered as a process of cyclic renewal of the intellectual and professional development of an individual during his life.

Taking into account these features, it can be argued that open education is a relevant and important direction in the modern educational process.

Flexibility and adaptability are key characteristics of distance education. Students who choose this method of study are usually not limited to regular classes in a traditional format such as lectures or seminars. They have the opportunity to work at a convenient time, in a suitable place and at a comfortable pace. This gives a great advantage to those who cannot or do not want to limit their active social life. Distance learning education does not require prior educational qualifications, and anyone can study as much as they need to master a specific specialty or subject and obtain the necessary credits from the chosen courses.

Modularity is also an important aspect of distance education. The programs are built according to the modular principle, where each individual course of study creates a holistic view of a certain subject area. This allows the creation of a training program that consists of independent course modules and can be adapted to individual or group needs, such as training the staff of a specific organization (Holmberg, B., 2017).

Distance education is also characterized by economic efficiency. Due to the concentration of teaching, the unification of educational material and the use of technology for a large number of students, this form of education requires significantly lower costs per student compared to traditional forms of education.

The distance learning system can be considered as an open system. It arises at the intersection of two main systems - society and resources. The presence of this system is due to the combination of interconnected and interacting elements that

form a coherent whole and have new properties. This also applies to the distance learning system, which is one of the subsystems of an educational institution and uses distance learning technologies to obtain higher education (Berge, Z. L., & Muilenburg, L. Y., 2016).

Cybernetics, which studies the methods of cognition of complex highly organized systems, including open systems, can be applied to the analysis of a distance learning system. The method of system analysis, which is one of the main methods of cybernetics, can help to consider this system as an open system that interacts with the external environment and has the ability to transform information. Thus, the distance learning system can be considered as an open system from the point of view of cybernetics, and this concept helps to understand its functioning and interaction with other systems.

Modern trends in the field of distance education require a deeper understanding of the concepts of "source information" and "final information" in the context of the distance learning system, as well as consideration of the distance learning system as the main component of the modern educational process.

Education and training are two concepts that are important to distinguish. Education is a process of imparting knowledge, skills and abilities, which can take place in various forms and include the active participation of students. Education is the result of learning, which includes acquired knowledge, personality development and upbringing.

Distance education is an important direction of modern education, as it uses advanced technologies to provide access to learning in any place and time. This form of education uses computer and telecommunication technologies for the transmission of educational material and interaction between teachers and students.

Modern technologies in distance education include video lectures, interactive online courses, virtual classes, the use of virtual reality and other innovative means (Moore, M. G., & Kearsley, G., 2012). This allows students to receive quality education regardless of their place of residence and work schedule.

One of the key advantages of distance education is flexibility and adaptability. Students can study at a time and place convenient for them, which is especially important for those who have an active social life or other commitments. Distance education also does not require previous educational qualifications and gives every student the opportunity to study and acquire knowledge at his own level and at his own pace (Garrison, D. R., Anderson, T., & Archer, W., 2017).

In addition, distance education is usually a cost-effective form of education. It allows efficient use of resources, such as teachers, material and technical base, and others, and reduces training costs compared to traditional forms of training.

Therefore, distance education is an important component of modern education, which allows to ensure accessibility and flexibility of education for everyone and contributes to the development of education as a result of education and upbringing.

The concept of "distance education" in the modern world covers a wide range of educational practices and technologies that allow students to study and receive education without being present in physical classrooms. This form of education includes the following key components:

Online courses and lectures: The main component of distance education is the opportunity to attend online courses and lectures through video conferences or special educational platforms. Students can listen to lectures, watch videos and submit assignments online.

Open learning: Distance education makes learning accessible to everyone, regardless of their geographic location. Students can study in colleges and universities located in other cities or even countries without leaving their home.

Flexible schedule: Distance learning gives students the opportunity to study at a time and pace that is convenient for them. This is especially important for those with other commitments such as work or family responsibilities.

Variety of formats: In distance education, you can find different learning formats, including video lectures, interactive tasks, discussion forums, tests, etc. This makes the learning process more varied and interesting.

Possibility of independent learning: Distance education promotes the development of independent work skills and self-discipline, as students have to independently plan their educational process.

Use of Technology: Distance education uses modern technologies such as video conferencing, special learning platforms, e-textbooks, etc., which makes learning more interactive and effective.

Access to different courses and specializations: Students can choose from different courses and specializations, study in different universities and use this opportunity to broaden their horizons and gain knowledge in different fields.

Distance education has become an important component of modern education, contributing to the accessibility and flexibility of learning. It empowers students and allows them to study according to their needs and schedule (Salmon, G., 2014).

In today's world, distance education continues to play an important role in providing access to education for various categories of the population and developing learning in the digital age. Here are some key aspects and additional information about distance education:

Accessibility and Flexibility: Distance education makes learning possible for anyone who has access to the Internet, regardless of where they live or work. This is especially important for those who cannot attend traditional educational institutions due to limitations such as geographical distance or work.

Convenience and adaptability: Distance learning allows students to study at their own pace and at a time that is convenient for them. This is especially important for those with busy work schedules or personal lives.

Modularity: Many remote programs are built on a modular basis. Each course can be divided into independent modules, allowing students to choose and complete a study program of their own choice.

Efficiency: Due to the use of technology and the large number of students, distance education can be more efficient in terms of finances, with the help of traditional forms of education.

Innovative Technologies: Distance education actively uses modern information and communication technologies, such as video conferences, interactive platforms, video lessons, online tests and many others.

Certification and Diplomas: In many cases, students who successfully complete a distance education program have the same degrees and certificates as students in traditional institutions.

Development of Professional Skills: Distance education allows professionals to improve their skills and acquire new knowledge without a break in work.

Growing Popularity: Distance education is becoming more popular every year, and many universities and organizations are offering online courses and programs.

Challenges and Opportunities: Despite its many advantages, distance education also faces challenges, such as the self-discipline required and physical contact with faculty and fellow students. However, it also expands learning opportunities and allows students to develop independent skills and use modern technology.

In general, distance education opens up new horizons for learning and development, making education more accessible and flexible for everyone.

Many authors, especially those who are not specialists in the field of didactics, often perceive distance education and distance learning as identical concepts. However, it is important to distinguish between these two terms, after which they, want and related, have your own definition and specificity.

Distance learning is the basis for distance education. Distance education is a result, a process and a system at the same time. It develops through the systematic and accelerated development of individual abilities and the transmission of culture from generation to generation, including rules of behavior, thinking, knowledge and technology.

Learning, in the general sense, is a joint purposeful activity of the teacher and learning, aimed at personality development, learning and education. Distance education, at its time, is a form of education and a system that requires appropriate

design. This process includes defining the general concept of education, choosing appropriate content, structuring the material, using pedagogical methods and technologies, organizing the educational process taking into account the features of distance learning and the use of information technologies.

Thus, summarizing the views of scientists, it can be noted that distance education is a new form of education that exists in parallel with other forms, such as full-time, part-time, and others. Distance learning is a system and process of learning in which the teacher and student are at a distance from each other and use electronic resources and educational materials to organize the learning process.

Students who choose distance education have at their disposal a variety of educational tools and the ability to communicate with teachers by phone, e-mail, or video. Modernization of the educational process allows combining modern information technologies with traditional teaching methods.

Modern society needs intellectual potential to solve the most important economic and political problems, and this emphasizes the relevance of the distance learning system. Regardless of the form of education, the teacher is always the subject of education, and the student is the object of education.

The results of the conducted research indicate that the distance learning system should be considered taking into account several important aspects:

An important factor is the human factor, which affects the success of the implementation of the distance learning system.

Students have the opportunity to independently acquire knowledge adapted to their needs and flexible learning conditions.

Communication and cooperation between the participants of the educational process is an important component of successful distance learning.

Self-acquired knowledge should be active and applied in practical activities.

Systematic control of knowledge acquisition should be permanent and based on operational feedback or take the form of delayed control.

Final visual control can be carried out if necessary.

To better understand the concept of source information, its transformation and final result, it is important to consider distance learning as an open system. This

system receives various components from the external environment, such as educational materials, legislative acts, labor and material resources. These components are transformed according to the methodology defined by the universities, and as a result, a given result is created.

Conclusions

In the context of political and administrative reforms in Ukraine, as well as taking into account the scale and geographical coverage of the education system in the country, the need for a modern and effective system of training, retraining and advanced training of the personnel corps of civil servants becomes obvious. Considering this, the standard methods and technologies of education no longer meet the requirements of the time and scale of the reforms.

Distance education, which uses advanced information technologies, provides an opportunity to create a new, more modern and flexible form of education. In particular, it allows combining traditional methods with modern approaches that meet the needs of modern society for highly qualified personnel to solve economic and political tasks.

Currently, it is important in Ukraine to conduct scientific research and development aimed at creating a scientific basis for the national education system, in particular in the field of distance education. Pedagogical teams and information resources of educational institutions of Ukraine should become the basis for conducting staff-experimental research and development of this system. It is also important to study and implement advanced domestic and foreign experience, to develop appropriate organizational, management and legal frameworks for the development of distance education.

In conclusion, we can say that distance learning is an open system that requires research and further improvement in order to meet modern requirements and become an integral part of the education system in Ukraine.

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