

## **DISTANCE EDUCATION AS A FLEXIBLE FORM OF LEARNING IN THE MODERN SOCIETY OF KNOWLEDGE AND INFORMATION**

### *A EDUCAÇÃO A DISTÂNCIA COMO FORMA FLEXÍVEL DE APRENDIZAGEM NA SOCIEDADE MODERNA DO CONHECIMENTO E DA INFORMAÇÃO*

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### **ABSTRACT**

The modern world trends in the development of education are considered. The state and trends in the development of distance education abroad and in Ukraine are analyzed. Challenges and threats to the national interests of Ukraine in case of lagging behind in the field of distance learning are identified. Measures are proposed to spread distance education in Ukraine and increase its quality and accessibility. The article reveals the theoretical and methodological foundations of the innovative technology of the organization of the educational process - the distance learning system as one of the important factors of pedagogical interaction. The authors analyze the features of distance learning, determines its possibilities for optimizing the process of pedagogical interaction.

**Keywords:** Distance education. Internet. Information technologies. Form of education. Online.

## RESUMO

As tendências do mundo moderno no desenvolvimento da educação são consideradas. O estado e as tendências no desenvolvimento da educação a distância no exterior e na Ucrânia são analisados. São identificados desafios e ameaças aos interesses nacionais da Ucrânia em caso de atraso no campo do ensino a distância. São propostas medidas para disseminar a educação a distância na Ucrânia e aumentar sua qualidade e acessibilidade. O artigo revela os fundamentos teóricos e metodológicos da tecnologia inovadora de organização do processo educacional - a modalidade a distância como um dos importantes fatores de interação pedagógica. Os autores analisam as características do ensino a distância, determina suas possibilidades de otimização do processo de interação pedagógica.

**Palavras-chave:** Educação a distância. Internet. Tecnologias da informação. Forma de ensino. Online.

## **Introduction**

The educational systems that have developed today in the developed countries of the world are one of the leading factors that to some extent determine the economic and social stability of these countries, provide these countries with the possibility of gradual scientific, technical and economic development and on

on this basis of the social development of society, improvement of the world system, raising the spiritual and material level of peaceful, life-creating life of the population - the main goal of this improvement.

Innovative, in particular, integration processes in the system of national education act as a component of the comprehensive trend of globalization of world development processes, as a determining intellectual basis of harmonious

development of national socio-economic systems. The socio-economic needs of a developing society act as requirements for the education system and, in the main, consist in creating conditions for

software:

- the harmonious formation and development of the personality as an individual and a member of society, in the reproduction in the younger generation of social, national and world culture, the formation of a value system that is based on universal human and universal cultural values;

- professional education, which provides for the formation of the relevant properties in the individual, which ensure his competitiveness in the labor markets and, thus, the possibility of his active participation in socio-economic activity of society.

At the turn of the XX and XXI centuries. it became apparent that the objective the regularity of further social development is the transition from an industrial to an information (post-industrial) society as the most rational way to improve the quality of life of people, to transfer the economy to science-intensive and resource-saving industries. Over the past years, in many countries of the world there has been a consistent and steady movement towards building an information society, which is designed to create the best conditions for the maximum self-realization of each member of society. The reasons for this process are the intensive development of computer and telecommunication technologies and creation of a developed information and educational environment.

An information society can be imagined as a society where the main subject of labor of most members of society will be knowledge and information, which are considered the main resources and driving force of progress, and information technologies are the instrument of labor. The main factor social differentiation becomes knowledge, not property. Thanks to this, the economy of this society will be aimed at the production of products of intellectual and informational activity, transforming them into a form that will be convenient for consumption by other people and, naturally, the sale of these products. This judgment indicates an increase in the share of workers in the production and processing of various information. Thus, we can say that the transition to an information society presupposes a connection between information, the importance of new information technologies and socio-structural changes in society.

Informatization of modern society is becoming one of the main and most significant areas of world scientific and technological progress. It is also one of the main factors in the development of society, which strongly influences social relations within the country, between countries and peoples. Informatization covers

the sphere of economics, politics, social and individual life of the population and is built on top of the technological basis. Currently, there is an active influence of informatization on the material, production, the social and cultural area of each person and humanity as a whole.

It is becoming more and more obvious that the lag in the field of informatization threatens any country with a loss of the pace of its development. The value of information lies in the fact that it allows you to build up, transform and make the most grounded decisions in the field of substantive, practical, socio-political and spiritual life of society (IASECHKO, M., IASECHKO, S., SMYRNOVA, I., 2021).

Information ensures the functioning of computer systems and, being processed by them, returns again to the person who extracts new knowledge from it. The process of assimilating the scientific knowledge accumulated by mankind, acquiring certain skills and abilities for the subsequent performance of socially significant functions is provided by education.

Education is an objective necessity of human existence. In all historical periods of the evolution of human civilization, it was aimed at the development of the individual, her creative abilities, aesthetic perception of the world, the formation of the spiritual image of a person.

Traditional classical education is the result of assimilating systematized knowledge, skills and abilities as a necessary condition for preparing a person for life and work, which is based on the scheme: science - education - practice. Knowledge as the sum of truths necessary for assimilation, is the content of education and the organizational basis of the educational process. This implies a logical distribution and a strict sequence of study of academic disciplines.

Classical science and education played a leading role in determining the directions of development of human civilization, but in the era of mankind's transition to the information stage of development, they discovered its limitations precisely at the level of rigid differentiation and isolation.

It becomes obvious that the classical model of education inherent in most countries of the world community has already exhausted itself. The global education crisis at the end of the 20th century, recognized as accomplished fact. The main conditions that contributed to the development of the crisis of national education systems include:

- the limitation and weakness of the factors of socialization of the individual in an industrial society;
- the lack of organic unity between the rational side of educational activity and the preservation of the integrity of the individual, its individual nature;
- the impact of informatization and computerization processes public life, modern communication system in the field of education.

### **Literature review**

The problems of the formation of a conceptual and terminological apparatus for the development of distance education are addressed in the works of many foreign scientists, among them: (PLUMMER D. C., DAVID W. CEARLEY, DAVID MITCHELL SMITH., 2008), (POLAT, 2021), (HARRIS, S., SUTTON, R., 1986), (PERRATON, H. A., 1988).

In the article, the following research methods were used to solve the set tasks: theoretical (study and analysis of scientific and pedagogical, psychological and pedagogical, reference, specialized literature, regulatory documentation on the topic of research, additional professional advanced training programs; analysis, comparison, classification of the information received and generalization); empirical (pedagogical experiment, observation, questionnaire survey, survey, conversation, testing); mathematical (statistical data processing).

## Materials

An alternative to traditional education with its philosophy of rigid differentiation of ways of mastering the world can only be open education, which is based on the integration of various ways of knowing the world. Open education assumes continuity of learning throughout life, the possibility of changing the nature of relations between participants in educational activities, efficiency and accessibility in obtaining knowledge, education of a socially active personality capable of adapting in a constantly changing and unpredictable world in conditions rapidly growing volumes of information. Thus, the transition to open education is an opportunity to overcome the orientation of traditional educational systems on the encyclopedic nature of education, excessive overload with informational and factual material, which is far from always connected with the actual requests and needs of the individual and society. At the same time, the openness of education is understood not as a mechanical the movement of the personality from one form of education to another, but as a process of cyclical renewal of the intellectual and professional appearance of the individual throughout his life.

Based on the mentioned characteristic features, it can be said that such specific qualitative properties are inherent.

**Flexibility and adaptability.** Those who study, in general, do not attend regular classes in the traditional form (lectures, seminars etc.), and work at a convenient time for themselves in a convenient place and at a convenient pace, which provides great advantages for those who cannot or do not want to disrupt their usual, active social life. Getting an education does not formally require any previous educational qualification. Everyone can learn as much as he personally needs for learning specialty, subject and obtaining the necessary credits from the selected educational courses.

**Modularity.** The programs are based on the modular principle. Each individual training course creates a holistic view of a certain subject area. This allows you to create a training program from a list of independent course modules

that meets individual or group (for example, for the staff of a separate organization) needs.

**Economic efficiency.** Due to the use of a more concentrated presentation and unification of the content of the educational material, the orientation of technologies to a large number of students, more effective use of teaching staff and the material and technical base that provide training, it requires significantly lower specific costs (per student) than traditional forms education (according to average according to world estimates - by about half).

Any socio-economic system can be called an open-type system. These systems arise at the intersection of two main systems - society and resources. The necessary system arises when there is the combination of interrelated and interacting elements that represent a single whole and form a new property. All this applies to the distance learning system, because this system is one from the subsystems of an educational institution that uses distance learning technologies in the educational process for those wishing to receive higher education in the chosen specialty.

Let's consider the categories of those wishing to study in the distance learning system. This is:

- persons with disabilities in motion;
- persons who have left the state on student exchange programs;
- persons called up for urgent military service;
- persons who are on a long business trip abroad;
- persons who already have higher education, but want to get a second education;
- persons holding positions in regional authorities;
- young people who do not have the opportunity to get education according to the traditional training system due to the limited capacity of this system, the need to combine work with study,
- territorial remoteness from university centers;

- persons whose work specifics do not allow them to study in the rhythm of existing educational technologies;

- students seeking to get a parallel education (POLAT, 2021).

An open system is influenced by both the internal and the external environment, which indicates the existence of direct and feedback connections, initial and final information and, due to the presence of a method for transforming this information. According to the generally established classification, resources can be divided into material, labor, informational and financial. All these resources are present in the distance learning system. Now we need to consider and prove this open-type system from the point of view of cybernetics. It is known from literary sources that cybernetics is an integration science about the methods of cognition of complex highly organized systems. The system analysis method is one of the main methods of cybernetics. Thus, we can use this method in order to prove that any socio-economic system, including the distance learning system is an open system (HARRIS, S., SUTTON, R., 1986).

Now it is necessary to determine what is included in the concept of initial and final information in relation to the distance learning system and what constitutes a distance learning system as a backbone.

Before answering these questions, you need to understand the concepts of "education" and "training", determine the difference between them, as well as determine what the distance learning system itself is and its relevance. Learning is a process, and education is the result of this process. Considering the definition of a control process as direct the impact of the control system on the controlled in order to achieve a certain result, you can define the concept of "training" and "education" (PERRATON, H. A., 1988).

The concept of "training" in the scientific literature is considered as a systematic, purposeful and organizational process of mastering knowledge, skills and abilities, and education acts as a result of training, upbringing and personal development. Modern distance learning is a form of education, together with full-time and part-time a form where in the educational process not only traditional but



also innovative methods, teaching aids based on innovative computer and telecommunication technologies are used.

Distance education and training is a fairly new phenomenon in our society. There is a concept for the creation and development of distance education, according to which distance learning is one of the forms of continuous education, designed to realize the rights of every person to receive education.

Let's consider some issues of development and understanding of this phenomenon.

To this day, there is no single definition of distance learning.

Researchers and specialists in this field, when talking about distance education, very often put different meanings in this concept. In order to understand and better understand the essence of the definition of "distance education", it is necessary to consider the interpretation of this definition, offered by various scientists (BOGOMOLOV, 2007).

American researchers define distance education as "the transfer of educational programs through technologies such as cable or satellite television, video or audio recordings, faxes, modems, video conferencing for learning outside educational institutions".

European scientists understand by the term "distance education" the process when teachers and students, are at a significant physical and technological distance from each other, communicate for educational purposes through various means of communication (IASECHKO, M., IASECHKO, S., SMYRNOVA, I., 2021).

Distance education as a new form of education and considers it as a result, process and system at the same time (POLAT, 2021).

I would also like to cite excerpts from works in which distance education is:

- the form of obtaining education by methods and means of distance learning;
- a system and process that provides students with learning resources;
- a special form of education, a force that transforms all forms education into

a single, qualitatively new educational system of e-learning;

- a complex of educational services provided to specialists and the general population using a specialized information and educational environment at any distance from educational institutions;

- a form of education that differs from other forms in the way of obtaining (providing) education or the nature of educational communication, carried out mainly indirectly (at a distance);

- distance learning.

Summarizing the above definitions of distance education, we can conclude that there is no single point of view even on the recognition of this term as a special concept in the field of education, allowing professional, scientific communication, not to mention recognition of distance education as a philosophical category. Hence the spread of opinions and judgments: from the denial of distance education as such to its recognition as a special form of education. At the same time, distance education is understood as a form, method, method, and as system, and as a process, and as a set of technologies, and as a complex educational services. A separate issue is that distance education is an independent category and is a form of education. But common to all interpretations of distance education is the approach to filling the content of the above categories.

Thus, summarizing what has been said, taking into account the points of view of different authors, we define distance education as a complexly organized system, attributed to a new form of education, capable of satisfying the educational needs of the population regardless of its spatial and temporary location in relation to educational institutions, including the means, process and appropriate educational standards are the result of the interaction between the teacher and the student implemented using telecommunication technologies, which is carried out in a specific educational environment (IASECHKO, KHARLAMOV, SKRYPCHUK, FADYEYEVA, GONTARENKO, SVIATNAIA, 2021).

In addition, the following excerpts from various works can be cited, where distance learning is understood as:

- technology of learning at a distance, in which the teacher and students are physically in different places;
- a form of training in which the teacher and students are physically separated in time or space, which differs from the correspondence form of training by the use of special technologies;
- a form of education, along with full-time and part-time, in which the best traditional and innovative methods, means and forms of education based on computer and telecommunication technologies are used in the educational process;
- training, which is based on the use of special computer technologies and Internet facilities that provide optimal management of the learning process;
- a new method of didactics;
- organization of the educational process in the conditions of mediated interaction between a student and a teacher with the predominant use of information technology and telecommunications;
- a set of technologies, methods and means that provide the opportunity to study without visiting an educational institution, but with regular consultations with the teachers of the educational institution or persons certified by this educational institution (tutors);
- a purposeful process of interactive asynchronous or synchronous interaction of a teacher and students with each other and with teaching aids, indifferent to their location in space and time;
- a new form of education, which currently exists along with other forms of education - full-time, part-time, external studies in the system of continuous education.

Most authors, especially specialists far from didactics, equate distance education and distance learning (IASECHKO, SHELUKHIN, MARANOV, 2021).

According to (Polat, 2021), it is very important to separate the concepts of distance education and distance learning. These are related, but not identical concepts. Distance learning is the foundation of distance education, which is acquired as a result of the purposeful and accelerated development of human

abilities thanks to the pedagogically organized transfer of the culture accumulated by people, i.e. rules of behavior, thinking, knowledge and technology from generation to generation.

Learning is understood as a joint purposeful activity of a teacher and a student, during which the development of the personality, its education and upbringing is carried out. Distance learning is a form of education, it is also a system that presupposes a design stage, which is absolutely inevitable in any organization of the educational process. The design stage provides for the definition of the general concept of the training system, the goals adequate to it, the selection of the appropriate training content, its structuring taking into account the form of training used, its specificity (in this case, the specificity of distance learning, the specificity of the subject), the selection of methods and pedagogical technologies, organizational forms of training, adequate to the general concept and goals of training and, finally, information technology tools, other teaching aids and organization of the educational process.

Thus, having examined the various views of scientists, we agree with this opinion and adhere to the point of view that distance learning is a new form of education that currently exists along with other forms of education - full-time, part-time, external studies in the system continuing education; distance learning is a system and process of learning in which the teacher and student are at a distance from each other, and therefore rely on electronic means and printed manuals for organization of the educational process. Distance learning includes distance teaching and distance learning.

We believe that the definition of "distance learning" is the most accurate concept, and the concept of "distance education" includes many types and forms of knowledge acquisition: full-time, part-time, evening, external studies, distance learning. The very concept of "education" is multidimensional and ambiguous, and training is one of the ways (means) for a person to gain sociocultural experience, i.e. education.

In the modern world, existing forms of education, such as full-time, part-time, external studies, presuppose well-known forms of training, as well as the mandatory physical presence of the student in higher education. institution - at lectures, seminars, workshops and consultations at certain time points in the learning process.

Part-time students must, twice a year - as a rule, in winter and summer, be present at the orientation classes, passing the exam.

The opposite of this is distance learning, where the physical presence of students is not mandatory, but in some cases, with the mutual agreement of the teacher and the student, an element of full-time education may be present.

The distance learning process is a controlled independent work of a student who chooses a place of study convenient for himself, draws up an individual schedule for himself, has a set of special training aids with him, plus an agreed opportunity for contact classes with a teacher.

Distance learning can be viewed as a purposeful and interactive process where subjects and learning objects are interconnected with each other, as well as interconnected with teaching aids. The educational process takes place in a certain pedagogical system, in which subsystems act as elements: learning objectives, learning content, teaching tools and methods, organizational forms of learning, control, economic, legal.

Summarizing all of the above, the author of the dissertation research believes that distance learning is a modern and simple form of education, where the latest innovative methods, means and forms of learning are used in the educational process, the foundation of which is IT - technologies based on the principles of intensity and independence of learning in individual schedule (PLUMMER D. C., DAVID W. CEARLEY, DAVID MITCHELL SMITH., 2008).

Distance learning students have in their arsenal the necessary learning tools and the ability to communicate with the teacher by phone, e-mail or visually.

Modernization of the educational process allows the use of modern information technologies to build a completely new form of education in combination with traditional methods.

Modern society needs intellectual potential to solve the most important economic and political problems, which justifies the relevance of organizing a distance learning system.

Regardless of the form of training, the teacher is the subject of training, and the student is the object of training.

As a result of the study, it can be noted that the system distance learning would be more correct to build on the basis of certain conditions:

- the human factor is essential for the successful implementation of the distance learning system;
- learners independently acquire knowledge both promptly and over a long period thanks to a flexible training system;
- communication and cooperation between participants in the learning process in the cognitive process and creative activity must be present in distance learning;
- knowledge acquired independently should be active in order to be able to apply it in future practical activities;
- systematic control over the assimilation of knowledge should be constant and built on the basis of operational feedback or have the character of delayed control;
- if necessary, full-time final control may be present in the educational process.

In order to determine what is the initial information, the method of its transformation and the final result, we should return to distance learning as an open-type system. We know everything that enters the system from the external environment - these are learning objects, normative and methodological materials, legislative acts affecting the activities of the distance learning system, labor and material resources. These components, getting into the distance learning system,

are programmed to change according to the methodology for transforming primary material determined by universities, as a result of which the system creates a given result.

## Conclusions

At the time of implementation of political and administrative reforms in Ukraine.

Under these conditions, a similar situation exists in the field of training, retraining and advanced training of the personnel corps of civil servants.

Taking into account the scale and territorial expansion of the education system of Ukraine, to ensure high-quality retraining of teaching and managerial personnel at the pace of planned reforms according to traditional technology of learning and forms of education is considered impossible.

It is necessary to flexibly and comprehensively use the most modern technologies and forms education, and, first of all, distance education.

Summarizing all of the above, taking into account the perspective of distance education and the current state of theory and practice in Ukraine, it should be pointed out the absolute urgency of conducting a wide range of research and development aimed at creating a reliable scientific foundation of the national education system. The teaching staff and computer network of pilot secondary schools of Ukraine, which is currently actively developing, scientific and professorial staff and computer networks of higher educational institutions and scientific institutions of the National Academy of Sciences and the Academy of Pedagogy should become the personnel and experimental and technological base for this. of Sciences of Ukraine, which actively research and introduce this modern form of learning and education into educational practice, educational and scientific production complexes, such as the Distance Education Academy, were specially created to solve the problems of education.

It is necessary to comprehensively study and implement into the practice of DO Ukraine the relevant advanced domestic and foreign experience, develop and implement organizational-management and normative-legislative provision of this promising form of education.

Thus, we can say that the presence of the initial factor, the transformation methodology and the final result, as well as direct and feedback links between subjects and objects, suggests that distance learning is an open system.

Taking the cybernetic understanding of the system as a basis, we can identify the typology of solving the main problems by the distance learning system. We can say that this is the simplest type of tasks - trivial, since we know the outgoing information, methods of its transformation and final information. But at present, the distance learning system is in such a state that we cannot unequivocally assert that this system is perfect from the point of view of the methodology for transforming the initial information. Therefore, from the point of view of its sufficiency, the system is more suitable for the type of problem "search", since the outgoing and final information is known, and the method of its transformation and receipt is unknown. These conclusions confirm the relevance of the development and improvement of the distance learning system.

The openness of the distance learning system from the point of view of practice is confirmed by the principle of humanity. In accordance with this principle, the distance learning system is open to anyone wishing to get a higher education or improve their professional level of knowledge. As a result of the objective process of informatization of society and education, absorbing the best features of other forms of the educational process, distance learning at the present stage of development and modernization of higher educational institutions is the most promising, integral form of education among traditional forms. From the point of view of openness, distance learning is confirmed by universality, which is based on the use of traditional and information technologies. IT - technologies create comfort for students, namely free choice of training courses, dialogue exchange with the teacher,



where the learning process does not depend on the location of the student in time and space.

Distance education is a system where the process of distance learning takes place.

The information and educational environment of distance learning is a systemically organized set of information resources, means of interaction, organizational and methodological support and an orientation towards meeting the educational needs of the population.

Distance learning is a form that ensures the use of the latest technical means to deliver educational materials and information directly to the consumer.

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