DISTANCE EDUCATION AS A DRIVER OF THE NEW TECHNOLOGIES IMPLEMENTATION

Arseniy Aleksandrovich Lebedev
Laboratory of Innovations, Ltd, Kazan, Tatarstan, Russian Federation

ABSTRACT
In the current socio-economic environment, expenditures on education are steadily increasing, since an increase in the share of production and, accordingly, educational institutions is required, which will enable it to determine the possibility of integrating distance education technology into the traditional educational system. The relevance of the study is determined by the fact that currently the understanding of distance education is changing from the method of replacing full-time education to an element of private technology to support the learning process.

The aim of the study is the need to integrate distance learning as a support system for the control and implementation of students’ independent work system. The paper provides a definition of distance learning and the possibilities of its application in the traditional sphere.

The research methodology is determined by the historical method, the method of comparative analysis and the general scientific method in terms of comparison and strategic management of the quality of education and the establishment of forms for the implementation of educational technologies.

The practical significance of the work is determined by the fact that the integration of distance education is necessary for a private understanding of the structure of the production of the educational sphere in the context of globalization.

Keywords: Distance education, Expenditures on education, Educational sphere structure, Information technologies, Control of students, online courses.

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1. INTRODUCTION
The distance learning system together with a high rate of improvement of information technology provided a significant boost for the development in the late nineties [1]. The very essence of such system challenges the problem that always appears in the educational
environment: ‘How is it possible to ensure the rights of every citizen for education and to receive information freely? [2].

1.1. How distance learning is solving educational problems:
- Provides all people an equal opportunity to receive or improve their level of education using the latest information and communication technologies [3].
- **Due to the new technologies use, such system should provoke the creation** of an additional favorable environment for updating and maintaining the educational materials relevance and the teaching content itself.
- Constantly improves the teaching methods and knowledge dissemination.
- It can be implemented at any level of education, attracting people who already have a higher education and want to improve it.
- Helps people who do not have the opportunity to study in universities with classical forms of learning due to the lack of physical ability or professional employment.

1.2. Stages of development of a distance education system

Studying the history of development of a distance education system and viewing it through a specific lens, it is possible to divide its success into several stages [4]. These stages of development of distance education were first characterized by Randy Harrison and Soren Nipper, who used the term ‘generations’ to them.

1.2.1. The first generation
- 1. The first generation included such teaching tools as **handwritten and printed materials** that have been used for centuries [5].
- 2. Since the middle of the nineteenth century, the development of transport infrastructure has allowed to **deliver the materials over longer distances**, expanding the geography of the audience wishing to obtain new information for themselves.
- 3. With the advent of **broadcasting** in the 20s, the so-called radio courses began to appear, consisting of a series of lectures [1]. Often such lectures were supplemented with printed materials and sessions in classes. Of course, **television courses** came into vogue with the advent of television [6].

1.2.2. The second generation

The second generation was marked by the appearance of the **Open University** in Great Britain in 1969. An integrated approach to the knowledge dissemination using the full range of tools with the dominant position of books was used for the first time. A large number of textbooks were printed, aimed solely at distance learning [4]. Everything (printed materials, radio, television, and then audio carriers) was used. The communication between the teacher and students was carried out through correspondence, face-to-face consultations and even short-term classes at home. The main disadvantage of such system was the high cost of education at the preparatory stages. It could not contribute to the development of a more accessible model at the material level.

1.2.3. The third generation

The “third generation” is already based on the active involvement of information and communication technologies that provide two-way knowledge connection between a teacher and a student in various forms (**text, sound, animation, graphic** ones) both in synchronous
Distance Education as a Driver of the New Technologies Implementation

(audio or video conferences, which are popular in Western countries) and asynchronous mode (email, forum, etc.). It is noteworthy that the tools of the ‘third generation’ can be both an independent learning system, and an addition to the first two ‘generations’. It significantly improves the interaction not only between the teacher and the student, but also between the student and the student. The main costs here are certainly the development and implementation of technologies.

1.3. Distance education system’s process

The development of learning content depends more on the teacher himself [7]. When creating educational materials, one of the key factors is the ability to use a variety of software, ranging from simple text applications to complex multimedia projects [8]. Therefore, we can say that distance learning motivates faculty members to self-improvement and adaptation to rapid changes in the field of information technology [9]. In addition to the “live” lectures, the student also works independently, so content creation is also reduced to “offline” learning, when a student can access the course materials at any time and by any question within studies [10].

It also should be noted that the teamwork organization among students and the implementation of joint projects and seminars, where students can present their work and share opinions and experiences play a key role in the learning process [11]. The evaluation of the success of such study should be operational and final on the part of the teacher in the form of testing or any other verification work [12]. Increasingly, special Internet pages, organized by the students themselves or by a whole group of students and created by special guidance counselors who possess sufficient skills in the field of information technology, are used for this purpose [13].

The development of educational technology is much faster in relation to the technical means. The use of computer in education provokes a revision of all learning process components. If we talk about the interactive environment, it can be noted that a great attention to imaginative thinking with regard to the use of technology should be paid. Otherwise, the thought of the teacher should be interpreted by the presentation of materials in video images. As a consequence, the fundamental moments in the technology of distance learning are the visualization of information, new approaches to pedagogical communication, as well as the correction of classical forms of the organization of the educational process.

1.4. Three main areas in distance education:

1. *Asynchronous*. During asynchronous training, the student studies the course independently, obtaining the necessary knowledge and skills from the materials provided to him, and the educational institution only controls this process [5].

2. *Synchronous*. During synchronous learning, the direct interaction between students and the teacher is provided through the use of computer technology [14]. And despite the fact that technical means are actively used here, they serve only as an auxiliary tool for the knowledge disseminating [7]. The teacher, who interprets this knowledge, plays the key role in this process [13]. The communication between teacher and student is the information transfer basis, the most important side of which is feedback [8].

3. *Combined*. The combined direction, which combines elements of asynchronous and synchronous learning, is very popular in educational institutions in North America.
1.5. Two principles by which distance learning should be built:

1. The learning process should be built on the independent cognitive activity of the student, which in this case should be very active;
2. Distance learning should be student-centered.

1.6. Types of technologies used in such training:

1. Technologies that provide information.
2. Information transfer technologies.
3. Information storage and processing technologies.

The set of technologies responsible for the transfer of information is the main type of academic information technology on which distance learning is based, because these technologies primarily provide the learning process and its support.

2. LITERATURE REVIEW

2.1. The notion of distance education

We propose to understand a distance learning as a social institution, within which various groups of society are provided with educational services aimed at meeting individual, professional and spiritual needs and involving the use of both traditional and innovative methods, means and forms of education, which are based on new information and telecommunications technologies [15].

There is no doubt that the discourse on distance education and distance learning should be conducted in the context of education in general. Modern foreign and domestic sociology has a voluminous layer of scientific research that is devoted to the phenomenon of education, the analysis of the world educational system and the prospects for its functioning in the future [16]. All definitions of the concept of "education", developed by humanitarian thought, reduce it, for the most part, to the fact that education is the spiritual and intellectual improvement of the individual. Within sociology, education is viewed both as a process and as a social institution. Education should be viewed only through the translation of value-behavioral attitudes and specific skills that are necessarily institutionalized [17].

2.2. The problem of education within different approaches

Domestic sociology of education mainly studies the problem of education within the institutional and systemic approaches, and these approaches are often combined, superimposed one on another, since each of them has a certain limitation [6].

2.2.1. Institutional approach

The concentration of most sociologists on the institutional aspect of the phenomenon of education leads to the fact that it is necessary to define a social institution as such [18]. Thus, within the framework of the institutional approach, education is viewed as a specific institution that performs certain functions in society and is involved in social interactions that represent a complex system.

In the framework of the institutional paradigm, education acts as a "sustainable form of organization of social life and joint activities of people, including a set of individuals and institutions with the power and material means to implement certain norms and principles, social functions and roles, management and social control, which is carried out training, education, development and socialization of the individual with the subsequent mastery of her
proficiency, specialty, qualification "[19]. As we see, such a definition makes it possible to consider education only as a social institution, but with this approach another vision of education fails, without which it is impossible to adequately and fully analyze its real role in society.

### 2.2.2. Social institution notion

A social institution is “an organized system of connections and social norms that integrates meaningful social values and procedures that satisfy the basic needs of society” [10]. Any social institution acts as a system that has been formed historically, as a social organization of people, directed to the satisfaction of certain needs and fulfilling certain functions. In addition, according to Durkheim, a social institution develops as a mechanism within which social relations are constantly reproduced. Social relations are ordered, regulated and formalized, the result of which is a social institution. A social institution does not exist until the formalization of social relations takes place. The development of certain rules that set the algorithms of social life, set the normative installations by which people interact in the process of achieving the necessary goals and meeting specific needs, lead to the emergence of a social institution. Social institutions are integrated into the social system, are included in the interrelations and interrelations among themselves, and only through such integration are certain areas of social life organized into a social institution that is aimed at realizing public interests and needs. This leads to the fact that social institutions are similar to each other, have common characteristics that allow analyzing them as a whole [20].

### 2.2.3. Systemic approach

As for the second approach, it focuses on considering education as an autonomous system that has independent qualities and can be analyzed as an independent social phenomenon [21].

### 2.2.4. Sociocultural approach

The limitations of institutional approach in the study of education does not make it possible to consider the latter as not only a social institution, but, first of all, as a sociocultural phenomenon. A look at education as a sociocultural phenomenon allows us to consider education as an established system, developing in the context of cultural and historical changes in society [22].

Within the framework of the sociocultural approach, education is presented as a mechanism and process for transmitting social and cultural experience accumulated during the period of all historical development. In the socio-cultural context, the functional characteristics of education are shifted. First, education is aimed at the process of people mastering the material and spiritual values of the culture of society, which is directly related to the transmission of sociocultural information, which allows them to learn the skills and knowledge offered by previous generations and to further improve them based on their own experience.

### 2.2.5. Historical approach

Knowledge about education should be increased not only through key sociological approaches — a systemic and institutional, but also through a historical approach, since education, both as an institution and as a cultural phenomenon, depends to a decisive degree on the specific historical and political situation [23, 26–28].
2.2.6. Integrated approach

Through the prism of an integrated approach, it is possible to appeal to education as both a social institution and a sociocultural phenomenon. And since the social life of modern society is accompanied by significant changes in the economic and cultural spheres, the prospects for the development of the Russian education system should be analyzed through social and sociocultural transformations [24, 25]. The needs in society are realized through and with the help of a social institution. In addition, any social institution can be characterized through status-role characteristics; through ideology or religion, by means of which status-role legitimation is exercised; through social connections through which the social institution is integrated into the social structure; through the transmission of social experience, which is accumulated in the process of functioning and development of a social institution [29].

3. MATERIALS AND METHODS

Information technologies currently used to intensify the learning process have great didactic opportunities to improve the training of university graduates. However, specific methodological approaches to the use of information and communication technologies in the interests of improving the training of specialists are not sufficiently developed.

The problem investigated in the work is located at the junction of various sciences: sociology, pedagogy, psychology, economics, and computer science. Each of them has its own approaches to its consideration and justification. In recent years, sociological science has begun to pay decent attention to the problems and prospects of informatization of society. A large number of scientific publications reflect the problems of using Internet technologies in education [28–33].

However, the further development of distance learning technologies needs an analysis of the social characteristics of consumers of distance education, the attitudes of social groups to this phenomenon, and the social efficiency of this form of education. There are issues related to the formation of "human capital", social mobility, changes in social structure.

4. RESULTS AND DISCUSSIONS

4.1. Learning Management Systems

Considering the existing known distance learning systems, we should mention the Learning Management System (LMS), which has become popular throughout the world, one of the basic concepts of which is a course. It is not only a tool for organizing the educational process in the classical sense, but also a communication medium between people of interest within the same subject. With the constant development of technology, new types of LMS come out every year. There are Blackboard, Canvas, Desire2learn, Redclass and several open source platforms, of which Sakai and Moodle are the most prominent. Moodle is the most convenient example to understand the principles of distance learning management with the help of LMS.

4.2. Moodle

The creators of Moodle are Martin Dougiamas who developed the very idea of such a system, and Peter Taylor, who wrote the first Moodle website at Curtin University. In 2004, the first courses were held at Oxford, after which many serious educational companies began to enter into partnership programs with Moodle. Growth from 1,000 registered users in 2004 to more than a million users by 2010 led to the creation of Moodle 2.0, and subsequently Moodle 3.0, where the main focus was already placed on mobile technologies. The teachers from all over
the world are invited to share experiences in the Moodle Research Conference, which was opened in 2012.

It is necessary to create your own account for full interaction with Moodle, but depending on the parameters of each course, an unregistered user may also be able to view open educational materials. One of the advantages of the Moodle system is the fact that it is distributed in open source, which makes it possible to customize it for the concept of any educational project.

4.3. Opportunities that Moodle gives to the learning process

All the opportunities that Moodle gives to the learning process, can be divided into three groups:

1. Pupils:
   1) Have the opportunity to study at any time, in any place, at any pace;
   2) Have the opportunity to spend more time on in-depth study of topics according to their interests;
   3) To absorb the material much better.

2. Teachers:
   1) Maintain up-to-date information in materials;
   2) Adapt the sequence and method of presenting educational material to a specific working group;
   3) Spend more time to improve their professionalism and creative work, trusting the fulfilling of the routine processes to the program;
   4) Support feedback with students both on time and after graduation.

3. Educational institution:
   1) Effectively distributes the load on the teaching staff;
   2) Simplifies the procedure for analyzing learning outcomes;
   3) Significantly reduces the cost of managing the educational process.

The popular module ‘Electronic Dean's Office’, designed to automate workflow in an educational institution and includes electronic diaries and journals is also implemented in the system. In terms of its functionality, it may be comparable to a real traditional dean’s office.

Moodle also gives such opportunities:

- Combine it with other information systems;
- Use supplement with auxiliary services and functions;
- Install ready-made or develop new modules.
- Create and store educational materials.
- Organize the sequence of materials study.
- Not only text, but also any other electronic form of information interpretation (for example, Youtube) can be used as educational material.
- The system is focused on teamwork and that’s why some tools such as wikis, a glossary, blogs, workshops, forums are integrated in it.
- The training itself can be carried out both in synchronous and in asynchronous formats.
• The exchange of data of any format between teachers and students is successfully involved in Moodle.
• The system monitors the students' attendance of classes by itself, the papers submitted by them, comments, downloaded materials by them and even the time that the student spends on study, which greatly simplifies the teacher’s work, saving him time.

According to statistics, the site moodle.net shows that the Moodle system is currently used in 222 countries throughout the world and implemented on 67,186 sites. At the same time, about 9,000,000 different courses and 8,000,000,000 users have been registered. According to the rating of countries using Moodle, the first place in the world belongs to the United States of America, but Russia, in turn, closes the top ten.

4.4. The MOOC system

4.4.1. The term of MOOC, the beginning — 2008 year
The term of MOOC (Massive open online courses) was firstly introduced in 2008 at the University of Manitoba (Canada), where 2030 people had the opportunity to participate in the online training on a pro bono basis in addition to students already enrolled in the traditional form of education. All materials were distributed via RSS feeds (Rich Site Summary - enriched site summary), and its participants could have an active discussion through Moodle, blog posts and synchronous online conferences. A MOOC is usually a video lecture created by one or more teachers and structured within various electronic platforms (such as Coursera and EdX). A video lecture lasts about 10-15 minutes and, as a rule, additional materials are attached to it, which the student studies independently.

4.4.2. Coursera project, 2011
Actually, the MOOC in modern distance education started in 2011 at Stanford, where the popular project Coursera was created, combining the open resources of several leading US universities and which became the best educational web resource of 2012 in less than a year. The founders of Coursera are Andrew Ng and Daphne Koller, who followed an idea of mass education, where everyone could take online courses collected from leading educational sites around the world. During the first months of work, about 1 million people were enrolled in the project, and by the middle of 2015, Coursera had already 12 million users, with about 4000 different courses provided by 116 partners. The peculiarity of these courses is the fact that they are equally attractive both for people who want to expand the range of their knowledge for free and for people who want to receive a certificate of attendance at a prestigious educational institution on a subject that interests them, which is already a paid service.

4.4.3. Being widespread, own platform, 2013
In 2013, the MOOC has already acquired a fairly wide geography. The undisputed leader is the United States of America again, with more than 15 MOOC sites, such as Coursera, Udacity, EdX and others. In Germany, its own platform Iversity was created, some courses of which were awarded the 'best course' award in the MOOC system. In addition, their sites are also in Spain (Crypt4you). The UK has created a union of 12 universities in Britain (Futurelearn), and the European Union, in turn, created a union of the 11 (OpenupEd). MOOC is developing quite rapidly and expanding both in terms of its geography and in terms of the development of courses integrated into the system.
4.4.4. In Russia
Russia began to adapt to the MOOC system in 2013–2014, launching the Lectorium, Universiariurn, and other projects.

4.4.5. Problem of monitoring courses, AKC
Education using online courses such as Coursera allows to access the world-class training while reducing the rising cost of education. One of the main problems that need to be solved when using online courses is the problem of monitoring knowledge with the ability to predict educational results. The task of monitoring knowledge using information technologies called automated knowledge control (AKC), has been solved for a long time. It is difficult to build a classification of methods for AKC, covering a large number of real-life systems and approaches. This is primarily because the generally accepted and standardized classification scheme of computer learning aids is not created yet.

4.5. The history of development and systematization of computer-based learning systems
The control of knowledge is an integral component of learning; therefore, before considering the classification of AKC methods, it is necessary to give some idea about the history of development and systematization of computer-based learning systems.

Training is ‘a joint purposeful activity of the teacher and the students, during which the development of the personality, its education and upbringing are carried out’.

Automated training system (ATS) is ‘a complex of technical, educational, methodical, linguistic, software and organizational support on the basis of a computer, designed to individualize learning’.

Today it is extremely difficult to classify all possible options (types, types) of both computer-based training (CBT) in general, and computer-based learning systems in particular. A sufficiently detailed classification of CBT and a system of definitions covering many concepts are given earlier.

4.5.1. V. L. Stefanyuk’s teaching systems
V. L. Stefanyuk contrasts the learning systems (systems that implement the machine learning methods) and the teaching systems (‘teaching’, ‘tutoring’). For the first class of systems, a large number of formalized mathematical methods have been developed, and quite effective models have been created within the ‘hard’ science. In this regard, the second class of systems is quite different from the first one and ‘there is no any mathematically accurate model of what the student learns and how to properly organize the teaching processes, despite the large number of relevant works on pedagogy in it [3].

In order to give some general idea of the field of computer training, there are the main milestones in the history of the development of computer learning systems (tools) and some of the most important, from the point of view of the author, their classification, presented below. It is better to rely on the works in reviewing the history of the development of computer learning.

4.5.2. Sidney Pressey’s educational machines
The experiments of the American psychologist Sidney Pressey, conducted in the mid-20s of the last century (1926, 1927), are among the first in the field of creating educational machines. The scientist developed a machine that asked questions to a person and repeated them until it
got the right answer. This is how the programmed learning method emerged, which later was developed by other scientists.

4.5.3. *Tree main models of programmed learning:*

- linear model by B.F. Skinner;
- modified linear model by S. Pressey;
- branched model by N. Crowder.

4.5.4. *The basic idea of programmed learning*

The basic idea of programmed learning is that a specific fixed learning scenario is put into the computer (computer system), which includes various fragments of the training course and the conditions according to which the presentation sequence is determined by these fragments for the learner (for example: in the case of the correct answer to question number 1, you must shift to question number 5, otherwise shift to question number 20) [5].

4.5.6. *J. Carbonell’s ideas of using artificial intelligence*

In 1970 J. Carbonell created the work, in which the idea of using artificial intelligence methods and models for creating computer training systems were first formulated. The *SCHOLAR system*, developed by this scientist, assumed that the computer “knows” the subject area (the studied subject) and has certain algorithms of adaptation to the knowledge and capabilities of the student.

4.5.7. *Sliman and Brown’s ILS modules*

The elements of the structural theory of intelligent learning systems (ILS) were developed in the works of Sliman and Brown, according to which ILS consists of 4 main modules:

- an expert in the subject area,
- a student model,
- a teacher,
- an interface.

4.5.8. *Real commercial ILS, 80s*

Real commercial ILS appeared already in the 80s of the XX century. This period is also characterized by the rapid development of expert systems; it becomes clear that the corresponding methods and models developed within the theory of expert systems can be “transferred” to the ILS. Thus, the models of knowledge representation about the subject area, the learner model in ILS and, accordingly, the algorithms for implementing learning strategies and knowledge assessment based on these models are becoming increasingly complex.

4.5.9. *Combined training programs, 90s*

The 1990s are associated with the ‘digital revolution’, the wide distribution of network technologies, in particular, the Internet, hypertext, multimedia and hypermedia. The work notes that during these years ‘there is a tendency to create training programs that combine information, training, control, gaming and training systems as well as their use in global and corporate networks’, and at the same time ‘the development of intellectual and expert training systems continues; methods and technologies for their creation are being improved’. In the 90s the application of the concept of multi-agent (agent-oriented) systems has also begun in the field of ILS.
4.5.10. The current stage
The current stage of development of computer training is characterized by very high dynamics and a huge variety of approaches and tools. Of course, the concepts of ‘open education’ and ‘distance learning’ play an important role among the key concepts of modern education, as well as the emergence of the methodology of ‘virtual chairs’ and ‘virtual universities’ [6, 16,]. The article [6] highlights such modern trends in the development of education as globalization, customer-centrism, informatization, and intellectualization. In the corporate and university environment, the concept of e-learning is becoming more common, which can be defined in the broad sense of the word as the use of Web and Internet technologies for training. E-learning includes software products such as Learning Management Systems, Learning Content Management Systems, training content development systems (Authoring Tools) and information exchange systems.

4.6. The classifications associated with computer tutoring systems
The modern educational process in the educational sphere is characterized by the use of computer-based learning systems at different levels of the cognitive activity management process in an educational institution, and there are three levels:
1. CBT as a tool for solving individual pedagogical problems;
2. CBT stimulates the development of didactics and methods;
3. CBT contributes to the creation of new forms of education.

A classification of computer-based educational programs that are often quoted in other sources for their intended purpose:
- computer tutorials;
- subject-oriented environments (microworlds, modeling programs, training packages);
- laboratory workshops;
- simulators;
- control programs;
- reference books
- database of educational purposes.

In accordance with the two main components of the learning process (teaching and learning), computer training systems can also be divided. For example, the separation of intelligent computer systems related to learning support was introduced into two types:
- intelligent tutoring systems (or expert-tutoring systems), which primarily simulate the impact of teachers on students;
- intellectual learning environments in which student-computer system interaction is primarily modeled.

V. L. Stefanyuk proposes to use the classification of the types of learning of the artificial system proposed by P. Winston as the cognitive levels of learning [3]:
- Level I - “Creative” (student does everything on his own),
- Level II - “Analogy and Generalization” (student finds analogies, generalizes by examples),
- Level III - "Explanation" (student understands the explanation),
- Level IV - "Programming" (imprinting, suggestion, skill).
It is possible to conduct a transactional analysis of training systems or training situations, based on this classification.

4.7. Personal knowledge model

Personal knowledge model is very close to the concept of a current student model in the sense, or simply, of a model of a student. Therefore, most classifications of a model of a student taught by different authors are also suitable for classifying personal knowledge models.

The current student or learner model is a model of test results (diagnostics) containing data on the student’s knowledge, abilities and skills. A sufficiently detailed classification of the current student models is presented in the work.

Model of the student includes a variety of information about him:

- history of learning;
- the results of the current work (type of tasks completed, task execution time, number of requests for help, etc.);
- personal psychological characteristics (type and orientation of the personality, representative system, ability to learn, level of anxiety, memory peculiarities, etc.);
- general level of preparedness and others”.

Large classes of these models can be distinguished:

- Models fixing a set of values that determine the student’s knowledge and skills,
- Imitational models that ‘recreate the student’s ideas about the subject area being studied and its mechanisms for solving problems’.
- A scalar model is an integral estimate expressed by a single number. Accordingly,
- Vector models attribute a certain number (the degree of mastering) to each educational element (didactic unit).
- Overlay models set the "coverage" of the subject area, assigning the degree of their assimilation to students by structural units.
- In network models, the concepts of the subject area and the relationships between them are modeled as a semantic network (graph), to the vertices and arcs of which a number or set of numbers is assigned, reflecting the level of training of the student. The genetic graph is used in teaching skills and differs from the overlay model in that it describes possible ways of developing the skills of the students, therefore the current model of the student does not correspond to the graph itself, but some way in this graph.
- Simulation models are rather difficult to build, they are less common, they are mainly used to describe student errors.

5. CONCLUSION

Distance learning is a new technology of organization of the educational process, which is based on the principle of independent learning and is expressed in a targeted process of interactive interaction between students and educators (teachers and students) using information and telecommunication technologies that provide students with the necessary amount of educational material.

Modern distance learning technologies open up real prospects for improving the quality of knowledge and efficiency of the educational process, for solving various social problems.
related to the functioning of an educational institution. Remote educational services are able to satisfy educational needs, increase the human potential of representatives of all social groups and strata. But they are of particular importance for the residents of the settlements located far from the university centers, those who, due to various circumstances, cannot receive education using traditional technology.

The development and intensive use of new information technologies is not an end in itself, but only a means of meeting the needs of the population in new forms and content of education.

The development of the regional educational system should take into account local socio-economic conditions, based on government requirements, national doctrine and strategies for the development of education.

The social problem of the accessibility of educational services to certain social categories of citizens is associated with their standard of living. The level of computerization of the population in different regions of Belarus varies significantly. Under these conditions, collective access points for computers and Internet services based on local libraries, educational institutions, etc. are needed.

The development of the Internet segment in the region presumes training a large number of teachers who are able to fully use its potential. Conducting large-scale training of teachers of educational institutions is a priority task for the dissemination of new technologies.

It is necessary to further develop appropriate professional retraining and advanced training of faculty, since this is one of the most effective ways to scale the task of training personnel for innovative activities in the region, and thus improving the quality and accessibility of education.

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