

Basic overview and analysis in the area of distance learning

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Abstract. One of the most important factors in the development of information-educational species using the Internet to access a wide variety of population groups to educational resources, so the development of electronic (distance) education problem is one of the most important not only for Kazakhstan, but also throughout the world. Ministry of Education and Science of the Republic of Kazakhstan in accordance with the State Program of education development in the Republic of Kazakhstan is working hard to create the information - innovative educational system, development and support of e-learning programs. Widespread introduction of Internet - technologies in Kazakhstan leads to the need for integration of educational information resources and services, the development of alternative innovative approaches and educational technologies that meet the latest requirements of the time. These educational technologies should be aimed at improving the quality of the educational services, individual approach to each student. In this article discusses the basic overview and analysis in the field of distance learning. Distance learning system will provide adequate support and interaction with the training. Distance education is not so much empowers the traditional organization of teaching as a new method of knowledge translation, which the training is organized on an individual curriculum, and students and teachers communicate within the distance education system. Thus the distance education reduces the age barrier, opens up opportunities for individuals are spatially far from the University or limited in mobility, thereby expanding the range of professionally active population.

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Introduction.

Distance learning has passed several important stages in development. The first stage of formation of distance learning is associated with the active development of a cheap method of printing, as well as the national postal services and rail links (from the middle of the XIX century). This made possible the delivery of educational materials to many students and led to a correspondent training. This stage includes also appeared with the invention of radio (20-years. XX century) and television (50 years XX century) so the first radio and television broadcasters, educational programs, which are usually accompanied by parallel use of manuals, textbooks for teaching groups[1].

Starting of second stage put the creation of the Open University in the UK in 1969. The university was first developed for high quality educational and methodical materials focused on distance learning which students receive in printed form, radio programs are broadcast conducted for students, then the cassette appeared. Communication between student and teacher was carried out by regular mail, some courses involve confrontations meeting[2].

The third stage in the development of distance learning is associated with the emergence of new information and communication technologies. They are based on the use of computer technology and the Internet.

In this regard, in addition to the concept of "distance learning" appeared terms "network learning", "online learning", "e-learning» (e-learning), which emphasize the primacy of use in distance learning Internet technologies. Importance of technology is emphasized in the definition adopted by the United States Distance Learning Association: "Distance learning - the acquisition of knowledge and skills through a bunch of information and exercises, including all technologies and other forms of education"[3].

Russian researcher E. Polat fixes the innovative nature of distance learning, seeing it as a new form of education that is different from the usual full-time and part-time, and draws attention to the particular importance of "special institutional arrangements for the new forms of interaction between teachers and students, between students themselves"[4].

This definition can "unzip", referring to the characteristic of modern distance education, which is characterized by:

flexibility (the ability to learn in a convenient time, in a convenient location and pace);

modularity (possibility is form a curriculum of a set of independent modules which it is responsible individual needs);

parallelism (it is opportunity to study in parallel with professional activities);

coverage (it is simultaneous access to many sources of educational information (electronic libraries, knowledge bases, etc.) of a large number of students, communicating over the Internet with each other and the teacher);

efficiency (educational areas, technical and vehicles are efficient use, educational information is concentrated and unified view of multi-access and specialists are training to reduce the costs);

manufacturability (it is use in the educational process of the latest achievements of information and communication technologies (ICT) modern information space is facilitate the integration of the individual, as well as learner-oriented teaching technologies);

social equality (education is equal access to regardless of their residence, health, material security of student);

internationally (opportunity uses of global information resources, import and export of world achievements in the educational market)[5,6];

The new role of the teacher which must organize and coordinate the educational process (manager training process), continually improve taught them courses, increase creativity and skills in accordance of modernity and innovations in the area information and communication technologies.

Distance education is often regarded as one of the important innovations in higher education related to the trends of globalization and the transition to a postindustrial society[7,8].

Distance education is not so much empowers the traditional organization of teaching as a new method of knowledge translation, which the training is organized on an individual curriculum, and students and teachers communicate within the distance education system. Thus the distance education reduces the age barrier, opens up opportunities for individuals are spatially far from the University or limited in mobility, thereby expanding the range of professionally active population.

Trends and factors set forth in the listed above concepts, have necessitated global changes in the system of higher education. In this context, analysis of the transformation of the university as a social and economic institution in the knowledge society is of particular relevance. This problem is seen in the works E.Cheyta, M. and D. Kogan, S. Slaughter and L. Leslie B. Redingsa, J. Delantyand other researchers[9,10].

As shown above, the distance education becomes an essential element of modern educational paradigm, it defined ideas about the mission and the level of education on educational problems and the means to solve these problems in a knowledge society. The important is "localization" of distance learning in

this paradigm as a conceptual and from an organizational point of view, that it involves the analysis of theoretical and functional models, revealing the correlation distance, full-time and part-time higher education, a description of the institutional characteristics of the "virtual learning environment" as specific area of distance learning[11,12].

Practical experience of distance education has become a basis for the development of theoretical approaches, reflecting the specificity of the learning process in a situation in which:

- 1) not only the teacher and the student, but also members of the group divided by distance learning;
- 2) for the "delivery" of teaching materials (for the teaching) and the links between learning and studying uses other technologies;
- 3) they are particularly meaning get of organizational learning and to provide effective communication and interaction.

These approaches are generalized and systematized in the D. Keegan's epochal work (one of the founders and editor of the Australian magazine «Distance Education») «Basics of distance education" (first edition - 1986, and the third, revised and expanded - 1996), identified structural basis of theoretical reflection in this area[13,14].

So, D. Keegan identified three main areas of analysis: the independence and autonomy of students in the learning process, "the industrialization of teaching" and the problem of interaction and communication.

In the first case refers the notion is the autonomy of the students and the correct combination of interaction and independence in learning situations based on the division of the training and learning define the essence of the basic didactic principles of distance education.

The second direction of theorizing is analysis of the specificity of interaction and communication training and learning in distance learning system. As it is development of didactic principles allowing reintegrate acts of teaching and learning. Also it is the create (or using specific techniques and tools to compensate) interpersonal relationships "face to face" as between teachers and students, and the group of students. The interaction in the educational situation determined by the opportunities of the "new balance": control over the learning process on the part of the learner and the role of the teacher as an assistant. Basics of interpretation specifics of distance education system in terms of the educational process were laid O. Peters in the framework of "industrialization of teaching." German researcher showed that the ratio of the training and learning the rules of controlled technology; supported through non-emotional

language (rather than actual speech), based on a limited ability to analyze and direct the needs of students (in the absence of personal communication) can achieve set goal through productive work. In addition, the system of distance education demands planning with primary learning tasks, rationalizing, division of labor, "assembly" of the course, etc. That is why distance education means "industrial" view of teaching and demands review of traditional theories of learning at a distance[15,16,17].

A relatively the new approach in this area is called connectionism. The term "connectionism" was first introduced by the American theorist George Siemens in 2004 in an article published in the journal «International Review of Research in Open and Distance Learning». Supporters of connectionism consider learning not as a process of knowledge transfer from training to the learner, and as a distributed interaction of individuals in the network. The basis of connectionism is an attempt to overcome the limitations between structured formal training and informal learning unhierarchical. Efficiency of connectionism approach has three important limitations: power relations (communication nodes) in the network, the level of autonomy of the learner, the degree of "presence."

Thus, and connectionism, and formal training agree in the detection fundamental importance of social interaction in learning[18,19].

Also important is difference between the actual concept of distance education and "electronic delivery of educational materials" (in domestic terms - distance education technologies). Italian researchers S. and L. Marie and S. Guenon offered simple criteria for differencing these conceptual approaches. If the essence of innovation is conclude of providing educational material and not in teaching methods and if the training material can be presented in print form without loss of efficiency and quality, we are talking only about the "electronic delivery of educational material."

In connection with this Deed K. identifies several directions of research in online pedagogy.

1. *Pedagogical design*

- needs of future analyses, which it explores new forms of literacy and rhetoric, resulting in production with new technologies;
- study types of instructional design, effective learning that independently of the location is timely and meets the relevant requirements;
- determine the necessary balance and consistency between presentation and constructivist teaching strategies for solutions different problems;
- comparison of student motivation, pedagogical productivity and expenses representative of

teaching learning activity-based approach, which is used as a criterion for the work of students with authentic real tasks months after graduation.

2. *Knowledge networks*

- this research shows which experienced teachers use pedagogical strategies based on analogies and informed situational analysis.
- development of methods for securing knowledge through chain relationships, rather than using direct mode hypermedia.
- develop a support that helps students move from passive to active learning material build their own knowledge;
- determine how different presentation of information (visual, auditory, symbolic) and nonlinear control affect learning;
- determine the optimal balance between implicit (structural) and open (through interference) the direction of in providing support for different types of learners and different learning objectives.

3. *Virtual communities*

- here is determined to study the degree telepresence, which provided telecommunications through put at different levels as well as determining how much each level of effective social interaction improves the training of different kinds;
- here is defined productivity remote teaching and distance learning to increase student motivation and improve job skills;
- it compares the effectiveness of experimental pedagogical "classrooms with electronic walls" with technological means of bringing the real world into the classroom;
- it defines the confidence level of the individual in the network needed for those students whose technologically indirect communication rather personal.

4. *The joint synthetic medium*

- it is study the effect of training on psychological phenomena typical of synthetic medium (disinhibition, impermanence network card);
- it determines the relative level at which the transformation of symbolic information in sensory form (visualization, sound) or physical immersion student in synthetic medium promotes the assimilation of different kinds of educational material[20].

It compares the effectiveness of a single-user shell and synthetic distributed simulation environment.

Development of distance learning and development of the different educational programs received a boost

because the area were the most effective use of new information and communication technologies, as reflected in the emergence of the concept of e-learning and the development of the Internet - online learning. In this case, a new element appeared the concept of online learning which it defines the boundary between "student campus" and "distant students." It lets us to consider as a new structural unit of the education system. As rightly K. Dede pointed, an innovation in education and the use of high-performance systems and data (Internet) have made possible the "transition synchronous, group forms of distance learning. It is oriented to the presentation that replicate traditional verbal learning ... in alternative methodological paradigm - distributed learning ", which available anywhere and at any time.

A classification of organizational models of distance education may be the most productive "economy" in this new situation as it is free from the "technological determinism" and the historical layers. In our view, such a classification can be based on the allocation of institutional and functional models of distance education. Thus, institutional organization model of education include:

1) it is training a single institution of higher education (it is appropriate to allocate two subtypes: distance learning programs are realized along with the "full-time" learning process, but they are study by a special unit, distance learning programs are implemented with the governance structures and powers "full-time education");

2) the operation of this system of distance education with the consortium (two or more universities) resources of individual institutions together and managed unified structure;

3) it is specialized educational institutions established solely for the purpose of distance education (all resources planning, funding, personnel and other opportunities aimed at implementation of distance education services), - virtual universities.

Information and educational environment (Virtual Learning Environment) is an open system, that it is a special complex of interrelated and constantly updated learning tools, which provides the opportunity to synergy and interactive with all participants in the educational process; It is "a set of technology and software, providing a training process regardless of the location of participants in the process, which it is part of a broader system management institution and it includes electronic databases of students and staff, registration subsystem and financial accounting, performance control, electronic learning resources, library, quality control system, communication resources, and much more" [21].

The main technical characteristics of information-educational environment are:

multicomponent (training materials, software, training systems, the control of knowledge, hardware, databases, information and referral system, etc.), adaptability, integrality (includes collection of the necessary information with access to the global resources defined profiles training, and taking into account the interdisciplinary connections) and distribution (subject to the requirements and limitations of modern technology and economic efficiency). However, such a system not just a collection of didactic technologies, information resources, software, etc., it also involves the creation of "educational events" that promote active learning, integrating content of the courses and students' knowledge of cash. Because, a full virtual learning environment is determined the possibility of creating according to the following provisions:

- 1) the focus dependence of knowledge (and the acquisition of knowledge) on the social context;
- 2) there is a close link between teaching ("maturation") and development, which implies the need to bind (or choose) some form of training depending on the level of development, the needs of students, etc.;
- 3) students are regarded as the central figure and element of training necessary;
- 4) it is the effectiveness of learning communities in which social, pedagogical and cognitive presence provide a fruitful environment for personal development and transformation of life prospects as teaching and learning.

The effectiveness distance education requires special methods of communication by electronic and other technologies as a form of planned training. It depends on the development of special organizational and administrative approaches. Researchers have noted that system of distance education is not a simple aggregation of individual resources and services, and an innovation system of interconnected components at the institutional level.

It is allocate three types of distance technologies. The first kind of a technology is paper-based. The education methodical materials called workbook to sent for student and he worked on them with the support of his tutor (head). Tutor communicates with their students constantly and he can meet with them in counseling and training centers. The second type is a TV-satellite technology. It is used seldom because its high cost and low degree of interactivity. And finally, the third type is an online teaching or network technology, which it is considered the most common technology. But most of all, educational institutions try to use in the process of learning all three technologies in different proportions. But distance learning not suitable for all, so in order to facilitate the selection, we consider the main advantages and disadvantages of distance education (Table 1) [22].

Table 1. The main advantages and disadvantages of distance education

Pros	note
learning at their own pace	The student can choose a different pace, depending on their personal circumstances and needs
flexibility	The student can plan your own time and duration of lessons, the list of subjects and more. Thus he can combine study with work, thus he save time and money on the way to University.
availability	Regardless of where the institution, a person can get the right education to him. This is an opportunity for residents of remote regions to get a quality education, while avoiding moving and related expenses
individualization of education	Typically, students have the opportunity to talk individually with the teacher or author of the course through chat rooms and teleconferences. This is one of the bases the success of the learning process
manufacturability	In the process of distance learning students come use the achievements of information and communication technologies. Thus, the student develops parallel to the skills that will be useful to further his work. Opportunity he creates for himself a comfortable conditions of learning
visibility	Different illustration, diagrams, presentations, on-line tests to increase the visibility of the receives information, making learning more interesting and effective.
cost	Most often, the cost of distance learning is much lower full-time. In addition, it is suggestions free courses for unique offers.
Cons	note
lack of personal contact	It is not personal contact between teacher and student. That is, these moments are individual approach, education, sharing of personal experiences are excluded. This makes effective knowledge
the result depends on the student's self-discipline	Distance education requires a degree of autonomy and consciousness. Lack of continuous control for many people is a relaxing factor
the quality of knowledge	Knowledge's quality will satisfy of set standards not always
the technical equipment	Not all people have regular access to such things as computers and the Internet
lack of practical knowledge	If full time students can immediately under the control of the teacher, and they can apply their knowledge in practice, students of distance learning may not be able
written basis of learning	Basically, it is used in distance education, and if someone is used to receive the information at the hearing, or he is more convenient to express their ideas with words, then he is learning may seem boring

Distance learning is becoming more and more popular. It is used for different purposes in educational institutions and enterprises of another profile. Distance learning is different from traditional, above all isolation students and more self-discipline needed from the student. Distance learning system will provide adequate support and interaction with the training. This is a very important feature. This can be achieved through the intensive use of computer information technology and telecommunications.

As in many states, also in Kazakhstan distance learning attaches great importance. In many universities in the country, by using the experience of educational institutions in Russia and other countries, it provide education not only in the traditional form, but also in distance learning technology, respective modern world level [23].

So, in a way that distance education is very handy and useful. But still today the main demand is for part-time study modes. But distance education is not recommended for basic education in spite of all its positive aspects. After all, the student will be difficult to imagine their future profession only on the basis of the lectures, still needed practical exercises. But further education he can get in distance. Because he has a basic knowledge and understanding. In any case, I want to believe that distance education will be a good analogue of full-time and correspondence courses in Kazakhstan after two or three years.

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