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EARLY THEORIES OF DISTANCE EDUCATION

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The article analyzes the scientific approaches and presents an overview of early theories of distance education which highlight its essence. *The aim of the article is to compare the early theories proposed by famous foreign scientists. These theories are the cores of modern distance learning theory The authors present the comparative analysis of these theories, provide components and their basic characteristics, positive and negative features. They include theories which emphasize independence and autonomy of a learner, industrialization of teaching, and interaction and communication. These early theories emphasize that distance education is a totally different form of education. While the are differences among these theories, they emphasize the separation of a student and a teacher in space and time, the wide use of media for communication between a teacher and a student.*

Key words: distance education, distance learning, theories of distance education.

Formulation of the problem. Theoretical basis of distance education throughout its existence generates much debate. That is why, the idea of distance education is implemented separately by different universities and different scientists. Lack of accepted theory has weakened the idea of distance education. The words of American Distance Education theorist C. Wedemeyer that were published almost forty years ago remain valid to this day. He wrote that the truth was that learning by correspondence had failed to develop a theory that connected this area with the theory and practice of conventional education, causing serious damage to the development and recognition of this area. [17]. On the other hand, a variety of approaches to the implementation of distance learning opens up space to search for its most effective forms and methods.

The theoretical approaches to distance education are mainly laid in the late twentieth century, when conservatism was the traditional university system braking factor in growing needs for professional training of rapid industrial development in the world. The second half of the 80's and 90's of XX century didn't give a lot to

theoretical understanding of distance education, but it was noted with a significant increase of non-traditional universities and the recognition of distance learning education by international community in the XXI century.

Analysis of recent research and publications. Modern bibliography of the main problems of distance education has more than three thousand works only in English and German languages. A significant number of them are devoted to the development of training courses, their structure and means of material transfer to students. The stream of literature is also growing in the countries of former Soviet Union. Articles, research reports and monographs are dedicated to distance education in different countries. Foreign scholars in recent decades have offered many theories of distance education, the content of which were influenced by society, politics, economics and technology.

Theoretical concepts diverge forming several directions: the theory of autonomy and independence (R. Delling, C.A. Wedemeyer, M. J. Moore), industrialization teaching theory (A. Peters), the theory of interaction and communication (B. Holmberg, D. Sewart), theory of reintegration of teaching and learning acts (D. Keegan), equivalency theory (M. Simonson, D. Shale, R. Garrison, M. Beynton), theory of communication and management of students (M. Shale, R. Garrison, M. Beynton), distance learning theory of J. Verduin J. R and T. Clark, distance learning theory of H. Perraton and integrated model of distance learning (V.

Kinelov, V. Meskov, V.Ovsyannikov, V. Verzhbitsky and others). The role of universities in the representation of distance learning opportunities for underprivileged parts of the population was discussed by Perraton H., L. Cerich and P. Sabatier.

Aim of the article is an analysis of scientific approaches and theories that highlight the essence of distance education; conducting a comparative analysis of the early theories of distance education offered by foreign scientists

Presentation of the main material. One of the most prominent theorists of distance education is a German scientist A. Peters [10, 11]. Having deeply researched the essentials of various types of distance education A. Peters came to believe that distance education should be compared with the industrial production of goods. Peters stated that from many points of view, conventional, oral, group-based education was a pre-industrial form of education, implying that distance teaching could not have existed before the industrial era. Comparing distance teaching with industrial production of goods, A. Peters proposed the following terminology of analyzing distance learning, namely: Rationalization: the use of methodical measures to reduce the required amount of input of power, time, and money; division of labor: the division of a task into simpler components or subtasks; mechanization: the use of machines in a work process. Peters noted that distance education would be impossible without machines; assembly line: a method of work in which workers

remain station ary while objects they are working on move past them. In traditional distance education programs, materials for both teacher and student are not the product of one individual; mass production: the production of goods in large quantities. Because demand outstrips supply at colleges and universities, there has been a trend toward large-scale operations; preparatory work: determining how workers, machines, and materials can usefully relate to each other during each phase of the production process. The success of distance education depends on a preparatory phase; planning: the system of decisions that determines an operation prior to its being carried out; organization: creating general or permanent arrangements for purpose-oriented activity. Organization makes it possible for students to receive predetermined instructional units at appointed times; scientific control methods: methods by which work processes are analyzed systematically, particularly by time studies, and in accordance with the results obtained from measurements and empirical data; formalization: the predetermination of the phases of the manufacturing process. In distance education, all the points in the cycle must be determined exactly; standardization: the limitations of manufacture to a restricted number of types of one product to make these more suitable for their purpose, cheaper to produce, and easier to replace; change of function: the change of the role or job of the worker in the production process. The original role of knowledge provider as

lecturer is divided into those of study unit author and marker; objectification: the loss, in the production process, of the subjective element that had previously determined work to a considerable degree. In distance education most teaching functions are objectified; concentration and centralization: because of the large amount of capital required for mass production and the division of labor, there has been a movement toward large industrial concerns with a concentration of capital, a centralized administration, and a market that is monopolized [10, 11].

Application of industrial theories categories to distance education leeds to the conclusion that this form of education is the most industrialized and the theory of industrialization is its best explanation. A. Peters claims that anyone who is professionally engaged in education today must recognize that there are two completely different forms of education: traditional, based on interpersonal communication and industrialized based on technical and industrial forms of communication. From our point of view, the industrial model of distance education needs strengthening in educational component. In this sense, this theory is well complemented by the theory of interactivity and communication.

The theory of interactivity and communication. This scientific direction was actively developed in 70-80 years of XX century. B. Holmberg, J. Baat, J. Daniel D. Sewart were its representatives, they considered forms and technologies of organization of interactivity and communica-

tion to be the core of any theory of distance education. They examined the psychological, pedagogical, technological and informational aspects of communication process.

B. Holmberg [5; 6] describes distance education as a guided didactic conversation with the leader. Due to use of new technologies in distance education, it excludes personal contact and dialogue with the teacher, which is one of the major components of the traditional educational process. Guided didactic conversation should, in his opinion, fill this vacuum. B. Holmberg, subscribing to the view of M. Moore, believes that real education should be individualized, which is achieved through learning. B. Holmberg insists that the system of distance education must meet the following requirements: absence of admission requirements for universities and fixed objectives for some time; free class attendance of school students.

B. Holmberg put his theory into the following seven tenets on which the guided didactic conversation is based: 1) a sense of personal interaction between teacher and student which contributes to the pleasure of training and motivation; 2) the feeling can be enhanced by well-developed materials for self-study and two-way communication in a distance; 3) intellectual satisfaction and motivation to contribute to the objective of training and the usage of the processes and methods; 4) atmosphere, language and conventions "a chat" helps to create a sense of real communication; 5) information transmitted and received in colloquial, informal form, easily absorbed and memorable. 6) the concept of "conversational communication" can be successfully used with any technologies in distance education 7) planning and leadership necessary for organized learning [6, p. 115-116].

According to B. Holmberg, studying via distance education is independent, but he insists that it is not just private reading, but an interaction of students with teachers, tutors and other representatives of educational organizations; students are supported using the course which has been designed for them. These relationships are characterized as a guided didactic conversation. Conversation can be real (by correspondence, telephone, in-person contact) or simulated (stylized conversation materials conversation for distance learning, internal conversation of a student who is studying text).

In our opinion, the materials for distance learning based on the theory of B. Holmberg guided didactic conversation will be easily accessible, understandable and moderately saturated with information. They will have individual style of conversation using personal pronoun; it will include: explanatory suggestions and advice to students (for example, what to do, what to avoid, what to pay special attention to); invitation to exchange ideas, questions; attempts of emotional impact on student in order to arise his personal interest to the subject or problem. In addition, there should be separation changes by themes through explanatory statement, printing tools and announcers changes [6, p. 117].

In 1995 B. Holmberg made some

changes in his theory of distance education. This new general theory of distance education is divided into eight parts and has the following statements:

1. Distance education is designed for those students who cannot or do not want to study full time. In the system of distance learning students are independent of such aspects as admission requirements, schedule, place of study, division of the year into semesters and holidays. So, thanks to distance education students have freedom of choice and independence.

2. Society has significant benefits from using distance education forms and methods because of the opportunities of "liberal" education, lifelong learning for adults, professional retraining of specialists.

3. Distance form of education effectively contributes to students' cognitive mastery of knowledge and skills as well as their emotional and psychomotor learning.

4. Distance learning as individual activity is based on a thorough study of the material. Learning, teaching, testing of assimilation of knowledge is based on the indirect communication using pre-designed courses and information and communication technologies.

5. Distance Learning, which on one side has elements of industrialization of the division of labor, the use of mechanical devices, electronic data processing and mass communication, on the other hand, serves as the individualization of learning and direct communication between students and teachers.

6. Personal relations, the pleasure of learning, interaction between students and tutors and consultants serve as major factors in distance education. Feeling empathy promote students' motivation to learn.

7. Distance learning can be organized and conducted so that students are encouraged to find, critic and identify their position.

8. As a result, the information above allows to describe distance education organization, a theory which generates hypotheses.

According to B. Holmberg, the only important thing in the world is the individual student learning. Administration, counseling, teaching, group work, assessment are important only on condition that they support individual learning. The author emphasizes the need for a system with completely free attendance, free choice of exams and regular two-way communication during tutorials [5].

The concept of two-way communication in the training of correspondence is offered by A. Bates [1; 2]. During the 70th's of XX century he made a series of research projects on the development of possible forms of two-way communication in distance learning, based on: the creation of cooperation within the educational material through exercises, questions or tests for self-control and identification of the central role of the teacher in establishing communication with the student via mail, telephone or personal contact [2, c. 18].

Working at the UK Open University, D. Sewart made interesting contributions

to the theory of interaction and communication. In his writings scientist pays great attention to the issues of efficiency to meet the demand of knowledge of students studying remotely. D. Sewart highlights two problems: 1) the comparative analysis of the learning environment of students in traditional and distance education and 2) special needs of students, which are studying from the distance, and how tutors can best meet those needs [13, c. 78].

Highlighting the differences between traditional and distance education the scientist writes that the students studying remotely have life and work experience, in which the process of learning is conducted. He insists that they cannot devote themselves to learning by making education its sole purpose, instant help from the teacher is almost completely absent. The students don't have an opportunity to learn in a supportive atmosphere of educational groups and assess the level of their achievements by comparison with other students that may hinder the gain of confidence. [14, p. 172-173]. Thus, students who are studying via distance education are in the context of life and work experience that raises their specific needs in relation to the support in the acquisition of knowledge. He rejects the idea that the package of materials for distance learning can fulfill all the functions of the teacher and says, if this set existed, it would be extremely expensive, because it should reflect all the complicated process of direct interaction between a teacher and a student. D. Sewart concluded that in distance education forms, the role of a tutor as a mediator between the student and teaching material increases [13].

Thus, the scientist believes that the provision of advice and support of students in the distance education system have almost infinite variety of problems, creating a need for an advisory and supporting role of distance education institutions, that does not just provide students with a set of training materials.

Theory of reintegration of teaching and learning acts (D. Keegan). D. Keegan synthesized early theories of distance education and formulated its most characteristic features that are mentioned above. After analysis of the definitions of distance education made by B. Holmberg., M. Moore, O Peters, D. Keegan concluded that distance education is primarily characterized by the separation of teaching and learning acts in space and time. From this he concludes that the basis for the theory of distance education should be a general theory of learning.

Based on the A. Peters' idea, D. Keegan considered distance education as a component of industrialization [9, p. 43], which is carried out by technical means, such as correspondence, printed materials and training manuals, audiovisual support, radio, television, computers. D. Keegan proves that it is a consequence of the industrialized nature of distance education, based on separating the student from school; its theoretical foundation is to reintegrate acts of teaching and learning. D. Keegan thinks that in the system of distance education it is necessary to overcome the reluctance of people to start learning and avoid dropping out later. He

insists it is necessary to solve the problem of finding motivation and skills, completely different from those needed in traditional education, skills that are essential in the production of goods [9, p. 120].

J. Keegan warns that distance education can easily become impersonal for both staff and students. Therefore, for distance students recreation of links between teaching and learning should be planned using interpersonal communication. D. Keegan believes that printed educational materials should contain many elements of interpersonal communication. He insists that the more successful distance training program runs reintegration, the higher the quality of education will be and the fewer students will leave [9].

Let's briefly consider other less well-known theories of distance education.

The equivalency theory. M. Simonson is a representative of this theory. According to his theory distance education is institution-based, formal education, where the learning group is separated and where interactive telecommunications systems are used to connect learners, resources, and instructors. In the development of the theory M. Simonson asserts that distance learning system should make equivalent training for all students regardless whether they are related with resources and teaching that they need [15]. According to the scientist, distance education should have the necessary conditions to ensure the education of their students at the level of traditional universities. Despite the diversity of education methods, experience and training of traditional and distance learning students should be equivalent. The goal of the educational process is to get the student knowledge and experience to use in future practice [15].

Theory of communication and management. The representatives of this theory are E. Shale, D. Garrison, M. Beynton. The basis of this theory is the communicative study between teacher and student, which is based on a search of understanding and knowledge through dialogue and debate [3, c. 12]. According to D. Garrison, for maintaining educational interaction it is required to use communication and information technologies that help reduce time and costs for training students in educational institutions.

An important element of this theory is the concept of managing a student presented by D. Garrison and M. Beynton. The scientists believe that management should be based on the relationship between autonomy (student himself form the educational route), experience (the ability to learn independently) and support from the educational institution. This in turn is interpreted within the larger relationships between teachers, students and content [4].

Theory of Distance Education by John R. Verduin, T. A. Clark. The scientists believe that any communication in the course of distance learning is a permanent process of textual interpretation (training material, asked questions, comments of the teacher and fellow students). Ongoing work in the textual environment creates a special atmosphere and requires a reflec-

tion on the specifics of the process from the training organizers. The main object of this reflection is a text that stands in its various forms, but communication environment is entirely the flow of written text.

Scientists insist that printed materials have always been the predominant media in distance education and will remain the most appropriate form of delivery of educational material in the future. In their view, print materials are far ahead on the scale of the usage of other media and are the most important means of presentation of educational content. The only drawback of printing is that it gives indirect representation of reality. Most of the audio and video materials need printing support, which in turn reduces the desire to learn some important topics. All media used in distance education, can work in conjunction with printed materials. The material that cannot be passed by means of the printed word or audiovisual media, is usually transmitted during practical trainings. Scientists insist that the distance learning should contain live communication [16].

Theory of distance learning by H. Perraton. This theory is expressed in fourteen statements [12, c. 34-35]. The ability to use distance learning to facilitate education is the basis for the first five provisions: you can use any environment to study; in the system of distance education there is no need for teachers and students to be present in the same place at the same time; the cost of distance education depends on the number of students; the savings depend on the education level of students, media choice and complexity of education; the opportunity to extend a wider range of students through distance learning.

The need for communication between students and between teachers and students is reviewed in the following provisions: in distance education system there is a possibility of learning through dialogue; during meetings of a student with a tutor, the function of information transmitter is transformed into a consultant function; group discussion is a common and effective method of remote training; there is always the possibility of finding financial resources to support the educational and economic advantages of distance learning over traditional.

The scientist emphasizes that: distance learning planning requires a systematic approach; multimedia programs are more effective than those based on the same media; for individual study, it is very important to choose the right media to reach educational targets; feedback and well prepared educational materials are necessary for distance learning [12, c. 34-35].

Conclusions. These distance education theories emphasize the autonomy and independence of the student, and also demonstrate the fundamental difference of distance education learning from others. Despite the differences, most of these theories emphasize the separation of student and teacher in space and time, a significant impact of the institution on the educational process, the widespread use of media resources for communication between teacher and student.

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