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THE THEORETICAL BASIS OF THE TRAINING AND METHODOLOGICAL SUPPORT OF DISTANCE LEARNING

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The Theoretical Basis of the Training and Methodological Support of Distance Learning

This article is devoted to the analysis and generalization of existing principles of the training and methodological support of distance learning. The traditional teaching methods, new information and telecommunication technologies, principles of self-study distance learning are used in the organization of distance learning. The basis of the didactic support of distance learning is the distance learning course.

The author analyzed the approaches to the structure of distance learning courses, making it possible to summarize and highlight the main blocks of the distance course (methodological, semantic, communicative, control, organizational) and establish links between them. These units fully reflect all the functions of the distance course. The author considers that the example given in the article of the distance course is most suitable for use in the system of continuous education.

Key words: distance learning, distance course, the structure of the distance course.

Today, knowledge, skills and experience are particularly important in terms of economic relations and fierce competition in the labor market. A specialist of the XXI century is a person who is fluent in modern information technology, is constantly improving his skills. However, one of the main obstacles arising in the way of those people who wish to continue learning (given that most of them work), is lack of time. Most do not have the ability to come to the university every day; another significant obstacle is the distance. If the institution is located in another city, it is inconvenient and expensive to attend classes. In such conditions, "classic" extramural studies often do not justify their destination. The alternative form of obtaining knowledge, which is widespread in Ukraine and other countries, is distance learning.

The prerequisites for the development of distance learning are:

- rapid development of information technologies;
- continuous cost reduction services to connect and use the global Internet and its resources and services;
- significant deepening process of implementation of information technologies in the educational practice;
- wide spread of computer technology among the population.

Distance Learning (DL) is a new technology, but it has enough existing national legislation. Thus, in 2004 the Ministry of Education and Science of Ukraine issued the Order "On approval of the Regulations of Distance Learning", which defines the structure, functions, organizational principles and standards, as well as features of the distance learning system, providing expansion of consumers of educational services and the implementation of the principle of lifelong learning.

According to the Law of Ukraine "On Higher Education" distance education has gained official status of the independent form of training along with full-time, part-time and external studies [1, p. 301].

DL takes a modern educational system strong position, adding a variety of full-time education and various full-time trainings and courses. But at the same time distance learning and full-time education are different but complementary forms of learning, between which there is a rather large area of mixed solutions that are often much more productive [2].

DL is an educational technology based on the use as the best traditional teaching methods and new information and communication technologies, as well as the principles of self-study, intended for the general population, regardless of financial security, location, and health. With this in mind, one could argue that the technology of distance training consists of teaching and information technology of distance learning.

Pedagogical technologies of DL – technologies of mediated communication of active teachers with students using telecommunications and methodology of individual students' work with structured learning material presented in electronic form.

Information technologies of DL – technologies of creation, transmission and storage of educational materials, organization and support of the learning process of DK via telecommunication.

DL allows implementing interactive technology of the material presentation, gain valuable education and improve skills of employees in geographically distributed locations. The learning process can take place anywhere and at any time, the only condition is access to the Internet.

Distance learning technologies can be used not only in distance education but also in other forms of education: full-time, part-time, external as well as in certain subjects or disciplines blocks that are designed to improve the educational level or skills of individuals and (or) groups of students [3]. In addition, DL is the only way to get education for those people who for various reasons (lack of time, need to combine study with work, territorial distance from the university, etc.) cannot study full-time.

Given the urgency, we give a definition of "distance learning." The analysis of scientific and educational literature revealed a large number of options definition, but they all have in common:

- availability of the distance between the teacher and those who are studying at least during the most of the educational process;
- the use of such training facilities that are able to combine the efforts of all participants in the learning process and provide high-quality mastering course content using multimedia information and communication technologies;
- ensuring interactivity between participants of the learning process by modern telecommunications;
- prevalence of self-control over teacher’s control.

Taking this into account DL is a "learning by telecommunications, in which subjects and objects of education with a spatial or temporal distance involved in the learning process, which is aimed at creating educational products that meet internal increment of education subjects" [3].

The basis of DL educational process is deliberate and controlled intensive self-study of a student who can independently determine the sequence of studying

subjects, study in a comfortable place with the individual speed and in some cases at the convenient time. Therefore, the main advantage of DL should be considered a certain freedom in terms of location, time of study and its pace, making DL attractive to users who for whatever reason are not able to study full-time, but want to improve their educational level.

One of the major advantages of DL is lower tuition fees, which according to Cedar Group is lower by 32 – 45%. However, it is not necessary to consider lower cost of DL as the main argument in its favor in obtaining basic education in academic universities. The fact that not every student because of his personal characteristics capable of receiving distance education. Many people can perceive the educational material only while full-time study, and someone may have not enough discipline and perseverance in organizing self-study [4].

So, DL system is designed mainly for people conscious enough that do not require constant monitoring by the teacher. Therefore, motivation of students, their ability to self-organization plays the important role in distance learning [4].

According to I. Ibrahimov DL "can be seen as a natural stage in the evolution of the traditional educational system, from the board with chalk boards to the electronic and computer training systems, from the book library to electronics, from the usual audience to the virtual laboratory of any size" [2].

DL "has the same objectives as the full-time training. It is based on the state standards established for certain professions, disciplines" [5]. It has all the traditional didactic principles, which are divided into three groups: general principles (humanization, scientific character, systematicity, consistency, development), the principles relating to the content of training (historicism, integrity, compliance with the objectives and content of teaching state standards, etc.) didactic principles (compliance of the didactic process with the laws of learning, combination of abstract thinking with clarity in teaching, etc.).

However, these principles are implemented in distance learning using special methods due to the specifics of this form of training and capacity of information and communication technologies. Some researchers except the traditional principles

distinguish specific features for distance education: the principle of starting knowledge and skills, interactive feature, educational appropriateness of new information technologies, openness and flexibility of training [6].

The main feature of DL is a new role and requirements for teachers. Lectures are only a small part; learning directs students to the creative search for information, the ability to acquire the necessary knowledge independently and apply them in solving practical problems using modern technology. Teachers of distance learning courses should have universal training –master modern teaching and information technology, be psychologically prepared to work with students in the new educational and cognitive environment. Through such means of DL as discussion forums, electronic discussion of learned teaching material, mailing lists, here is created a new learning environment in which students feel an integral part of the team that increases the motivation to learn. Teachers should know methods of creating and maintaining such a learning environment, develop strategies of interaction between participants of the educational process, increase creativity and their own skills.

During DL, type of communication between members of the learning process is radically changing. There is a replacement of traditional communication links to telecommunication tools, which deliver the bulk of training material and provide online interaction of all participants of the learning process [1]. This interaction can occur in real time synchronous and asynchronous modes when students and teachers interact remotely in time and space.

The didactic support is one of the main components of DL, which depends on the efficiency and effectiveness of the educational process. The basis for this providing is the distance learning course.

The distance course (DC) is an information system, which is adequate for teaching a particular academic discipline using indirect interactions between distant from each other participants in the learning process in a specialized environment that operates on the basis of modern psycho-pedagogical and information and communication technologies.

The distance course is an integral didactic system, consisting of a variety of electronic educational materials, which uses computer technologies and capabilities of the Internet and provides training and management of the learning process of students, performs several important didactic functions, combining the vehicle storage and reproduction of learning content; means of visualization of the educational material; model (s) of learning objects; environment and means of students work on models of learning objects; means of organizing learning management.

The main characteristics of the DC are:

- structured teaching materials;
- compliance with the essential structural element of the study course: lectures, workshops, seminars, laboratory works, individual works, test, examination;
- a clear schedule of student curriculum;
- interactive system established between teachers and students, between students by means of DC resources and distance remote control technology throughout the time of the training course;
- qualitatively made teaching materials that allow to acquire competencies declared in the work program; the availability of multimedia educational materials;
- assessment of the results of students' learning activities, which includes forms and criteria for evaluation of all types of learning activities;
- control and self-control system of all types of students' learning activities.

The distance course is the equivalent of a manual for students in the traditional part-time and external forms of education. The distance course can be called a guide to an academic discipline with all its attributes using the analogy.

In fact, the distance course is designed with some degree of detail step by step instruction on mastering the course is to achieve the goals set out in its description.

Typically, distance courses are developed using a variety of software products that allow presenting its content in web format (HTML). It can be simple websites, built-in text editor and the programs such as MS FrontPage, MS Publisher and others.

Courses can be developed with the help of special programs-shells designed for distance learning (Web CT, Lotu sLearning Space, Black Board, Moodle, Associate Professor, Prometheus, etc.). The only difference is that the special programs just gives a pattern course structure.

DC is a specially designed website, which consists of several pages, chapters.

V. I. Soldatkin used modeling to build distance learning courses in many scientific works. Distance course consists of the following blocks: training, control, a block of means of communication and a block of additional materials. Under this scheme, all the blocks are organically combined together.

In our view, the scheme is detailed not enough, it is impossible to organize distance learning system of continuous education according to it.

The proposed distance course does not have an organizational block that should take into account the purpose of the study course, its general description, guidelines for its study as much of the course is designed for independent learning activities of students [7].

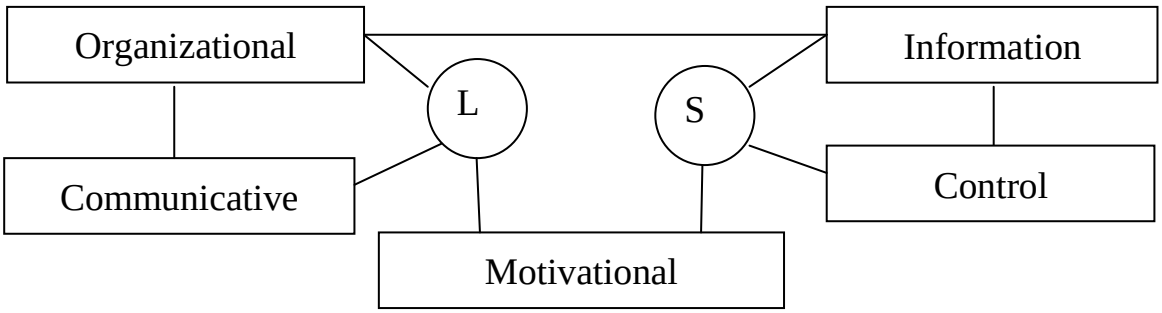
With this in view, it is appropriate to consider the block organization of Distance course offered by V. I. Soldatkin (Pict. 1).

The organizational block contains information about the purpose and organizational aspects of the course of its study, namely the educational process schedule, timely information and others.

The information block is represented as the structured educational information.

The communicative block is responsible for the possibility of an education dialogue of between a student and a teacher, who leads the course. Communication is realized in the form of e-seminars, consultations, teleconferences, etc.

The control block is to review progress and results of theoretical and practical mastering of educational material. The content of the block contains tests to make the final or interim control [7].



Pict. 1. Block structure for the distance course by V. I. Soldatkin
(L – lecturer, S – student)

The analysis of approaches to the DC structure made it possible to generalize and identify the main blocks and establish links between them. The distance course must have the following blocks: methodological, semantic, communicative, control, organizational (Pict. 2).

Let us consider the detailed purpose of each block and the connections between them.

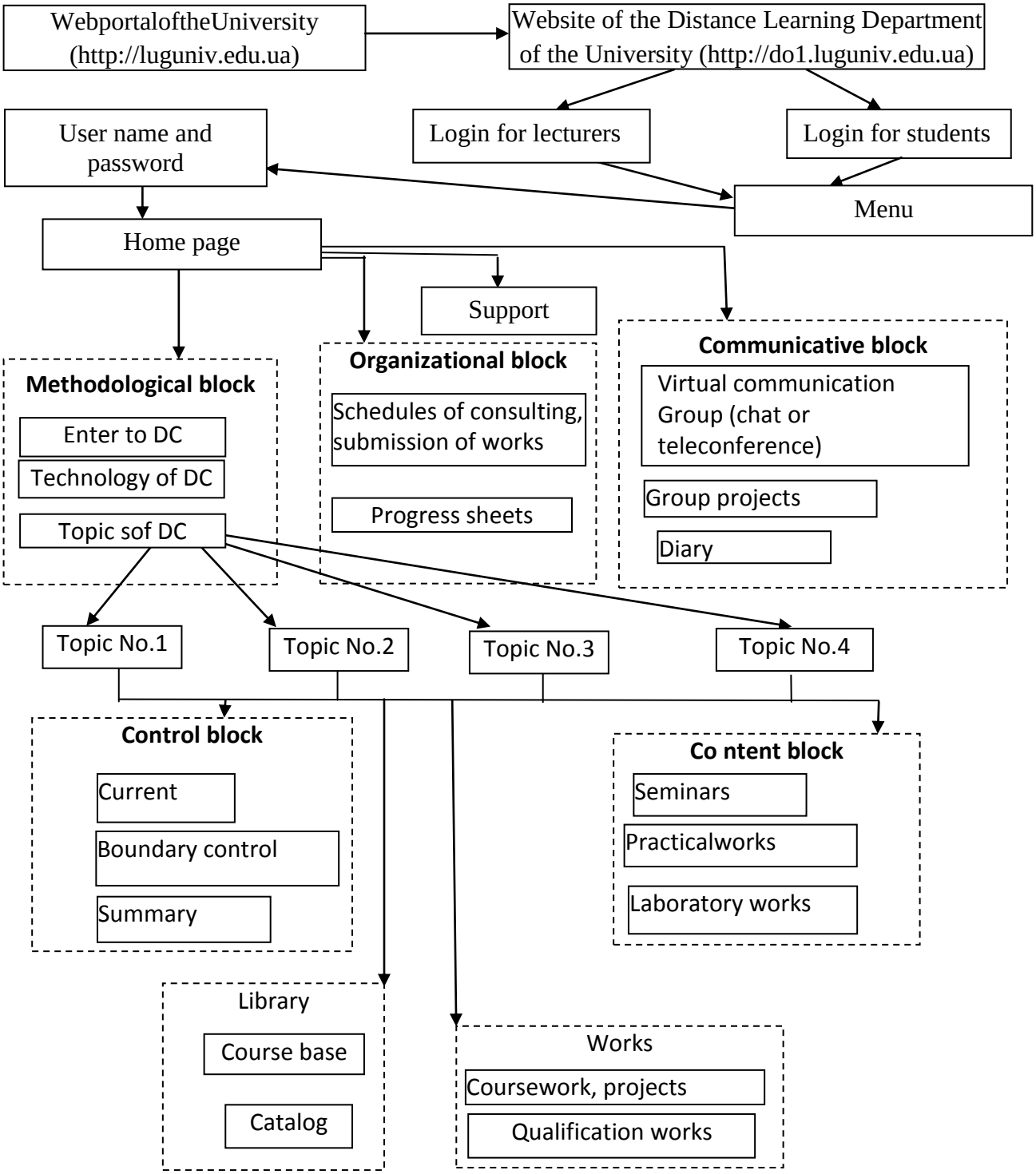
The methodological block.

In fact, this is a very important part of the course – just the same methodological content.

It contains general information about the course curriculum and programs; textbooks, manuals, collections of tasks, guides; plans of seminars; list of topics for attestation works; methodical recommendations for students onorganizing independent work and performance of attestation works; methodical recommendationsfor teachers on organizing classes; methodical recommendations for students on working with computers and telecommunications networks.

The content block.

Here is the information for laboratory, practical and seminar works. The block consists of modules; each of them is a study topic. Each module is connected with the control block.



Pict. 2. The general scheme of the distance course

The control block.

The block contains a variety of tests for self-testing and a whole block with final course tests, questions for tests and examinations. In addition, there is a final test exam, which is held using a videoconference or a final test.

The organizational block.

This block provides the general information about the learning process. One can transitions from this page to other parts of the course and, in particular, to the support page. This page contains advice on typical problems of technical and technological nature (not related to the content of the course). It is often located outside the course site, although in fact it is not very important. This block contains schedules of consultations, meetings with a teacher (tutor), and schedules of submission of laboratory, practical, seminar works. As well as schedules of modular works, evaluation criteria and the final data performance.

The communicative block.

This is a kind of discussion page designed for communication of students, who implement a group project (if the course program provides it).

Virtual communication. The group (chat or teleconference). This is a place where students can "talk" about topics not related to the content of the course. Often, of course, this function is performed by a general chat, which is off course. It can be on the website of LTSNU or on the website of the Department of Distance Technologies.

So, we can highlight features inherent in the technology of distance learning:

− flexibility: pupils, students, listeners receiving distance education, mostly do not attend regular classes and enrolled in a convenient time and in a convenient location.

− modularity: distance education programs are based on the modular approach; each separate course provides a holistic view of a single subject sphere, which allows a set form the course curriculum of independent modules, that meets the needs of an individual or a group.

− parallel feature: studies occur at the same time professional work (or study in other areas), in other words – on the job or another activity.

− large audience: simultaneous appeal to many sources of educational information by a large number of pupils, students and trainees, communication of students with teachers through telecommunications.

− efficiency: efficient use of training areas and facilities, concentrated and unified presentation of information, the use and development of computer simulation should lead to lower costs for specialist training.

− manufacturability: the use of new information technology achievements in education, that contribute to the human entry into the global information space.

− the new role of the teacher: distance education expands and updates the role of the teacher, making him a mentor and a consultant who must coordinate the educational process, continually improve the courses he teaches, enhance creativity and skills according to innovations.

− the positive impact on students (pupils, listeners): enhance the creative and intellectual potential of the person receiving distance education by self-organization, desire for knowledge, the use of modern information and communication technologies, and the ability to make responsible decisions independently.

These blocks fully reflect all the functions of the distance course. We believe that this example of DC organization is the most appropriate for use in the system of continuous education.

We see our further research in the identification of stages of the pedagogical design, the phase of the system approach provided training design while creating DC, define the design stages and its approaches.

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Молчанюк В. А.

Теоретичні засади навчально-методичного забезпечення дистанційного навчання

Стаття присвячена аналізу та узагальненню існуючих засад навчально-методичного забезпечення дистанційного навчання. При організації дистанційного навчання використовуються традиційні методи навчання; нові інформаційні та телекомунікаційні технології; принципи самостійного навчання. Основою дидактичного забезпечення дистанційного навчання є дистанційний навчальний курс.

Автором проведено аналіз підходів до структури дистанційних курсів, що дало можливість узагальнити та виділити основні блоки дистанційного курсу (методичний, змістовий, комунікативний, контрольний, організаційний), а

також встановити зв’язки між ними. Зазначені блоки повною мірою відображають усі функції дистанційного курсу. Автор вважає, що цей наведений у статті приклад організації дистанційного курсу є найбільш прийнятним для використання у системі неперервної освіти.

Ключові слова: дистанційне навчання, дистанційний курс, структура дистанційного курсу.

Молчанюк В. А.

Теоретические основы учебно-методического обеспечения дистанционного обучения

Статья посвящена анализу и обобщению существующих основ учебно-методического обеспечения дистанционного обучения. При организации дистанционного обучения используются традиционные методы обучения; новые информационные и телекоммуникационные технологии; принципы самостоятельного обучения. Основой дидактического обеспечения дистанционного обучения является дистанционный учебный курс.

Автором проведен анализ подходов к структуре дистанционных курсов, что позволило обобщить и выделить основные блоки дистанционного курса (методический, содержательный, коммуникативный, контрольный, организационный), а также установить связи между ними. Указанные блоки в полной мере отражают все функции дистанционного курса. Автор считает, что этот приведенный в статье пример организации дистанционного курса является наиболее приемлемым для использования в системе непрерывного образования.

Ключевые слова: дистанционное обучение, дистанционный курс, структура дистанционного курса.

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