



## СЕКЦІЯ 4. СУЧАСНІ ПЕДАГОГІЧНІ ТЕХНОЛОГІЇ

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DOI <https://doi.org/10.32999/ksu2413-1865/2019-89-10>**DEMANDS FOR PROFESSIONAL DISTANCE LEARNING**

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The main criterion for the effectiveness of education in a higher educational institution is a high level of training. The quality of specialist training should meet the requirements established by the State educational standards requirements, which is possible due to the professional selection of educational material and the use of a range of teaching methods that contribute to the students' training and have practical value for their future professional activities. The article is devoted to reviewing the organization of the professional training process and its implementation, which can be achieved by introducing modern pedagogical and computer technologies.

The paper discusses the role of distance learning as a system able to realize the educational modern requirements due to a more individual approach and learning process intensification. Traditional classroom teaching makes it possible to communicate directly with the teacher, provides familiar teaching methods, and receives immediate answers. But due to the lack of time, the teacher cannot answer all questions while through the distance learning system it is possible to conduct via the Internet. Also, the paper states that distance learning permits to change the pace, time and place of training employing computer technology in the educational process, which makes it possible to expand the range of independent professional training. The interactivity introduced by computer technology into the educational process permits to develop active forms of learning among which independent study is the most effective.

The implementation of distance learning courses in the system of full-time education is highlighted as a number of positive aspects ensure the effectiveness of distance learning for students' independent work. The paper states that maximum outcome of professional training could be achieved through the distance courses organization due to the development of the special knowledge and skills acquisition without compromising on education quality. The distance courses are outlined as an interactive type of learning, which contributes to the educational process activation.

The paper outlines that the distance learning system consists of a range of methodological and organizational methods that permits to create individual and group training programs for different specialties, taking into account modern requirements, including the requirements of educational standards of the third generation.

**Key words:** *distance learning, distance education, higher education, online course materials, professional competencies, professional training, university.*

**ВИМОГИ ДО ПРОФЕСІЙНОГО ДИСТАНЦІЙНОГО НАВЧАННЯ**

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Основним критерієм ефективності навчання у вищому навчальному закладі є високий рівень підготовки. Якість підготовки спеціалістів повинна відповідати вимогам Державних освітніх стандартів, що можливо завдяки професійному підбору навчального матеріалу та використанню цілого ряду методів навчання, що сприяють навчанню студентів та мають практичне значення для їх майбутньої професійної діяльності. Стаття присвячена огляду організації професійного навчального процесу та його реалізації шляхом впровадження сучасних педагогічних та комп'ютерних технологій.

У статті розглянуто роль дистанційного навчання як системи, здатної реалізувати сучасні потреби в освіті завдяки більш індивідуальному підходу та інтенсифікації навчального процесу. Традиційне заняття в аудиторії дає можливість спілкуватися безпосередньо з викладачем, застосовуючи звичні мето-



ди навчання та дозволяє отримати негайні відповіді. Проте викладач часто не має часу відповісти на всі запитання, тоді як через систему дистанційного навчання це можливо здійснити шляхом Інтернет комунікації. Також у статті зазначено, що дистанційне навчання дозволяє змінювати темп, час та місце навчання, використовуючи комп'ютерні технології в навчальному процесі, що дає змогу покращити професійну підготовку. Інтерактивність, впровадження комп'ютерних технологій у навчальному процесі дозволяє розвивати активні форми навчання, серед яких найбільш ефективною є самостійна підготовка.

У статті висвітлено переваги впровадження дистанційних курсів в системі денної форми навчання, оскільки ряд позитивних аспектів забезпечує ефективність дистанційного навчання для самостійної роботи студентів. У статті зазначено, що максимальний результат професійної підготовки може бути досягнутий через організацію дистанційних курсів задля розвитку спеціальних знань та навичок без шкоди для якості освіти. Дистанційні курси окреслені як інтерактивний тип навчання, що сприяє активізації навчального процесу.

У роботі окреслено, що система дистанційного навчання складається з цілого ряду методологічних та організаційних методів, що дозволяє створювати індивідуальні та групові навчальні програми для різних спеціальностей з урахуванням сучасних вимог, у тому числі вимог освітніх стандартів третього покоління.

**Ключові слова:** вища освіта, дистанційне навчання, дистанційна освіта, онлайн-матеріали, професійні компетентності, професійна підготовка, університет.

**Introduction.** Nowadays, all age groups of society require a new learner-centered approach for obtaining and applying knowledge and skills. The steady growth of the demands for advanced life-long adult training is characterized by the most diverse areas of the market. It is important to note, that this process is objectively long-term, as it is determined by technical and technological progress. As a result, the developed countries nowadays have practically moved from the practice of *one education for life* to the paradigm of *lifelong education throughout life*.

On the conditions of the development of global information and educational space, the role of new computer technologies is increasing. In this regard, a new education paradigm should be created, because society requires an individual with fundamental theoretical knowledge and a high level of professional competences, creative thinking, and constructive searching skills. Most people believe that professional education acquisition helps them in achieving high social status as competent specialists.

**Analysis of recent researches and publications.** In scientific studies, there are many definitions of the concept of *distance education*. For example, the American expert in the field of distance education, E. Clark, notes that many types of training programs fall under the category of *distance education* (Clark, R. E. & Feldon, D. F. 2005). According to T. Anderson, this is "a system which helps the students to reach a certain educational level employing the distance learning techniques" (Anderson, T., & Dron, J., 2010: 80–97). At the same time, he classifies distance learning as "a synthetic, integrated type of education based on both the use of traditional and information technologies". These

definitions do not fully reflect the essence of the phenomenon as often the authors only state some of the characteristics of distance learning.

D. Garrison holds a similar position, comparing distance education and distance learning as the same types of education, called differently by various scientists (Garrison, D. & Vaughan, Norman, 2008). In the past few years, an increasing number of teachers and researches, including M. Allen, T. Bates, E. Murphy, M. Simonson, and others, express an approach to education as an independent form of education.

The rationale for distance education approach is given in the works of T. Anderson (Anderson, T., & Dron, J., 2010: 80–97), which support the idea that the distance education system is not antagonistic to the existing full-time and distance learning systems, it could be naturally integrated into these systems, supplementing them, and contributing to the creation of a mobile educational environment.

R. Brooker, R. Muller, A. Mylonas, and B. Hansford in their studies, come to the conclusion that distance learning is a focused, organized process of common interaction between learners and teachers with the implementation of the learning tools, invariant to the location in space and time, and implemented by means of a specific distance education system (Brooker, R., Muller, R., Mylonas, A. & Hansford, B., 1998). At the same time, T. Bates indicates that distance learning is a type of education, when the educational process implements traditional and specific methods, means and forms of training, based on computer and telecommunication technologies (Bates, T., 2005).



T. Anderson and J. Dron believe that further education will support less effective forms of education, such as part-time and evening education as at present, distance learning as the main direction of distance education is not only is on a par with its traditional types but is steadily growing into a trend characterized by an increasingly active displacement of technologically insufficient and ineffective types of education such as correspondence and evening classes (Anderson, T., & Dron, J., 2010: 80–97).

S. Brown and P. Knight indicate that the distance education as a new form of training is neither a modern type nor an analog of traditional learning. The factors causing the differences between these forms are given as firstly, the interactivity of training; secondly, the means of implementation of all components of the distance learning with the specific impact on the components of the whole training system, which determines the teaching method selection, learning structures, and organization; thirdly, the education management system, organized due to the specifics of the Internet services used.

These researchers correlate the distance education with an independent form of training, when the interaction of the teacher and students, as well as between students, is carried out at a distance and reflects all the components inherent in the educational process (goals, content, methods, organizational forms, training tools) implemented by specific computer tools and communication technologies or other interactive means.

Considering education as a pedagogical process, in the work of G. Thomas, (Thomas, G., 2013) is defined as the pedagogical process of a specially organized interaction between educators and students (pedagogical interaction) regarding the content of education with the implementation of education and training (pedagogical means) in solving educational problems aimed at the needs of both an individual and society. The specified education process is implemented through the system of education in different types (e.g. full-time, correspondence, etc.).

Furthermore, we consider the importance of distinguishing between the concepts of *distance learning* and *distance education*, since their interfusion by different authors often leads to confusion in the research. In accordance with the Law of Ukraine On Higher Education 'Education is the basis of the intellectual, spiritual, physical and cultural development of the individual, his successful socialization, economic well-being, the key to the development of a society' (Law of Ukraine On Higher Education, 2014) In other words, as M. Smith points out (Smith, M. K., 2015) edu-

cation is a process of inviting truth and possibility, of encouraging and giving time to discovery. Thus, education is viewed from two perspectives: as a pedagogical process and as a result of this process.

**Previously unsettled problem constituent.** Distance learning based on modern computer technologies meets the basic requirements of the new social educational demands. Firstly, the knowledge and skills provided to all categories of students regardless of their age, place of living, and physical disabilities. Secondly, it is a type of life-long continuous education. Currently, the range of distance learning technologies is quite extensive, and their choice is determined by many conditions, but the most promising is the technology of Internet supported education.

Distance education, on the one hand, gives opportunities for students to meet their educational needs due to its mobile, virtual form of learning, but on the other hand, it is the system of lifelong education as a means of the constant monitoring of the acquired knowledge, and skills. The modern education in the distance education system presents demands on the training level and determines the relevance of a basic level of information culture development. The higher educational institutions should prepare individuals for independent learning, working with information, and developing their knowledge and professional skills.

It must be noted that the system of distance education has not yet been developed as the educational process is still similar to the organizational characteristic of the traditional educational system, and therefore, needs farther scientific studies for successful implementation in practical training

**Main aspects of the researched problem and results.** Modern information technologies provide technical and technological opportunities for the development of the methodological and didactic methods for teaching with different educational technologies. It is important to note that some scientists predict that soon we will be able to employ a combination of communication networks with access to both the Internet and television channels. Fundamentally, such an opportunity exists today, which is the basis for the active development of various blended learning systems, which means the implementation of the forms of full-time and distance learning in different proportions (Distance education, 2017). In the framework of blended learning with elements of face-to-face contacts, it is essential to determine the amount of computer technologies application.

Active implementation of distance education is being developed employing different means of communication, and computer networks. . It



includes lectures, seminars, practical classes and workshops, control testing systems, and the students' independent work. Video material is a unique tool for distance learning in almost any academic discipline and usually used as components of educational materials, which is partially replacing traditional lectures. Individual training with the implementation of electronic textbooks provides a deeper knowledge acquisition. E-mails and chat messengers as an innovative technology are used for delivering the training courses content to the students. However, it has a limited pedagogical effect due to the impossibility of the dialogue between the teacher and students, adopted in the traditional types of teaching (Clark, R. E. & Feldon, D. F., 2005).

The distance education tools for online-training possess some significant features distinguishing it from the traditional methods of educational material presentation. At the same time, the data accessed via visual and auditory means at the student's own pace, while the sequence and priorities of the various logical chunks of the educational information should be preconditioned. In this sense, educational online lecture material is more rigidly directs the students in their studying than the traditional textbook, which improves the process of perception and knowledge acquisition and is very helpful at the initial stages of training.

Besides, at the initial stages, students' motivation is extremely fragile and could be easily destroyed. A typical example of interest decrease after several minutes of misunderstanding at a lecture is when the student loses the thread of the teacher's explanations. Unfortunately, such cases might entail serious long-term consequences, for example, a persistent, sincere and incorrect conviction of one's inability to perceive knowledge. This conviction might be reinforced without the support of other listeners and an individual gets the impression that he is only one who has not comprehended the lecture.

For overcoming this problem at the planning of an online-training course, it is important to take into account the psychological features of an individual comprehension, which depends on attention spontaneous fluctuations with an average period between two to three minutes. Therefore, one of the goals of an online training product planning should consider the synchronization of the attention periods of the distance learning audience, which, of course, is a difficult task. It is possible to apply various techniques, such as the creation of meaningful blocks of information taking a little less time than an average period of spontaneous attention ending with an illustration, conclusion, diagram, or

information that is easier to perceive (Kaplan, Andreas M.; Haenlein, M., 2016). It is also important to supply some additional training material suitable for revision of the most important points of the topic, which should not copy but reformulate the main questions, presenting them as a perceptive image (illustrations, diagrams, diagrams, etc.).

One more important way of keeping the students' attention is the speed of presentation. According to psychological research, the teaching of linguistic courses can be conducted at a speed of up to 60–80 words per minute, which, of course, is associated with a relatively large redundancy of information in these subject areas. At the presentation of educational material for the natural sciences or mathematics with formulas, scientific facts, and theoretical calculations, the speed of information should be reduced so that students have the opportunity to understand the material and analyze it at least at a basic level.

The specifics of carefully planned and created online course materials permit to introduce some interactive elements to the structure of the educational product, which ensure a quality increase in the learning process. The theoretical basis of these methods is related to the fact that individual attention is involuntarily activated in conditions of certain, precisely dosed, shortage of perception time.

It should be noted that ways for enhancing the students' involuntary attention are suitable for improving the perception of educational material, regardless of the author's style and the presenting organization. In particular, the described effect is achieved by accurately dosing time for presenting an abstract of some part of the video lecture in a special way organized as an abstract window (Moore, Grahame M. and Anderson W., 2012). This method evokes a more careful attitude to the contents of the presentation, where the author can include difficult thesis for most students and emphasize them using such techniques as intermediate conclusions, repetitions, diagrams, illustrations, etc.

According to the specifics of materials for distance learning, special importance is brought to the strategies and tactics for the presentation of educational material, as well as methods and techniques for creating unique points of online presentation. Their development could be conveyed by conducting the appropriate organization of visual material, creating conditions for activating students' attention.

At the advanced stages of training within the framework of blended learning, psychological and pedagogical practices are increasingly based on the methods of preliminary acquisition with the provisions of the necessary train-





ing material. These materials can be provided in the paper, or/and as links to educational sites. At the advanced levels of professional training, when students have already mastered the basics in their specialist subject area, various methods of distance learning should be applied, including to a much greater extent the informative feedback between the teacher and students. At these stages, the need for the practical implementation of individually centered, joint efforts of teachers and students is vital for successful professional training.

The question about the purpose of vocational education by distance learning is important for the students as they need professional training, while universities emphasize industrial needs as the most important factor in obtaining distance higher education. The analysis of the problems, which arise with the introduction of distance learning, demonstrated that the teachers, as a rule, believe that for improvement of the training system, practical components should be widely implemented in distance learning and combined with full-time education, as well as support the idea of recognition of the received education document. Most employers believe that the quality control of professional education should be improved and prefer a combination of distance education with full-time education.

The implementation of innovative technologies for effective teaching depends primarily on the professional and pedagogical skills of the electronic didactic tools developers. An analysis of the computer and telecommunication technologies prospects requirements shows a demand for a range of new functional responsibilities for university teachers, in particular in the field of media culture; understanding of the various didactic components of the educational and methodological technologies and appropriate software tools; as well as readiness for teaching in virtual environments; special skills in the methods of electronic didactic tools designing and an ability to implement them in the distance educational process.

**Conclusions.** Accordingly, at all stages of training individual practical knowledge acquisition is expedient to employ in the distance learning course. This acquisition naturally depends on the specifics of practical tasks intended to be solved by a particular student, and the previously received training, motivation, and cognitive abilities. The implementation of distance learning techniques, including email, forums, video and audio conferences helps to personalize the educational process. Along with the combination of the online training methods within the framework of blended

learning, it is possible to use specially created electronic textbooks and other tools provided by educational online resources.

Thus, distance education provides students with access to traditional and modern sources of information, increases the efficiency of independent training, provides opportunities for professional skills development, and permits teachers to improve the level of professional competences, to implement and further develop innovative teaching methods in organizing the educational process.

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