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E-LEARNING IN PROFESSIONAL TRAINING OF FUTURE SPECIALISTS

E-LEARNING EN LA FORMACIÓN PROFESIONAL DE FUTUROS ESPE-CIALISTAS

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ABSTRACT

The article examines the main principles and forms of E-learning and clarifies their importance in the professional training of future specialists. The definition of the term " E-learning " is analyzed, and the most popular technical methods of implementing E-learning in higher education institutions are listed. The main tasks of a quality system of professional training of future competitive specialists in the information society through the introduction of basic principles and forms of distance learning are highlighted. The possibilities of E-learning are considered through the prism of well-known classical didactic principles and didactic principles specific to computer-oriented E-learning. The main innovative forms of distance learning in the professional training of future specialists and the main structural components of the innovative system of E-learning "KSU Online", which are necessary for the high-quality training of specialists, are presented. We conducted an experiment in which students of higher education were asked to evaluate their knowledge of methods of using electronic education. The "Expectations and Fears" method was used, where students of higher education gave answers about the effectiveness of electronic education for their professional activities. Advantages of e-learning are considered.

Keywords:

 E-learning, principles, forms, information society, professional training of future specialists.

RESUMEN

El artículo examina los principios y formas básicos del e-learning y aclara su importancia en la formación profesional de los futuros especialistas. Se analiza la definición

del concepto de "e-learning", se enumeran los métodos técnicos más populares para implementar el e-learning en las instituciones de educación superior. Se destacan las principales tareas de un sistema de calidad de formación profesional de futuros especialistas competitivos en la sociedad de la información mediante la introducción de principios básicos y formas de aprendizaje electrónico. Las posibilidades de la educación electrónica se consideran a través del prisma de principios didácticos clásicos bien conocidos y principios didácticos específicos del aprendizaje electrónico orientado a computadora. Se presentan las principales formas innovadoras de e-learning en la formación profesional de futuros especialistas y los principales componentes estructurales del innovador sistema educativo electrónico "KSU Online", necesarios para una formación de alta calidad de especialistas. Realizamos un experimento en el que se pidió a estudiantes de educación superior que evaluaran su conocimiento de los métodos de uso de la educación electrónica. Se utilizó el método "Expectativas y Miedos", donde estudiantes de educación superior dieron respuestas sobre la efectividad de la educación electrónica para sus actividades profesionales. Se consideran las ventajas del e-learning.

Palabras clave:

E-learning, principios, formas, sociedad de la información, formación profesional de futuros especialistas.

INTRODUCTION

The development of digital technologies, the mass use of the Internet in all areas of human life, especially in education, contributed to the emergence of a single global information space, which gave rise to the openness and availability of information, including in education. In accordance with this, the process of digitalization of education, its modernization and improvement, the possibility of training a person throughout his life is taking place. Therefore, e-learning is a flexible and effective means that helps to increase the motivation of students in achieving high results.

Nowadays, the introduction of E-learning forms in higher education objectively accelerated the transformational processes.

In the modern conditions of reforming higher education, we observe the growth of the role of individual professionalism, which requires finding ways not only to improve the educational environment but also to change the paradigm of self-actualization and self-development of the future specialist, increasing the competitiveness and professional efficiency by the urgent requirements of the development of information and communication technologies (Vasylieva, 2022).

The latest scientific discoveries, the renewal of the system of educational space, the universal availability of digital technologies and their rapid development and change significantly actualize the importance of professional training and education in general in the interests of supporting the potential of human intellectual capacity and the sustainable development of an individual personality to reflect on the challenges posed in global, professional, social, dynamic conditions At the same time, the synergy of E-learning conditions and factors is the main condition for ensuring the subjectivity of education seekers to ensure the justification of expected results and the maximum effect of the educational space (Yahupov et al., 2019).

The article discusses: the most popular technical methods of E-learning in higher education institutions; tasks of the professional training system in the information society through the implementation of the basic principles and forms of E-learning; principles of the E-learning information and educational environment; conditions of using E-learning; the main forms of E-learning in professional training of future specialists; E-learning virtual space; methods and techniques of E-learning in professional training of future specialists; advantages of e-learning.

Literature review

Implementing E-learning is one of the main directions of organizing the professional training of future competitive specialists in today's conditions. Therefore, to substantiate the relevance and necessity of our research, we analyzed scientific works that reveal various aspects of the use of E-learning in the training of modern specialists.

Hevko, & Nevmerzhytska (2019), the role of E-learning of information and communication technologies is clarified; existing problems related to the spread of innovative E-learning methods in the modern world are analyzed; the existing situation in the education system is considered and the impact of educational services on the dynamics of innovation processes is shown; by the needs of the post-industrial society, the importance of radical education reform has been proven. The role of E-learning based on the Internet and information technologies is shown. It has been proven that the use of remote technologies provides educational services with all the necessary needs of future specialists, reveals positive possibilities of influencing the improvement of the quality of education, and increases the professional activity and mobility of future specialists, within the framework of the individualization of training, contributes to the formation of a single educational space in the mass of higher education and allowed reviewing traditional approaches to determine innovative forms of organization of the education process.

Dotsenko (2021) showed the advantages of independent work of education seekers during E-learning,

providdistaed recommendations for higher schools on improving the educational process in conditions of high-quality E-learning with the aim of: individualization of the educational process in higher schools and organization of pedagogical support for education seekers in conditions of E-learning; taking into account prospects and opportunities in the professional training of a future specialist in innovative development of the information and educational environment; taking into account the requests of education seekers when using a mixed form of education (distance and face-to-face) in the process of training specialists, and the goals of professional education in the introduction of E-learning technologies; creation of a positive environment in the organization of interaction, communication with education seekers in the conditions of E-learning; increasing the motivation of education seekers as a resource of professional and individual self-realization to study in the conditions of E-learning; formation of the readiness of teachers and students of education to expand the possibilities of quality education using E-learning.

Tamarkina (2020) considers E-learning for education seekers as independent work outside the classroom. The scientist conducted an analysis of E-learning according to such qualitative characteristics as innovativeness, technology, changing the role of the teacher, the ability to combine different forms of education, adaptability, flexibility, modularity, economic efficiency, social equality, a combination of traditional and remote types of control.

Yahupov et al.(2019) proposed consideration of the conceptual foundations of E-learning of future specialists in institutions of higher education, revealed the principles of E-learning and methodological principles in the education system, developed the concept of training specialists by E-learning and methodical foundations of training future competitive specialists for the implementation of E-learning, the state of readiness of future specialists for the implementation of E-learning is substantiated, the main effective methods of training specialists with the help of E-learning are shown, the practical creation of E-learning courses is represented.

Vasylieva (2022) highlighted the problem of the need for innovative methods and showed ways of effective use of E-learning in higher education institutions. The author's concept of " E-learning " is presented and its essence is revealed. E-learning are characterized and innovative aspects of E-learning are analyzed, and their role in higher education institutions during the optimization of professional training of future specialists is shown. The importance of E-learning is proven, various forms are shown, characterized by the innovative space or time of the student and the teacher, other students and educational materials, the interaction between the student and the teacher, other students and educational materials, etc. To optimize the process of training future specialists in higher education, an analysis of the problems and advantages of using E-learning in the educational process, which arise in the conditions of E-learning during the professional training of future specialists, was carried out.

Osaulchyk (2020) clarified the main principles and characterized the competence approach to the training of future specialists and highlighted the features of the professional competence of future specialists in a modern educational institution. The concept of " E-learning " is defined and its advantages in the educational process of a higher education institution are characterized. The positive impact of E-learning tools on the formation of professional competence of future specialists has been proven. The advantages of E-learning and the disadvantages of E-learning are singled out, during the organization of independent work of education seekers, the possibilities of their reduction are shown.

Novikova (2021) devoted her research to identifying the features of the qualitative process of competence formation among specialists using E-learning; studying the need for professional competence of specialists in modern socio-economic conditions. The relevance of the research is seen in the analyzed approaches to the definition of professional competence. The key components of the professional competence of future specialists have been developed and the importance of the phenomenon of social responsibility of specialists as a specific professional competence has been substantiated. In the conditions of E-learning, recommendations are given for increasing the efficiency of the innovative process of forming the professional competence of future specialists.

Pavlenko et al. (2019) in their research on the training of future specialists analyzed the possibilities of the Moodle E-learning system, proved that the emergence of services for providing E-learning and electronic educational resources expanded the possibilities for obtaining not only basic, but also additional education, lifelong learning, etc. Practical recommendations for the use of the Moodle system for students and teachers in the process of filling the course are given.

Dyka, & Hlazova (2021) considered the prospects, features, and advantages of the use of E-learning, revealed the dependence of the effectiveness of E-learning on the educational content, the professionalism of the auxiliary and technical staff, the structure of the course, the readiness of teachers and students to use E-learning, the level of their innovative, modern training, which ensures the high-quality operation of the E-learning system in the institution of higher education.

Tsiuniak (2020) analyzed modern publications and scientific works on the problem of E-learning in the conditions of

strict quarantine measures. The introduction of quarantine and the need to continue studying in conditions of isolation became a challenge for all students of the educational process and became possible for institutions of higher education using E-learning tools. The author's definition of the term " E-learning " is given; the role of E-learning in promoting the creation of wide opportunities for efficiency and ensuring the quality of the implementation of professional education has been proven. The professional training of future specialists in the conditions of E-learning is aimed at the formation of informational and communicative competencies, a deep understanding of educational material, and obtaining educational services in safe conditions for life. The functions of E-learning are considered.

So, after analyzing the scientific works that reveal various aspects of the use of E-learning in the training of modern competitive specialists, seeing the undisclosed aspects of such training, and justifying the relevance and necessity of our research, we set the **goal of the research**: to find out the main principles and forms of E-learning in the professional training of future specialists and experimentally prove their necessity for the educational process.

MATERIALS AND METHODS

The use of a set of theoretical research methods helped to achieve the goal:

- comparative analysis of domestic and foreign sources, theoretical analysis, systematization, synthesis, content analysis of psychological, philosophical, pedagogical works, typology, specification, extrapolation – to reveal methodological and theoretical-methodological foundations of building a quality system of training future specialists to work in an intercultural space E-learning in professional training of future specialists, as well as interpretation of the received empirical material;

- systematization and modeling – for the development of a quality system of training specialists by highlighting the main principles and forms of E-learning in the professional training of future specialists;

- classification and comparative analysis of research – to clarify the essence of the categorical and conceptual field of research and scientific definitions of research;

- the selection of promising ideas and approaches that constitute the methodical and methodological basis of design, generalization, and correction to find out the main principles and forms of E-learning in the professional training of future specialists, theoretical and methodical positions – for the development of educational and methodological support for the training of future specialists through high-quality E-learning training during the professional training of future specialists.

The methodological basis is the provisions of continuous professional education regarding the formation and development of electronic education, the methodology of various approaches to professional training of future specialists, training and acquisition of knowledge, modern trends of world integration and globalization processes, theoretical and methodological principles of informatization of education and introduction of information and communication technologies in education the process of institutions of higher education.

The methodological concept involves the implementation of such methodological approaches (systemic, polyparadigmatic, praxeological, cultural, competence-based). The totality of these approaches is revealed by the orientation of high-quality electronic training in the professional training of future specialists, an integrative approach to training, which ensures their unification into a single complex. The implementation of methodological approaches is related to didactic principles implemented through high-quality E-learning in the professional training of future specialists, which creates the basis for the effectiveness of the educational system of training competitive specialists for professional activities.

RESULTS-DISCUSSION

E-learning is an educational process that manifests itself in the form of interaction between a teacher and students of education (as well as between students of education) carried out at a distance, which is a convenient process for all students of education and reflects the components inherent in the educational process: technology, form, means (methods , goals, organizational forms, content, teaching tools), which are implemented by special means of Internet technologiesor such means that involve indirectness and interactivity (Novikova, 2021); it is a technology of methodically organized and purposeful management of the educational activities of students who are located at a distance from the institution of higher education (Honcharenko, 2011); it is a form of implementation, not only organization of the educational process, according to which its participants in the educational space carry out educational interaction of the implementation of the main principles and forms of E-learning in the professional training of future specialists, extraterritorially and in principle (at a distance, when the students of education are territorially outside the boundaries of direct educational interaction , and when in the educational process their personal direct presence in the institution of higher education is not mandatory) (Bykov, & Kuharenko, 2008); this is a specific, new form of the educational process, the basis of which is the independent work of the students of the educational process with the wide application of telecommunication, information, modern technologies that provide an opportunity to study without leaving your workplace, without leaving your home, that is, with the help of digital technologies, including video communication, at a

distance you can maintain contact with the teacher and receive new material that is structured and presented in electronic form (Stratan-Artyshkova et al., 2022).

1. 1. The most popular technical methods of E-learning in higher education institutions

Let's list the most popular technical methods of E-learning in higher education institutions:

- with the help of Internet services or based on one's server, providing higher education students with access to electronic content using the Internet, which provides the possibility of exchanging content (MS OneDrive, Google, etc.);

- organization of E-learning through the active use of e-mail, social networks (Insgtagram, Facebook, etc.), additional possibilities of Internet services, and personal blogs (sites).

With the help of free mail (social networks), content is placed on one's server or "cloud" and free means of creating online tests; use of specialized software (eFront, Moodle, Edmodo, SuccessFactors, Blackboard, SkillSoft, OpenEDX, Litmos, etc. (Tsiuniak, 2020).

We conducted an experiment in which students of higher education were asked to evaluate their knowledge of methods of using electronic education:

1. 1. about e-learning in a higher education institution;

2. 2. about the possibilities of using E-learning by future specialists in their practical activities.

The results are shown in Table 1.

Table 1. The results of the survey on the possibilities of using E-learning in higher education and in the professional activities of future specialists.

ANSWER OPTIONS	KNOWLEDGE OF THE USE OF E-LEARNING IN A HIGHER EDUCATION INSTITUTION, NUMBER OF RESPONDENTS (IN %)	KNOWLEDGE ABOUT THE POSSIBILITIES OF USING E-LEARNING BY FUTURE SPECIALISTS IN THEIR PRACTICAL ACTIVITIES NUMBER OF RESPONDENTS (IN %)
I have no idea	0%	22%
I know approximately	85,5 %	70%
I know well	4%	4%
I know so much that I can work in this system myself	10,5 %	4%

Source: Own elaboration

As can be seen from the table, most of the interviewees have some knowledge about the use of e-learning in a higher education institution and the work of a teacher in it, some have sufficient knowledge for practical work.

Future specialists who are getting higher education were also asked how they evaluate the prospects for the development of e-learning.

- 8% of respondents consider e-learning unpromising today;

- 56.5% believe that e-learning has prospects in the future;

- 35.5% answered that this is a very promising direction.

Thus, the majority of future specialists of various profiles (teachers, economists, historians, psychologists, etc.) understand that there is a possibility that in their professional activities they will have to deal with electronic learning technologies and certain preparation for such work can be very useful.

2. Tasks of the professional training system in the information society through the implementation of the basic principles and forms of E-learning

The main tasks of the professional training system in the information society through the implementation of the basic principles and forms of E-learning are as follows:

- scientific substantiation of the methodology of implementing the basic principles and forms of E-learning, informatization of the system of professional training of future specialists in the conditions of the information society;

- provision of E-learning through the introduction of basic principles and forms of professional training of a person in the educational system for work in the information society;

- to achieve the set large-scale educational goals, distance training of personnel;

- based on effective and wide application of promising and modern ICT, improving the quality of distance education;

- substantiating the development of innovative methods for the appropriate use of information and communication technologies in the training of competitive specialists by implementing the basic principles and forms of E-learning;

- for the system of higher education, innovative development of computer educational systems in the distance form of education by implementing the basic principles and forms of E-learning;

- creation of a system of standards for information and communication technologies, implementation of technical and software certification methods for E-learning;

- development of databases of a unified system and its information resources in the system of higher education, ensuring accessibility of all categories of users to the modern educational system (Yahupov, 2013).

E-learning in the professional training of future specialists should be considered by introducing the basic principles and forms of E-learning into the educational process (Shuliak et al., 2022).

We consider the possibilities of E-learning through the prism of well-known classic didactic principles, such as accessibility, scientificity, unity of developmental, educational, and educational functions, activity, problematic, systematic, consciousness, clarity, consistency, strength of knowledge, applied orientation, contextuality, individualization of professional training future specialists.

We will single out the didactic principles that make it possible to facilitate the mastering of professional educational material and which have been modified to some extent by the modern conditions of using the distance form of education (Demyda et al., 2011): the principle of the individual educational trajectory of the student; the principle of correspondence of the fundamentality of education to the cognitive needs of the student of education; the principle of creativity in cognitive activity; the principle of free choice of information obtained through certain activities; principle of identification; the principle of initial knowledge; the principle of interactivity; the principle of educational expediency of using information technologies (Pavlenko et al., 2019).

3. Principles of the E-learning information and educational environment

When forming the information and educational environment of E-learning, we consider the implementation of the principles of didactics in the context of the idea of using ICT in the educational process, in particular, several didactic principles specific to computer-oriented E-learning:

- the principle of standardization of the content of education;

- the principle of didactic substantiation in E-learning using the latest ICT;

- the principle of didactic integration and differentiation of the educational process of education seekers during E-learning;

- the principle of personal orientation of educational material;

- the principle of didactic substantiation of the professional training of entry-level specialists;

- the principle of individualization of educational activities of education seekers;

- the principle of taking into account the psychological and pedagogical features of educational activities of students with remote access to electronic resources;

- the principle of continuity of education in E-learning;

- the principle of productive cooperation between students and teachers;

- the principle of openness of educational space with remote access to electronic resources;

- the principle of educational reflection of study subjects in E-learning;

- when designing the educational process, the principle of priority of the didactic approach (Yahupov et al., 2013).

4. Conditions of using E-learning

The use of E-learning provides an opportunity to facilitate the process of mastering the necessary educational material, subject to compliance with several principles that have been modified by modern conditions (Demyda et al., 2011):

- the principle of free choice of information in E-learning, which is obtained through a certain activity;

- the principle of matching the fundamentals of learning in E-learning with the cognitive needs of the student;

- principle of identification;

- the principle of the individual learning trajectory of the learner in E-learning for the possibility of individualization of the educational process, for the learner to choose his own pace of studying the material, to work according to an individual program;

- the principle of initial knowledge in E-learning;

- the principle of creativity in cognitive activity;

- the principle of interactivity in E-learning, which is used to provide modern means of telecommunications

during E-learning and to improve innovativeness in communication between the student and teachers;

- the principle of pedagogical expediency in using information technologies (Pavlenko et al., 2019);

- the principle of starting knowledge is applied for innovative learning in the E-learning system and providing education seekers with the necessary starting knowledge and hardware and technical support;

- the principle of pedagogical expediency of using the means of new information technologies (Bykov, & Kuharenko, 2008).

Rapidly developing information and communication technologies play a major role in the effectiveness of modern approaches to E-learning. The widespread distribution of mobile devices accessible to the Internet, and the availability of the global Internet itself allows E-learning in any part of the Earth. The development of information and communication technologies influenced E-learning methods and made them interactive and more effective (Hevko, & Nevmerzhytska, 2019).

Playing a special role in E-learning, it is ICT that provides an opportunity to fully implement the principle of distribution of educational resources and personnel potential. With this approach, ICT can be divided into two types.

The first type provides an opportunity to ensure the exchange of information and data in real-time, that is, the message sent by the sender, upon reaching the recipient's computer, is instantly sent to the output device (Online). First of all, it is necessary to note the chat from online technologies, which makes it possible to exchange text messages via the Internet in real-time. In the simple case of communication between two users, a "conversation" takes place, and for a collective conversation, a connection to a special IRC server is required. When organizing remote group consultations, seminars, lectures, and practical classes, the effectiveness of online technologies is especially high.

The second type helps to receive messages stored on a certain server or computer, then the user with the help of special programs has the opportunity to view them at a time convenient for him (Offline). In face-to-face learning, the dialogue is conducted only in real-time, and in E-learning, the dialogue can take place in both real and delayed modes.

Such technologies include mailing lists, e-mail, and forums. The main advantage of offline technologies can be considered a large selection of software for working with forums and e-mail (Plakhotnik et al., 2023).

We note an important aspect of the use of technologies implemented using cloud services and E-learning support systems, which is the storage and processing of educational resources (YouTube, Google Docs, DropBox, etc.).

Therefore, E-learning is not possible without ICT, because it contributes to the modernization of traditional face-to-face education, expands the audience of education seekers as much as possible, contributes to the optimal satisfaction of individual educational needs of education seekers, the realization of their creative personal and intellectual potentials (Yahupov et al., 2019).

5. The main forms of E-learning in professional training of future specialists; E-learning virtual space

Let's consider the main forms of E-learning in the professional training of future specialists.

Chat classes are educational classes conducted synchronously, using chat technologies, in which all participants of the educational space have simultaneous access to the chat. Chat schools operate within the framework of many distance educational institutions, where the activities of distance teachers and students of education are organized with the help of chat rooms.

Web classes – business games, conferences, distance lessons, seminars, workshops, laboratory work, and other forms of educational classes conducted using the capabilities of the World Wide Web, in particular, telecommunications and other means. Specialized educational web forums are used for web classes – a form of work of education seekers on a problem or a certain topic with the help of records that are stored on one of the sites where the corresponding program is installed.

Web forums differ from chat classes in the asynchronous nature of the interaction between education seekers and teachers and their longer work.

Teleconference – conducted using e-mail based on mailing lists.

Forms of E-learning are of great importance in the professional training of future specialists, in which educational materials are sent by mail to the regions. The basis of such an innovative system is a method of education called the "Natural learning process" (Hevko, & Nevmerzhytska, 2019).

We conducted a survey, which considered the issue of preparing specialists for the use of e-learning, with the aim of identifying the most effective forms of it for the educational process. We will present data from the survey of experiment participants regarding their understanding of e-learning.

When students of higher education answer the question "Which methods of communication during education and practical work do you consider effective in e-learning?" the following data were obtained:

- Email – 100%

- Video conferences – 66.7%

- Full-time – 100%

- Computer conferences – 27.8%

- Ordinary mail – 5.6%

- Telephone – 5.6%.

The importance of communication by e-mail is emphasized by all respondents, video conferences – a sufficient number of interviewees, so it is obvious that future specialists need to be able to work through electronic means of communication. It is interesting that 100% of higher education students note the importance of face-to-face contact during e-learning. We believe that the reason for this may be the formed stereotype and teaching practice, the experience of e-learning that the interviewees have.

Based on the nature of the answers, which testify to the unconditional importance of computer technologies in e-learning, we can make an assumption that the content of the technology of training a specialist for activities in the e-learning system should include a block of material "computer literacy". However, it should not talk so much about the computer device and programming languages, but practice the practical skills of working on Internet sites, with e-mail, searching for data on the Internet (searching for specific addresses, through search engines), orientation work in chat and computer conference mode.

Among the effective forms of organization of educational and cognitive activities in e-learning, the interviewees note

- Chat classes (90%);

- Web lessons (80%);

- Web forums (100%);

- Teleconference (100%);

- Consultations (100%);

- Blog;

- Task systems for independent work (27.8%).

The majority of respondents consider it necessary to use active learning methods.

Let's consider the main structural components of the innovative E-learning system "KSU Online", which are necessary for the high-quality training of specialists.

The E-learning system "KSU Online" is an important variant of the organization of E-learning, which is created based on the Moodle information environment (an acronym for Modular Object-Oriented Dynamic Learning Environment). It is an innovative educational platform that unites learners, administrators, and teachers into an integrated single system of a personalized educational environment. The Moodle educational platform adapted

for online learning has significant didactic capabilities for creating innovative educational tools.

The "KSU Online" system ensures the intensification of the educational space for independent and effective processing of the material by the students of education, allows for the structured presentation of educational and methodical complexes of disciplines, forms a high level of professional IT competence in students of education, monitors the educational activities of future specialists with the help of educational monitoring and improves quality control.

The E-learning system "KSU Online" facilitates the construction of a course from the following modules: HotPot, Wiki, Questionnaire, Questionnaire, Glossary, External application, Assignment, Survey, Lecture, Seminar, Forum, Test, Chat. Each of these modules has certain feedback capabilities.

The "HotPot" module allows you to give reports on the responses of education seekers, carry out evaluations, and also gives access to both sides of the educational process to the specified information.

The "Questionnaire" and "Questionnaire" modules contribute to the collection of data on learning in distance courses of users to provide stimulation and evaluation of the educational process in distance education and distance courses. The purpose of these modules is to help the teacher to get to know the students of education well and to find out the methods and techniques of teaching, and the effectiveness of the educational space from the point of view of the students of education.

Modules "Database" "Wiki" and "Glossary" in addition to their specific functions are interesting from the point of view of organizing joint activities. With such training, all the records of the students of education can be evaluated by the teacher and other students in the educational space. With the help of the "Survey" module, the teacher can clearly and quickly check the knowledge of a certain educational material or find out the wishes of the students regarding the choice of the topic or direction of the educational course.

"Assignment" is such an educational element that allows the teacher to give tasks of various natures, leave feedback, audio feedback in the form of a separate file, comments (where the answer of the student of education is corrected), collect student works, and evaluate them. The teacher can evaluate the answer during E-learning in the professional training of future specialists using innovative methods. "Workbook" is an active element that allows teachers to give feedback on the work of students on a specific topic.

The element of the course "Lecture" makes the connection regarding assimilation and understanding of the lecture

material. With this approach, after each educational page, the learner can be offered a knowledge acquisition test. Students, depending on the results of their studies, can return to the previous page or go to another page.

Training modules: SCORM package, "Seminar", and "Test" are assessment tools and can also be used in monitoring activities. The "Seminar" module is used for mutual evaluation of student works (students receive an evaluation not only for their work but also for their evaluation of the works of fellow students. The "Chat" and "Forum" modules allow the participants of the educational process to communicate in asynchronous and synchronous modes.

For the KSU Online system, it is positive that it stores the created portfolio of each student: Therefore, the use of various educational platforms, telecommunications, and computer technologies can ensure interactive interaction between the teacher and the student at various stages of the educational space. The resources and elements of the LMS Moodle in the E-learning system "KSU Online" contribute to the creation of an educational environment that ensures dialogue between the teacher and the learner, establishes and stimulates feedback, provides constant support from the teacher throughout the study (Ilyina, 2020).

When using E-learning technologies in the conditions of implementing a high-quality and accessible educational process, a blog is one of the forms of online interaction between an education seeker and a teacher. Such a virtual space enables:

save and accumulate the results of the student's work during E-learning;

- to reduce the number of different platforms that are used for information exchange and communication between participants in the educational process;
- apply innovativeness in education, an integrated approach to learning, and creativity in the preparation of practical tasks;
- store and structure educational materials in the cloud environment, and have access to them constantly;
- speed up the sending, execution, and evaluation of individual tasks;

- to improve the content quality of the educational process and language design of materials and posts in connection with their publicity;
- use feedback tools (evaluation through commenting, discussion, voting, distribution, and liking of posts);
- distribute via Facebook, Twitter, Pinterest, Blogger, and e-mail the invitation to post.
- create a page on a personal blog or website for the teacher to interact with students to organize the educational process using E-learning technologies (Moskaliuk, 2020).

In order to check the effectiveness of the main tasks identified by us of a quality system of vocational training of future competitive specialists in modern society by introducing the basic principles and forms of e-learning, clarifying the possibilities of e-education through the prism of well-known classical didactic principles and principles specific to e-learning, to check the proposed main innovative forms of e-learning in the professional training of future specialists and the main structural components of the innovative e-education system, which are necessary for the high-quality training of specialists, we conducted a survey of higher education applicants.

At this stage, we used the «Expectations and Apprehensions» technique. Where students of higher education had to give answers about the effectiveness of e-education for their professional activities.

The methodology is a survey about expectations from new e-learning and possible concerns about the quality of professional training when it is applied, in this case – a course of training specialists through e-learning. On a piece of paper, each participant of the experiment noted 2 points:

3. 1. Your expectations from e-learning (for example: to learn new information about the activities of a specialist in professional training by means of e-learning);

4. 2. Your fears (for example: information that is not applicable in the practice of e-learning). The developed cards were passed around in a circle, where each participant put a score from 4 to 1 against the judgment:

4 – agree;

3 – partially agree;

2 – partially disagree;

1 – do not agree. The results of the «Expectations and Fears» survey are shown in Table 2.

Table 2. Survey results.

EXPECTATION	4 POINTS	3 POINTS	2 POINTS	1 POINT
Teach students to work "at a distance"	66,7%	33,3%		
Effective use of innovative technologies in e-learning	50%	33,3%	16,7%	
"Replenish the supply" of methods of working with education seekers	77,8%	22,2%		

Defining the future specialist: "Will I be able to be a good specialist?"	16,7%	50,0%	33,3%	
Learn new ways of working	16,7%	61,1%	22,2%	
Master new types of professional activity through electronic learning	83,3%	5,6%	11,1%	
Learn how e-learning is organized	11,1%	72,2%	5,6%	11,1%
Fear	16,7%	33,3%	33,3%	16,7%
Deepening in informatics	16,7%	33,3%	44,4%	5,6%
There will not be enough time for everything	5,6%	33,3%	5,6%	44,5%
Not all methods will be suitable for my professional activity	5,6%	50%	22,2%	22,2%
I can't cope with tasks for certain (mainly technical reasons)	83,3%	5,6%	11,1%	

Source: Own elaboration

As is clear from the table, the main expectations of the participants of the experiment are to master the forms, principles, skills, methods of working "at a distance", to master new types of activities, to take on a role. The main concern is the impossibility of implementing the acquired skills and abilities in the real process of e-learning, which is fully justified – educational institutions are working on the constant improvement of e-learning technologies, the practical results of this work are not yet clearly visible. Many fear that insufficient computer skills will serve as a certain "brake" in e-learning, but in our opinion, this is only a matter of time. Participants in the experiment also admitted that it was easier to define their own expectations than their fears. The answers show a desire to apply the acquired knowledge in practice.

6. **Methods and techniques of E-learning in professional training of future specialists; advantages of e-learning.**

Selected principles and forms of E-learning are used in the professional training of future specialists when using methods and techniques:

1. The teaching of educational material in oral form, which includes various types of lectures, explanations, and stories, is divided into verbal-problematic, verbal-heuristic, verbal-informational, and verbal-research.

2. Discussion of the material, which is considered remotely, includes an intellectual warm-up, brainstorming, various types of seminar classes, conversations, discussions, analysis of a specific situation, etc., is divided into verbal-heuristic, verbal-informational, verbal-research, and verbal-problematic.

3. The show includes illustration, demonstration, and observation in the form of a personal demonstration of various techniques and actions to students of education, showing figurative and natural means of visualization, showing the best actions of individual students of education, showing films, etc. and is divided into visual-practical, visual-informational, visual -problematic visual-heuristic, visual-exploratory.

4. Practical methods include group exercises, practical classes, laboratory works, etc., and are divided into practical-heuristic, practical-reproductive, and practical-research (problematic).

5. Independent work includes: the independent study of literary sources, various techniques, and technologies; independent study work; independent viewing of television shows, and movies, work with information sources and the Internet, etc., and is divided into all forms of education that were in the previous methods – visual-practical-verbal-informational.

6. Methods of self-monitoring and control in the educational process include surveys; self-control; individual control interviews; written works; control works; testing; machine control; tests; exams etc.

The combination during the organization of the educational process of various types of educational activities, methods, and teaching methods contributes to the development of methods of action, mastering by teachers of subject actions inherent in their pedagogical activity (Kuchai et al., 2022).

E-learning and its management are not possible without pedagogically balanced use of educational classes, and their various types. Traditional types of all types of practices, consultations, educational classes: practical, lecture, laboratory, seminar, individual classes, the performance of independent tasks by teachers, and other types of scientific, research, and pedagogical activities are also used in the process of E-learning.

A mandatory methodological requirement for the organization of high-quality E-learning is the involvement of the teacher and the student of education in active independent activities at all stages of the educational process (Yahupov et al., 2019).

7. Advantages of e-learning

So, we can see the existing improvement in the professional training of future specialists when applying the principles and forms of E-learning. Let's consider the advantages of E-learning:

- the opportunity for students to combine study and work, i.e. to get an education without breaking away from work, this is also relevant for those who want to get a second higher education or improve their qualifications;

- the opportunity to receive education at the place of residence. Residents of remote villages and towns from higher education institutions do not always have the opportunity to go to a big city to enroll in a higher education institution, and remote technologies in the field of education make it possible to receive education without leaving their hometown or village;

• the objectivity of the certification, where E-learning involves an unbiased assessment of the results, constant control of the quality of knowledge assimilation, the absence of the possibility of bribery in the field due to the introduction of automated knowledge assessment procedures;

• access to educational content and quality technologies. The applicant can make an individual study plan, study using high-quality educational materials, communicate with teachers;

an individual approach in the educational space, the opportunity to combine work and study, a flexible schedule, and the adaptation of educational products to the individual rate of assimilation of information (Moskaliuk, 2020).

CONCLUSIONS

The article analyzes the definition of the term " E-learning ", and lists the most popular technical methods of implementing E-learning in institutions of higher education.

The main tasks of a quality system of professional training of future competitive specialists in the information society through the introduction of basic principles and forms of E-learning are highlighted.

The main principles and forms of E-learning are considered and their importance in the professional training of future specialists is clarified. The possibilities of E-learning are considered through the prism of well-known classical didactic principles and didactic principles specific to computer-oriented E-learning:

The analysis of innovative forms of E-learning in the professional training of future specialists is presented and the main structural components of the innovative system of E-learning "KSU Online", which are necessary for quality training of specialists, are highlighted. The possibilities of a blog, one of the forms of online interaction between an education seeker and a teacher, are shown, which is an important element of education when using E-learning technologies in the conditions of a high-quality and accessible educational process.

To improve the professional training of future specialists when applying the principles and forms of E-learning, the advantages of E-learning are considered,

We conducted an experiment in which students of higher education were asked to evaluate their knowledge of methods of using electronic education. The "Expectations and Fears" method was used, where students of higher education gave answers about the effectiveness of electronic education for their professional activities.

Further research will be aimed at the organization of high-quality E-learning with the involvement of the teacher and the learner in active independent activities at all stages of the educational process.

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