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ORGANIZATION OF DISTANCE LEARNING IN HIGHER EDUCATION BASED ON COMPETENT APPROACHES

Abstract. The article gives a theoretical analysis of the experience of organizing distance learning in higher education institutions and substantiates the organization of distance learning in institutions of higher education on the basis of a competent approach and implement the introduction of distance learning courses. Used: theoretical – the analysis of scientific literary sources, scientific databases to justify the trend of management of scientific and pedagogical activities in providing information support for distance learning in higher education institutions and empirical research methods - questionnaires (author's development of qualimetric questionnaire cases for model professional situations), pedagogical observation for determining the efficiency of implementing information support for distance learning in higher education institutions. Educational and methodical complexes for distance learning courses are developed and implemented on the basis of a competent approach.

Key words: distance education, interactive, information, telecommunication technologies, information support, remote access platforms, competence approach, distance learning courses, teaching and methodical complexes.

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ОРГАНІЗАЦІЯ ДИСТАНЦІЙНОГО НАВЧАННЯ У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ НА ЗАСАДАХ КОМПЕТЕНТНІСНОГО ПІДХОДУ

Анотація. В статті здійснено теоретичний аналіз досвіду організації дистанційного навчання у закладах вищої освіти та обґрунтовано організацію дистанційного навчання у закладах вищої освіти на засадах компетентнісного підходу та здійснити впровадження на прикладі дистанційних навчальних курсів. Використано: теоретичні – аналіз наукових літературних джерел, наукометричних баз даних для обгрунтування тенденції розвитку менеджменту науково-педагогічної діяльності з інформаційного забезпечення дистанційного навчання у закладах вищої освіти та емпіричні методи дослідження – анкетування (авторські розробки кваліметричних анкет кейсів модельних професійних ситуацій), педагогічне спостереження для визначення ефективності впровадження інформаційного забезпечення дистанційного навчання у закладах вищої освіти. Розроблено і впроваджено навчально-методичні комплекси для дистанційних навчальних курсів на засадах компетентнісного підходу.

Ключові слова: дистанційне навчання, інтерактивні, інформаційні, телекомунікаційні технології, інформаційне забезпечення, платформи віддаленого доступу, компетентнісний підхід, дистанційні навчальні курси, навчально-методичні комплекси.

Intradaction. A modern graduate of the institution of higher education should meet the modern needs of society, having an appropriate level of readiness for the implementation of professional competences and readiness for professional development in the process of professional activity and life-long learning, using modern information resources of the level of development of science and technology in the industry.

Issues concerning distance education, theory, practice and technologies for creating distance courses, prospects for distance learning in higher education institutions of Ukraine and abroad were considered by such scholars as V. Kukharenko, V. Oliynyk, E. Rybalko, V. Bykov, E. Verenich, V. Gritsenko, S. Kudryavtsev, V. Kolos, N. Korsunskaya, P. Talanchuk, V. Sheiko and others. [1-5]

However, according to A. Vanchytsky [1], the methodological foundations for the creation and development of electronic resources for distance learning are currently underdeveloped and require further research. Teaching students in higher education institutions is a purposeful, systematic and organized process of acquiring professional knowledge, skills and abilities. In turn, education is the result of learning, upbringing and personal development.

In the context of the introduction of a competent approach, educational processes in higher education institutions are aimed at shaping the professional competence of future graduates who will be adapted to social requirements and demands that are competitive on the labor market.

Purpose: to justify the organization of distance learning in institutions of higher education on the basis of a competent approach.

Task:

1) to carry out a theoretical analysis of the experience of organizing distance learning in institutions of higher education;

2) to justify the organization of distance learning in institutions of higher education on the basis of a competent approach and implement the introduction of distance learning courses as an example.

Methods of research: theoretical – analysis of scientific literary sources, scientific databases to justify the trend of management of scientific and pedagogical activity in providing information support for distance learning in higher education institutions; empirical questionnaires (author's development of qualitative questionnaire cases for model professional situations), pedagogical observation to determine the effectiveness of the introduction of information support for distance learning in institutions of higher education.

Results and discussion. According to the modern generalized definition, distance learning involves: independent cognitive activity of listeners; use of various sources of information; active cognitive activity of participants in the pedagogical process, involving the use of professional knowledge in order to solve various problems and meet public queries; use of the newest pedagogical technologies, adequate to the specificity of vocational training, training in cooperation to enhance the cognitive activity of each participant in the educational process using educational platforms in the networks; use of project method for creative integrated application of the received knowledge), as well as research and problem methods; active interaction of the students with the teacher - tutor of the course of higher education institution, and with other partners; cooperation in the process of cognitive and creative activity; the systematic nature of the quality control of training - both on the basis of operational feedback and automatic (testing system) and delayed control - modular testing [1-3].

The distance course should include not only a set of materials for study and control tasks. This is, above all, the dialogue between the teacher and the listener. The main forms of organization of distance learning are: lectures on video and audio; interactive lectures in the format of videoconferencing; e-lecture; Individual and group consultations online (can be conducted in real time via chat, phone, ICQ, Skype), and remote (via e-mail, forum, website). Electronic seminars for interactive discussion by students of the curriculum under the direction of a teacher (webinar). Individual projects research, creative, informational. Virtual laboratory practice

(simulation of the experiment). Individual tasks: essays, abstracts, tasks. Module control: online testing, credits, exams [1-3; 5].

Distance learning is a new means of implementing the educational process, which is based on the use of modern information and telecommunication technologies that allow distance learning to be provided, provide remote access, using specific means, Internet technologies that provide interactivity [5-8].

The generalization of the definition of distance learning as a set of modern technologies that provide access to information in an interactive mode through the use of information and communication technologies (ICT) by participants – teachers and students in higher education institutions is most characteristic in the conditions of technological process of educational processes.

When developing a course for distance learning, you need to take into account the conditions of remote access of students who study remotely. The materials provided to the user must be accompanied by the necessary explanations, be accessible and acceptable for processing. It is advisable to combine interactive forms in the form of individual creative tasks.

At the same time, distance learning provides the formation of personal competence in the use of information resources for professional self-development.

According to modern scholars, since the evolution of man and human society takes place in the conditions of scientific and technological progress, taking into account the risks of information security and cyberspace, it is necessary to ensure the correct access conditions of users of information resources and adherence to the conditions of information security of resources of institutions of higher education.

It has been established that the competence approach in education is a leading paradigm that ensures the creation of the necessary conditions for the educational process favorable for the formation and development of the professional competence of the future teacher of life safety and occupational safety - a specialist capable of adequate work in appropriate production situations, to accompany the formation of the respective competencies at the students Competence is defined as the integrated professional quality of the personality, which characterizes the ability of a specific

specialist to realize certain competencies and acts in such interconnections as "self-perception and self-determination of personality", "person – society", "person – activity". Public requests for the formation and development of professional competence of future specialists who can effectively solve professional tasks, evaluate and creatively approach non-standard professional situations, determine its content and structure of vocational training in higher education institutions. The formation of the professional competence of future specialists includes a comprehensive readiness for the implementation of professional competencies and manifests itself in the ability to act in professional and life situations, to constantly develop to achieve a better result in professional activities.

In the system of higher education, in the context of transformational educational changes, globalization of markets, accelerated pace of technological and information development, the professional competence of a future specialist should be formed on the basis of cooperation between a teacher and a student using effective forms, educational technologies and tools.

In the conditions of professional activity, along with the improvement of technologies, automation of processes, the use of robotic complexes and the use of other means facilitating work, information content should be formed for self-training of personnel, the content of which should be based on the improvement of the relevant organizational and technical decisions on the normalization of working conditions at the design stage enterprises, technological processes and specific jobs.

Thus, for example, measures on the protection of labor, which are implemented in the field of electrical engineering, pursues the following main tasks: the normalization of sanitary and hygienic working conditions; training of personnel on safe methods of work in electrical installations; control over the safety of work on electrical installations; control over the observance of optimal modes of work and rest of workers; control over the provision of working means of individual and collective protection in accordance with established norms; control over the passing of periodic training and personnel testing.

Training of workers for work with high risk and workers employed in jobs requiring professional selection is conducted only in auditorium form. For self-training of personnel it is expedient to develop special training and methodological complexes for improvement of occupational safety in the industry using international experience and international ISO standards and implementation of the guidelines of the International Safety and Health Organization (OHSAS), algorithms for the prevention of occupational risks and potential hazards, electronic applications, cases competencies with software for virtual reproduction of model production situations. To design information content for a distance course of improvement in the field of occupational safety, it is necessary to determine its scope, purpose, task, structure and content. On the basis of the integrated application of the method of situational analysis (case-stage) for a comprehensive study of a specific situation and the assessment of the effectiveness of the decisions made on occupational safety, it is advisable to use cases of test packages of situational tasks on the themes of practical exercises for remote processing.

The interpretation of the application of methods of mathematical modeling of applied research and mathematical data processing is a promising direction for the creation of remote access platforms for the elaboration of the results of risk management and risk management in the industry.

Promising is the development and implementation of special educational and methodological complexes for in-depth study of students on the basis of a competent approach. We have developed and implemented a training and methodical complex (TMC) for the distance course "Formation of readiness for the implementation of professional competences on cybersecurity" for the professional training of higher education graduates – the field of knowledge and specialization: 12 "Information Technologies" 125 "Cyber Security".

The preliminary conditions for studying the distance course are the study of the courses: "Informatics", disciplines of the cycle of general scientific training, the cycle of humanitarian and socio-economic training (philosophy, cultural studies, life safety), a cycle of professional and practical training: "Computer technology" ,

"Computer Systems and Communications", "Theory of Risks", "Fundamentals of Telecommunications", "Fundamentals of Cryptographic Information Protection", "Integrated Information Security Systems".

TMC includes sections of informational content:

1. Scientific and methodical foundations of computer technical expertise.

2. Scientific and methodological foundations for detection and prevention of computer incidents.

3. Practical part of the distance course.

The theoretical sections cover topics that reveal the theoretical and methodological foundations of computer criminology, applied methods and techniques for detecting and preventing computer incidents.

Practical part includes applied tasks of computer technical expertise, detection and prevention of computer incidents and network expertise, analysis of network traffic and methods of interception; organization of the audit of information technology, the use of certified software products; detection of critical points of potential dangers in operating systems and file systems on carriers; harmful objects in computer technology, networks and communications, malware; establishing affiliation and finding an IP address; the organization of the implementation of steganalysis and examples of their solution.

The main tasks of the study of the distance course are the formation of readiness for implementation of professional competencies of computer technical expertise, detection and prevention of computer incidents, network expertise.

The distance learning course "Formation of readiness for the implementation of professional competences for cyber security" reveals the scientific apparatus of applied science – computer forensics (Computer forensics); content of the main concepts from the standpoint of system, competence, activity, integrative and interdisciplinary approaches; normative and legal regulation of computer technical expertise: world experience, domestic realities. The application of applied methods and techniques of computer technical expertise, the development of computer criminology, world experience (EU countries, China, Russia, USA, Canada, Japan,

Australia), the theoretical basis for determining the critical points of potential dangers in operating systems: Windows, Unix , Linux, IOS and file systems on the carriers, examples of the functioning of the computer forensics laboratory experience; application of applied methods and methods of network expertise. The emphasis of applied tasks is concentrated on the components of successful work – the use of own technologies using international experience in the field of information recovery and computer incident analysis, innovative computer crime investigation in the EU, USA, Russia, Turkey, China, Hong Kong, South Korea.

The distance learning course has an amount of two ECTS credits.

Conclusion. On the basis of the realized analysis of the experience of implementation of distance learning in higher education institutions, it is confirmed that the distance form is used as one of the forms of teaching that complements the classroom and enhances the efficiency of educational processes aimed at the formation of the professional competence of students with the use of interactive information and telecommunication technologies.

At the same time, distance learning with the use of remote access platforms is an advanced educational technology that combines innovative information provision and learning tools, improves the technology of educational processes in higher education institutions on the basis of a competent approach.

Prospects for further development of the research direction is to improve the design of development of information support for remote access platforms in the system of vocational training for the formation of professional competence of students in higher education institutions.

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