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SOFTWARE SUPPORT AND THEIR USE IN THE LEARNING PROCESSP
ПРОГРАМНІ ЗАСОБИ ПІДТРИМКИ ТА ЇХ ВИКОРИСТАННЯ У НАВЧАЛЬНОМУ ПРОЦЕСІ

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Abstract. An important task of modern education is to provide a high level of general and vocational training specialists who possess knowledge and skills system, can think logically and problem, are able to combine theoretical and practical knowledge. Therefore, the biochemistry course study is necessary to organize the learning process in a way that is combined regulatory fundamental part and skills with professional orientation. In the process of writing the article, methods of analysis, systematization of scientific and methodological literature sources, generalization of theoretical data were used. In this article it is proved the proper use importance and combination of different forms and methods of students. One of the important approaches that transforms the higher education system is the competency approach, which requires the formation of skills to create the conditions for mastering the competency complex. The competency approach is aimed at forming a person capable of further vocational education, social and professional mobility. Compulsory components of any competence are relevant knowledge and skills. In studying the course of biochemistry students of natural sciences develop general competences, which allow them to acquire the necessary knowledge and skills, to apply them in practical work to solve problems related to the future profession. The formation of general subject competences is based on the content of the subject, connected with the use of various pedagogical methods and teaching methods. This article proposes methods, forms and means of forming general subject competences in studying the course of biochemistry for students of natural sciences as a necessary condition for qualitative training of future specialists. The result of their implementation is active learning, the use of new forms of interaction between teacher and student, which improves the quality of learning.

Key words: educational process, teaching methods, practical orientation of the course, interdisciplinary communication, self-study, professional training.

Introduction.

The effectiveness of the educational process of higher education consists of two main components: the effectiveness of educational activities related to the scientific organization of educational work of higher education, their abilities, willpower and interest in learning, on the one hand, and the effectiveness of pedagogical work. related to the level of its scientific organization, qualifications, general culture, a set of personal qualities of teachers - on the other.

Ukraine is developing a new education system focused on entering the world information and educational space. This process is accompanied by significant changes in pedagogical theory and practice of the educational process, related to

making adjustments to the content of learning technologies that must meet modern technical capabilities and promote the harmonious entry of higher education in the information society. Computer technology is designed to become not an additional "burden" in learning, but an integral part of a holistic educational process, which significantly increases its effectiveness.

The computer in the educational process is not a mechanical teacher, but a tool that enhances and expands the possibilities of educational activities of the teacher. This means that in the conditions of computerization of education the role of the teacher grows as he determines the organizational and methodological structure and content of all education. It is he who organizes the work and gives the computer a very specific function at a particular time [1, 2, 4].

Material and methods. Traditional forms of organization of the educational process are based on the use of books as the main didactic tool. But under the conditions of informatization of education, modern forms of organization of the educational process are based on the use of information and communication technologies (ICT). However, the leading role in the organization and implementation of the educational process is performed by the teacher.

Results of the research.

The concept of information system to support the educational process, first of all, should take into account the psychological and age categories of users, which in turn requires the use of various forms of organization of the educational process.

Electronic means of supporting the learning process include: electronic textbook, a system of exercises for self-examination; electronic task book, collection of tasks for thematic certifications; electronic directory; library of electronic reference abstracts; library of test tasks; system for plotting graphs (and geometric figures); problem-solving environment (support), etc.

Information and communication learning technologies should answer the questions: how to organize the learning process in a computer environment, taking into account the specifics of a particular discipline, educational and practical goals, what ICT tools and how to use, what content to fill them, how to control their quality. Information and communication technologies (ICT) is one of the means of learning that contributes to the implementation of pedagogical ideas. Any means of learning has specific didactic capabilities, which in accordance with the educational task determine its didactic functions.

Today it is no longer possible to consider learning only as a process of transferring a certain amount of knowledge, as a procedure for developing the necessary knowledge and skills, you need to strengthen the personal-activity and competence aspects of learning.

The benefits of using ICT in higher education are obvious. The use of modern ICT creates new opportunities for learning, opens new perspectives for improving the efficiency of the educational process. ICT provides access to a huge amount of information contained in a variety of electronic sources, and allows teachers to better present material, make it more interesting, quickly test the knowledge of higher education students and increase their interest in learning. The teacher has the opportunity to receive the latest information, actively communicate with colleagues.

This increases his authority, he can really be a carrier of culture, knowledge, all the best. New, almost unlimited pedagogical opportunities for individualization of the educational process appear. The introduction of ICT in educational activities often requires changes in the forms of organization of the educational system, leads to changes in the activities of higher education seekers, teachers, heads of educational institutions and therefore should cover all areas of their activities [2, 5].

Using e-learning tools, it is necessary to provide jobs for lecturers, teachers and graduates. The lecturer's workplace is a set of software, including an electronic textbook, which provides for the preparation and conduct of lectures on the training course in higher education. Lectures will be held in a lecture hall equipped with computer-based means of displaying educational material.
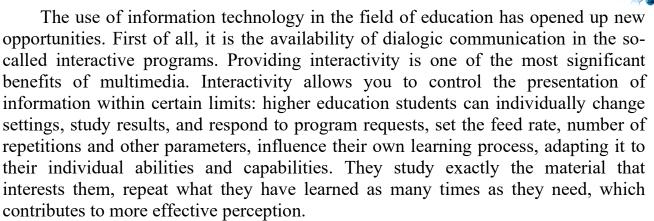
The teacher's workplace provides the following functions: preparation and management of a practical lesson, the formation of educational material for the theoretical part of the lesson, the formation of educational tasks for the practical work of higher education and control works, automated verification of educational tasks. Classes are held in a computer room equipped with a computer network.

The workplace of the applicant of higher education provides the following functions: performance of practical tasks, independent work on the study of theoretical material, performance of tests. In addition, the electronic textbook can be installed on a local computer in a configuration that allows the student to work independently to study the entire course of the discipline.

Today, higher education institutions of Ukraine have modern system software, Internet connection of workplaces of heads of educational institutions and computer classes, in the educational process, teachers use computer training programs. Innovative methods that are gradually being introduced in higher education include multimedia lectures, telecommunication projects, methods of automated control of educational achievements of higher education, video seminars, video conferences, Internet forums, webinars, off-line / on-line practical classes and consultations. The use of electronic teaching aids is promising: electronic textbooks, manuals, reference books, online teaching aids, computer training systems in normal and multimedia versions, audio and video training and information materials, laboratory distance learning workshops, electronic libraries with remote access.

Educational sites and portals are used in the educational process, on the pages of which educational information, methodical materials, educational programs, provided electronic textbooks, development of lectures and laboratory-practical classes in various disciplines are collected, discussed and disseminated.

Learning materials presented in electronic form have many advantages. They are prepared much faster than paper, they require much less material costs. With the use of modern means of telecommunications, they can be accessible to all applicants and teachers without exception.Today, every teacher of higher education must be able to create text documents, tables, pictures, diagrams, presentations, use Internet technologies, local networks, databases, conduct questionnaires, diagnose, test, search for information on the Internet, develop their own electronic products (demonstration material, etc.), as well as to use ready-made electronic products in their professional activities [3, 6].

The use of information technology in the field of education has opened up new opportunities. First of all, it is the availability of dialogic communication in the so-called interactive programs. Providing interactivity is one of the most significant benefits of multimedia. Interactivity allows you to control the presentation of information within certain limits: higher education students can individually change settings, study results, and respond to program requests, set the feed rate, number of repetitions and other parameters, influence their own learning process, adapting it to their individual abilities and capabilities. They study exactly the material that interests them, repeat what they have learned as many times as they need, which contributes to more effective perception.

Widespread use of graphics (drawings, diagrams, charts, drawings, maps, photographs) has become feasible. The use of graphic illustrations in educational computer systems allows to transfer information to higher education at a new level and make it more accessible. Educational software products that use graphics, promote the development of such important qualities as intuition, figurative thinking.

The use of ICT allows to improve the levels of academic achievement of higher education, which in turn will lead to the formation of new highly qualified, competitive, focused, proactive professionals.

Today's educational computer systems in education require users to have the appropriate knowledge and skills to perform activities provided they are used.

New information technologies of education allow to improve the quality of education of higher education seekers taking into account their individual psychological and physiological features. This is a kind of humanization of learning, as knowledge and skills can be acquired in a more comfortable environment for applicants.

Numerous studies in the field of computer use as a means of obtaining knowledge by students in various subjects [5, 9] allow us to conclude that computers are highly active, contribute to the increase of scientific and accessible learning, strengthening the independent cognitive activity of applicants.

The computer can be used in the educational process both in educational activities, where its possibilities are very wide - from a guide to modeling a specific situation - and in the management of the educational process, where it is a modern powerful means of feedback: the applicant - computer. user - teacher. It allows you to individualize the independence of learning, where the manner of learning, processing information, as well as the manner of communication of each individual higher education, while the computer actively includes it in the learning process, pays attention to the most important aspects of the material studied, expands a set of learning tasks that are used.

The most significant features for assessing the suitability of computer-based learning systems for use in the educational process is the degree of compliance of pedagogical software with general didactic requirements, taking into account the peculiarities of learning.

The use of multimedia technologies also allows to increase the information potential of higher education students. Therefore, there is a need for cooperation in the creation and use of both common information resources and multimedia. New

areas of science and technology are emerging that require changes in traditional university disciplines.There is a need to move away from classical methods based on specific disciplines, and approach the problem-oriented methods of knowledge formation, as well as reducing the distance between basic and applied research [4, 7, 8].

When choosing teaching aids, it is necessary to clearly clarify the possibilities of their application in a particular system, to determine their didactic functions in the classroom, as well as the necessary and sufficient (optimal) amount of educational information, its relevance, and possible forms of combination.

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Анотація. Важливим завданням сучасної освіти є забезпечення високого рівня загальної та професійної підготовки фахівців, які володіють системою знань і навичок, вміють логічно і проблемно мислити, вміють поєднувати теоретичні та практичні знання. Тому вивчення курсу біохімії необхідно для організації навчального процесу таким чином, щоб поєднати нормативну фундаментальну частину та навички з професійною спрямованістю. У процесі написання статті були використані методи аналізу,

систематизації джерел науково-методичної літератури, узагальнення теоретичних даних. У цій статті доведено важливість правильного використання та поєднання різних форм і методів учнів. Одним із важливих підходів, що трансформує систему вищої освіти, є компетентнісний підхід, який потребує формування вмінь для створення умов для оволодіння компетентнісним комплексом. Компетентнісний підхід спрямований на формування особистості, здатної до подальшої професійної освіти, соціальної та професійної мобільності. Обов'язковими складовими будь-якої компетенції є відповідні знання та вміння. При вивченні студентами природничих дисциплін формуються загальні компетенції, які дають змогу набути необхідних знань і вмінь, застосувати їх у практичній роботі для вирішення завдань, пов'язаних із майбутньою професією. Формування загальнопредметних компетентностей базується на змісті предмета, пов'язаному з використанням різноманітних педагогічних методів і методів навчання. У статті запропоновано методи, форми та засоби формування загальнопредметних компетентностей при вивченні курсу біохімії студентів природничих дисциплін як необхідної умови якісної підготовки майбутніх спеціалістів. Результатом їх впровадження є активне навчання, використання нових форм взаємодії викладача та студента, що покращує якість навчання.

Ключові слова: *навчальний процес, методика навчання, практична спрямованість курсу, міжпредметна комунікація, самонавчання, професійна підготовка.*

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