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STAGES OF FORMATION OF BASIC CONCEPTS OF DISTANCE LEARNING

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Short introduction. The article analyzes the historical stages of formation of basic concepts of distance learning (correspondence learning, distance learning). Theoretical aspects of the development of distance education in Ukraine are considered. Based on the analysis of scientific sources, the interpretation of key concepts of distance education and distance learning is systematized. Emphasis is placed on the fact that the modern understanding of the concepts and terms of distance learning is based on its interpretation as activities using Internet technologies and resources. A comparison of distance education and distance learning, related concepts of open education and blended learning is made.

Keywords: distance learning; distance education; e-education; blended learning, educational reforms; innovative education; educational programs; national education; establishment of higher education; information-and-communication technologies.

Problem Distance learning in the modern mass sense has begun to take shape relatively recently. March 2020 was marked by the announcement of quarantine in Ukraine due to the COVID-19 pandemic. Therefore, taking into account the advanced pedagogical experience accumulated by various educational establishments in the world on the application of the latest digital technologies in education, the domestic education system has embarked on the path of organizing and conducting distance education.

Distance learning today is one of the key areas of renewal of all parts of the educational system of Ukraine. At present, there is a scientific-and-theoretical understanding of distance learning, new scientific terminology is included in the scientific circulation, appropriate methodological support is being developed, and experimental testing of new distance educational technologies is underway. It is significant that the definition of «distance learning» is characterized by pluralism of definitions, which indicates a wide range of approaches to its interpretation.

Among domestic and foreign scientific research on various aspects of distance learning, the number of which has increased significantly in recent years, not only the concept of «distance learning», but also «distance education», «e-learning», «distance learning» and other related concepts, which are partly used ambiguously and interpreted differently.

The legal basis for distance learning in Ukraine is provided by a number of state documents:

- Law of Ukraine «On Higher Education» of 01.07.2014, in which among the forms of education in higher educational establishments distance education is singled out [1];
- The concept of development of distance education in Ukraine, approved by the Resolution of the Ministry of Education and Science of Ukraine of 20.12.2000, according to which distance education is considered a full-fledged form of learning, implemented using distance learning technologies [2];
- Order of the Ministry of Education and Science of Ukraine «On Approval of the Regulations on Distance Learning» from 25.04.2013 № 466 (as amended), which defines the meaning of «distance learning» and «distance form of learning» [3].

However, the use of key concepts and terms of distance learning in modern scientific research is partly debatable.

The problem of semantic content of the concept of «distance learning» and related terms is taken care of by domestic scientists (V.Yu. Bykov, V.M. Kukharenko, V.V. Bondarenko, Ye.S. Polat, etc.) and foreign ones (J. Gubagar, M. R. Simonson, D. Painter, R. Schank, A. Rossett, R. Vaughan Frazze, and others). The works of these researchers analyze the genesis of the concept of distance learning; UNESCO's educational programs «Education for All», «Lifelong Learning», «Education without Borders» are studied, which recognize the development of distance education as one of the key areas of modernization of the entire world educational system; introduce new related terms.

The purpose of the study is to systematize the interpretation of key concepts of distance education and distance learning based on the analysis of scientific sources on the theoretical problems of distance learning and pedagogical experience.

Research novelty Our own experience of using distance learning in the Medical Academy gives grounds to believe the importance of its application in the process of forming of the future graduate's professional competence, as well as modifying approaches to the preparation and conduct of theoretical and practical classes.

Presentation of the main material. As you know, the historical beginning of distance learning, most scientists find in the middle of the 19th century. The Berlin Institute for the Study of Foreign Languages is considered to be the first establishment to use distance learning. Training in this establishment from the mid 1850s took place by means of correspondence, which later became known as corresponding learning. Similarly, regular mail as the first stable regular public communication system was used to train individuals at the University of London (since 1858), whose applicants were allowed to take exams for academic degrees, regardless of the form of knowledge acquisition (full-time, correspondence or self-study) [4; 5].

In America and Canada, the development of corresponding learning as the first form of distance education has enabled the progress of rail transport. The first American correspondence programs appeared in the 1970s. In the last decades of the 19th - early 20th century, some higher educational estblishments, including the University of London, the Scottish University of St. Andrew, the Royal University of Canada, the University of Chicago (USA), the University of Queensland (Australia), etc., began distance learning. It was at that time, according to V. Vyshnivsky and his co-authors, a new term came into circulation: distant education («distance learning») [5]. The development of initial forms of distance learning has been made possible by scientific-and-technological progress, including the widespread introduction of postal, telegraph, telephone, radio and television, which have been used by participants in the learning process. Thus, at this stage, distance learning was equated to extra-mural learning, which existed alongside with traditional full-time and was interpreted as learning at distance, in addition, at this time it gained legal recognition, as students' qualifications at the university were confirmed by official documents on education [5].

In Ukraine, distance learning in many respects is still perceived as an innovation, although in 2000 the Concept for the Development of Distance Learning in Ukraine was approved, which substantiates the feasibility, purpose, main objectives and expected consequences of creating and implementing such a system. Another document was approved in 2013 - the Regulation on Distance Learning. Here the scientific-and-methodical providing and features of the organization of educational process with use of technologies of distance learning are detailed. A person's right to receive education in various forms, including distant one, is provided by the Law of Ukraine «On Education» (2019) [7]. In May 2020, Guidelines for the Organization of distance learning in Ukraine appeared. The recommendations were approved for use in the reports of educational establishments on June 18, 2020 [8].

I.V. Robert in his monograph «Theory and Methods of Informatization of Education"» interprets distance learning (distributed learning) through the prism of the process of knowledge transfer, skills development in the context of interactive interaction between student and teacher, and between them (subjects) and an interactive source of information resources, which reflects all the elements characteristic of the educational process (purpose, goals, organizational forms, content, teaching aids, methods), implemented in the use of information-and-communication technologies [9].

A similar interpretation of this definition was proposed by Ye. S. Polat: «distance learning is a systematic organization of learning, built on the interaction of teacher and student, students at a distance, which reflects all the inherent elements of the educational process (organizational forms, goals, learning tools, content) unique techniques of information-and-communication technologies and the Internet technologies» [10, p. 23].

Scientist A.V. Khutorsky interprets distance learning as «learning in which the subjects are at a distance, implementing the educational process with the help of telecommunications» [11, p. 15].

Thus, based on a systematic analysis of the above mentioned interpretations, we can state that most researchers distinguish and scientifically argue in the definition of «distance learning» such its components, as:

- learning in parallel (synchronous) and non-simultaneous (asynchronous) form;
- elements of the educational process are: organizational forms, content, goals, teaching aids, methods);
- subjects of study;
- means of information-and-communication technologies.

Given the challenges of modernity and experience gained in recent years, distance learning has come to be thought of as «an individualized process of acquiring knowledge, skills, abilities and ways of the individual's cognitive activities, carried out mostly through mediocre extraterritorial (remote participants) interaction of subjects of the educational process in a special environment, which is based on the latest information-and-communication and psychological-and-pedagogical technologies» [12].

Characterizing distance learning, V.Yu. Bykov considers it appropriate to distinguish the following varieties:

- distance learning – a special form of institutionalization and implementation of the educational process, in which the subjects of learning (its participants) implement educational interaction in the principle way and mostly extraterritorially;
- traditional distance learning – a type of distance learning in which the interaction between participants and initiators of the learning process takes place in time asynchronously, while actively using the transport system of supply of educational volume and other information objects of the telephone, telegraph or postal system;
- e-distance learning – a type of distance learning, which involves mainly individualized interaction between organizers and participants of the learning process both synchronously in time and asynchronously, in the principle way and mainly using electronic transport systems for delivery of educational material and other information objects, computer networks Internet / Intranet, ICT [13].

Taking into account the above mentioned and the experience of organizing educational activities gained from COVID-19, distance education can be positioned as «the latest type of education, in which students work independently at home, and their communication with other students and teachers is carried out mainly through videoconferencing, electronic forums, e-mail and through other possibilities of network communication» [14].

It should be noted that in the scientific-and-pedagogical literature, the terms «distance learning» and «distance education» are partly used as synonyms. However, their content differs significantly as well as general pedagogical concepts such as «learning» and «education». It is known that in pedagogical science since the time of J. Pestalozzi learning is considered through the implementation of education, which, in its turn, becomes the result, the ultimate goal of learning. Therefore, the concept of «distance education» is broader than «distance learning», which does not exclude the possibility of using these concepts as synonymous, if their semantics do not play a key role.

Analyzing the phenomenon of distance education, we should also dwell on the concept of «open education», which is used in many scientific publications in post-Soviet countries in connection with the development of distance learning.

In domestic science (V. Bykov, M. Leshchenko, A. Yatsyshyn, etc.) the interpretation of the concept of open education is based on the definition declared by the National Institute for Strategic Studies as «application in the educational process and educational management at all levels of the latest information-and-communication technologies and innovative methods of work based on these technologies can play a significant positive role in reforming various areas of educational activities – from effective monitoring to the creation of integrated systems for access to educational resources and exchange of best teaching practices and teaching materials» [15]. In the proposed description, the main emphasis is on the use of information technologies, also inherent in distance education; the main factor of openness of modern education is its manufacturability, the use of network digital technologies, which generally provides intensification, continuity and individualization of learning.

Foreign researchers, including Toru Iiyoshi and M.S. Vijay Kumar, analyzing the state of development and leading means of open education today, draw attention to the different goals and objectives of different types of education: if distance learning develops in the direction of growing the level of access to education for people who earlier for various reasons were not able to get it, the tools of open education are primarily aimed at improving the quality of education, which does not preclude ensuring greater accessibility [16].

Thus, open education, in contrast to distance education, is aimed primarily at finding new methods and techniques of teaching, updating technologies for training and organization of the educational process, as usually new technologies are important only in the context of their creative application in the education system.

Another widely used concept today is e-education. The semantic content of this concept illustrates the organizational capabilities of the educational system, the educational process within which is mainly supported by e-distance learning technologies, and the organization of the educational process ensures the implementation of the principles of open education [17].

Scientists point out that e-education is implemented by a set of modern teaching aids – e-learning resources, the main types and functional classification of which in Ukraine are identified in the Regulation on E-Learning Resources [17]. Electronic educational resources are educational, scientific, informational, reference materials and tools developed in electronic form and presented on media of any type or placed in computer networks, which are reproduced by electronic digital technical means and necessary for the effective organization of upbringing-and-educational process in the part concerning its filling with high-quality educational-and-methodical materials. These include: electronic documents, publications, didactic demonstration materials, dictionaries, textbooks, distance learning courses, etc.

In his turn, M. Fedorchuk, analyzing the essence and state of implementation of e-education in Ukraine, identifies such its components, as: distance education, electronic libraries, audio-, video lectures, multimedia teaching aids [18]. Therefore, according to the scientist, the concept of distance education is much narrower than e-education.

It should be noted that, in general, most scholars rightly distinguish between the concepts of distance and e-education as significantly different pedagogical structures. They believe that as a result of the rapid development and improvement of communication tools, e-learning has now become more important than distance learning. E-education is much less focused on the form of lecture learning and much more – on the acquisition of specific knowledge from other sources, in addition, it is better adapted to different levels of learning.

E-learning as a way to obtain e-education – according to UNESCO – is learning through online tools and multimedia tools. According to M. Rosenberg, e-learning involves primarily the use of Internet technologies to ensure the effectiveness of knowledge acquisition and is based on the following principles: work is carried out over the network; delivery of educational content to the end user is carried out using a computer using standard Internet technologies [19]. In part, e-learning is synonymous with web-learning and online-learning.

The spread of e-learning has led to a new direction – blended learning. Mixed learning (hybrid, integrative, blended learning, technology-mediated instruction, web-enhanced instruction, mixed-mode instruction) is a form of education according to which a student learns part of the material through distance learning, and the rest of the material is studied in person in the audience.

«Blended learning» is a relatively new concept in modern education. The term blended learning first appeared in a newsletter in 1999, when an online learning education company changed its name to EPIC and announced that it would use the blended learning method [20].

Blended (or hybrid) learning, according to V. Kukharenko, is one of the most popular technologies today, because it allows one to take advantage of the flexibility and convenience of distance learning and the benefits of traditional class [21], which provides its flexibility and significant adaptability to educational conditions.

Thus, blended learning can be defined as a hybrid species that combines the latest technologies with traditional forms of learning.

Conclusions, prospects for further research, proposals. Analysis of scientific research of domestic and foreign researchers of various aspects of distance education proves the versatility and ambiguity of this pedagogical phenomenon, the conceptual apparatus of which is not yet fully standardized. The rapid development of computer technics and technologies stimulates the emergence of new types of distance learning, new forms and methods of educational activities in the distance education system.

Summing up the review of the main definitions, we note the following:

1. Basic among all the analyzed concepts is the concept of distance education, which is much broader than distance learning, which is the result, the ultimate goal of learning. However, the possibility of using these concepts as synonymous in some semantic representations is not excluded.

2. The essence of modern distance learning in higher educational establishments is most fully reproduced by the category of e-distance learning, which is provided by the use of Internet resources, multimedia teaching aids and other electronic educational resources.

3. The development of distance education is associated primarily with the introduction of blended (hybrid) learning, as well as its organic entry into the system of open education.

4. We see prospects for further research in the introduction of e-distance learning in the study of disciplines of various educational fields of higher education, in particular in education, as well as in the search for forms and methods of distance learning specific to this field.

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ЭТАПЫ ФОРМИРОВАНИЯ БАЗОВЫХ ПОНЯТИЙ ДИСТАНЦИОННОГО ОБУЧЕНИЯ

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Аннотация

В статье проанализированы исторические этапы формирования базовых понятий дистанционного обучения (корреспондентское обучение, обучение на расстоянии). Рассмотрены теоретические аспекты развития дистанционного образования в Украине. На основании анализа научных источников систематизированы толкования ключевых понятий дистанционного образования и дистанционного обучения. Акцентировано внимание на том, что современное понимание понятий и терминов дистанционного обучения основывается на его толковании как деятельности с использованием интернет-технологий и ресурсов. Проведено сравнение понятий дистанционного образования (distance education) и дистанционного обучения (distance learning), а также смежных понятий «открытое образование» и «смешанное обучение».

Ключевые слова: дистанционное обучение; дистанционное образование; электронное образование; смешанное обучение, образовательные реформы; инновационное образование; образовательные программы; национальное образование; учреждение высшего образования; информационно-коммуникационные технологии.

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INFORMATION TECHNOLOGIES IN THE SYSTEM OF TRAINING OF PHARMACY SPECIALISTS

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Summary

Short introduction. The paper deals with the problem of using an interdisciplinary approach to the training of future pharmacists in the system of teaching professional disciplines in modern higher medical educational establishment, in particular during practical classes using information technologies in pharmacy. At the current stage of development of information technologies, a high level of computer skills of graduates of higher medical educational establishments of pharmaceutical profile allows one to get a trained specialist ready to work with specialized software that promotes high efficiency of pharmacists, improving service to pharmacy visitors and increasing sales of medicines and medical devices. All this necessitates substantive and methodological adjustments to the training and retraining of pharmaceutical workers with the approximation of their level of education to international standards. That is why the quality of education in higher educational establishments needs to be improved under the conditions of effective organization and informatization of the educational process, introduction of innovative scientific developments in the practice of teaching information technologies in pharmacy, ensuring teachers' high professionalism, creating modern teaching and clinical bases.

Keywords: pharmaceutical industry, interdisciplinary approach, educational activities, professional disciplines, information technologies in pharmacy, educational process, integration, distance learning, innovations, creativity, curriculum.

Problem An important task of pharmaceutical education is to train a highly qualified specialist who will provide quality services and use advanced information-and-communication technologies in their activities. At the current stage of development of such technologies, the high level of computer skills of graduates of higher educational establishments of pharmaceutical profile allows to obtain a trained specialist ready to work with specialized software that contributes to the efficiency of pharmacists, improving pharmacy visitors.

The purpose of the study is to analyze the possibilities of an interdisciplinary approach to the training of future pharmacists in the system of teaching professional disciplines and features of the use of modern information technologies in the process of forming of future pharmaceutical industry specialists' professional competence.

Research novelty Own experience of using an interdisciplinary approach in integration with information technologies in higher medical educational establishments confirms the effectiveness of its application in the process of forming future graduate's professional competence, and also gives the opportunity to change approaches to preparing and conducting theoretical and practical classes with mandatory use of information technologies taking into account COVID-19 epidemic and the introduction of distance learning.

Presentation of the main material. At present, without knowledge of information technologies, the development is impossible in any of the fields of knowledge, including pharmacy. Therefore, during junior bachelor's, bachelor's and master's professional training it is necessary to use the optimal selection of tools and methods of teaching, forms of organization of the educational process in accordance with the goals and objectives, the main of which is the training of highly qualified specialist who will provide pharmaceutical services of high quality and use information-and--communication technologies in his/her activities [1].

The new paradigm of higher education development, health care reform, transition to modern principles of primary health care and insurance medicine need to improve the existing system of pharmaceutical training, which would meet modern world standards. The reform of the health care system provides for the training of specialists of a qualitatively new level of professionalism and competence, experienced and promising health care organizers [2–4]. At the same time, the integration of Ukrainian society into the European space leads to a reorientation of approaches to health care, intensifies the search for ways to improve the quality of medical workers' and pharmaceutical professionals' training.

All this necessitates adjustments in pharmaceutical workers' training and retraining with the approximation of the content of their education and methods of preparation to international standards. That is why the quality of education in higher educational establishments needs to be improved under the conditions of effective organization and informatization of the educational process, introduction of innovative scientific developments in teaching practice, ensuring teachers' high professionalism, creation of modern teaching and clinical bases.

This "Introduction" can be read in almost every fifth scientific work, and this is an indisputable fact. Scientists, analyzing the state of science, medicine, economics, politics and other areas of human activities in order to identify gaps or problems in a particular field, conducted research to identify ways to improve a process to work for the future to achieve a positive result. And none of them could foresee a "possible" single and at the same time common problem for all - COVID-19. There were many epidemics, but they passed fairly quickly and only affected individual countries. But for one to paralyze almost the whole world, such a thing never happened and was never foreseen.

We usually take measures to minimize unpleasant consequences, insure business risks of loss of property, time, money, but no one has insured against loss of opportunities from unforeseen situations, because such, in principle,

could not be. This situation with the epidemic and long-term quarantine made us all immediately see and feel the inconveniences, shortcomings, lack of opportunities, both as an individual employee and the company as a whole.

The epidemic affected all segments of the population, all types and forms of ownership of enterprises and educators, in the first place. Almost every third person is a participant in the educational process: schools, colleges, universities see within their walls a large number of pupils, students, graduate students, teachers, educators, teachers and others.

Starting with the first week of quarantine and abruptly moving to distance learning, a pilot project which was planned to launch for part-time students in the future, and then suddenly for everyone. How to do it, taking into account many limitations of opportunities?

Hurry to download VIBER, ZOOM platform, Google Meet, Moodle which would give at least some opportunity to communicate with listeners. And when you see that not everyone has the opportunity to use all these methods, you understand that we, as teachers, are not ready for such changes, society is not ready and the state is not ready either.

So we gradually went through this formation of the educational process, reached a new level of work in quarantine and today we have the opportunity to more carefully prepare for possible changes in the future. It has become clear that computer science and computer technologies are becoming as important as other disciplines in educational establishments at all levels.

After analyzing the educational process in higher medical establishments during distance learning and working on an interdisciplinary approach to future pharmacists' training in the system of teaching professional disciplines, we concluded that this process requires not only the cooperation of all teachers, but also a full understanding of the conditions. distance learning using computer technologies to achieve results.

The following features are characteristic of information technologies:

– the user's work in the mode of manipulation, but not programming, data. The user must see (output: screen, printer) and act (input: keyboard, mouse, scanner), but not know and remember;

– end-to-end information support at all stages of information processing on the basis of an integrated database, which provides a single, unified form of presentation, storage, retrieval, display, recovery and data protection;

– paperless process of document processing, in which only the final version of the document is transferred to paper, and intermediate versions and necessary data remain on the machine media;

– the possibility of collective use of documents based on a group of personal computers connected to a local network [5].

Therefore, today, training specialists at all levels, we should reconsider the attitude to such a discipline as information technologies in pharmacy and at the same time refine the curriculum of this discipline taking into account today's challenges and future prospects, because in the spirit of the latest innovations information technologies in pharmacy are referred to the category of elective disciplines.

To obtain approval or denial of such changes in the educational process, we conducted a marketing study by surveying students of graduating groups and specialists in practical pharmacy on the topic: "Information technologies in pharmacy." Of the 179 respondents, 75.5% (135) agreed with the statement that information technologies in pharmacy should be among the professional disciplines, 21.8% (39) partially agree with this statement. 84% (151) of respondents indicated a lack of knowledge of information technologies in pharmacy in preparation for theoretical and practical classes and communication with teachers. Only 15.6% (28) of respondents did not experience problems working remotely with the use of information technologies.

If respondents from 18 to 30 years of age want to study software for pharmacies, work with documents, etc., then respondents over 30 years of age expressed a desire to additionally include in the course of information technologies the analysis and study of work with programs (platforms) downloaded to smartphones as personal use and for training.

Summing up the results of the survey, it should be noted that 64% (165) say that the acquired theoretical knowledge and practical skills in information technologies in pharmacy are extremely necessary in everyday life and only 7.8% (14) do not agree. This gives grounds to consider it necessary to study information technologies in the system of training pharmacists, taking into account modern social trends.

The practice of recent years shows that the interdisciplinary integration of information technologies in pharmacy is observed with the organization and economics of pharmacy, pharmacology and clinical pharmacology – professional disciplines of the specialty "Pharmacy". Drug sales management systems are designed to automate the activities of pharmacies, helping to perform many routine operations and ensuring the implementation of organizational-and-operational functions: retail sales of drugs and medical devices; wholesale sales of inventory by cashless payment; ordering and purchasing medicines from suppliers; inventory; accounting and auditing; control over compliance with the rules of proper storage of inventory; revaluation and write-off of goods and other. In this case,

the automated computer system must collect and store statistical information about operations in the process of selling drugs, as well as perform statistical processing of this information. For the functioning of the system it is necessary to have a database of goods (medicines) with all their characteristics (names, dosage forms; wholesale, retail, customs – factory prices; expiration dates; balances in the warehouse); databases of companies (suppliers, customers and partners) with their details; databases of documents (invoices for arrival, expenditure, write-off of goods, their internal movement) [6].

Typically, a computer system allows one to easily perform such practical tasks, as searching in databases, tracking the movement of a particular product or group of products for a certain period, to analyze sales of drugs (groups of drugs) for a particular period. It should be noted that all performed operations must be displayed in the database in real time and be available immediately to all users of the pharmacy computer network. Thus, a computer system for the sale of drugs can be imagined as a network database management system with some functions of an accounting computer system and add-ons for analysis and statistical data processing in theory, in the study of professional disciplines, and in practical pharmacy [7].

The "Affordable Medicines" program, which involves a large number of pharmaceutical institutions, requires considerable knowledge of pharmacology and clinical pharmacology on the release of drugs according to the electronic prescription, monitoring compliance with the rules of dispensing drugs and medical devices, taking into account the imperfections of this program [8]. As the state program "Affordable Medicines" directly involves pharmaceutical workers, it needs additional study and analysis in practical and theoretical classes to understand and comply with the requirements of the law by future specialists. This once again proves the importance of information technologies in pharmacy, which is an indisputable assistant for teachers of these disciplines.

The World Economic Forum in Davos (2016) was remembered for its special focus on education and development as a guarantee of solving the humanitarian problems that exist today and will arise in the future. For comparison, the analysts of the forum presented a table showing which skills are relevant for a successful career and will be important in 2020:

- a comprehensive multi-level vision of the problem;
- critical thinking;
- creativity;
- managing people, motivating them;
- coordination of actions with others;
- emotional intelligence;
- making judgments and making decisions;
- service orientation;
- interaction, negotiations;
- cognitive flexibility.

Despite the fact that more and more mechanical work is transferred to machines, more and more processes are automated, creativity is not yet inherent in artificial intelligence, which means that making important decisions and responding to rapid changes are left to man, and namely the creative approach to the case can help to choose the best variant.

Higher medical educational establishments are the employers who must set requirements for their employees in accordance with the listed skills. And in today's conditions, the student's personality, who is in constant professional and personal development, should be the priority of modern medical and pharmaceutical education and one of the tasks of the educational establishment, represented by the teacher, is to teach future professionals to learn, to work, to live [9].

That is why there is a need on the agenda to modernize the psychological-and-pedagogical training of scientific-and-pedagogical staff of higher medical educational establishments (faculties). The main features of such training are the requirements of society, which led to the legitimization of alternative education, the main parameters of which are: 1) interdisciplinary approach to the organization of education, 2) the innovative nature of the content and methods of teaching.

However, under any circumstances, more attention should be paid to the training and quality of teaching information technologies in pharmacy. Not everything depends on the student (whether he wants to study or not); the lion's share of educational "achievements" falls on the teacher, and not just a teacher of an educational establishment, but a teacher who understands the issues of the pharmaceutical industry, a teacher who must be a practitioner of pharmaceutical business. To combine these requirements for a teacher of information technologies in pharmacy, namely an economist and a specialist in practical pharmacy, requires a mandatory and systematic internship in pharmacies in the city or region.

During the internship, the teacher will be able to gain practical experience working with such software of a pharmaceutical institution, to feel its importance and effectiveness for the pharmaceutical worker and will be able to

share their experience with students. Textbooks do not provide an opportunity to 100 per cent reveal the issues of discipline for students – their own experience, solving unusual situations and their impressions of such work, which are transmitted emotionally, give the opportunity to raise the quality of students' training to a completely different level. The cost of initial methodological resources for internships will be justified if we all aim to get a high-class specialist, a graduate of higher medical educational establishment of Ukraine, so it is worth paying more attention to this issue, as training in information technologies in pharmacy should be organized in stages, in continuous interaction of stakeholders and taking into account the needs of practical medicine, health care and pharmacy.

Highly qualified graduates of higher medical educational establishment is a valuable "commodity" in the labor market for which employers must fight to get it for their company, and not to select among all possible options. This implies competition not only among graduates, but also among educational establishments in terms of the graduate's level of knowledge and practical skills. Knowledge and practical skills must be really proven in internships, probationary periods and interviews with representatives of companies that set their own requirements for future employees of their companies, and who will be sure that the school prepares high-quality professionals.

Conclusions, prospects for further research, proposals. Summarizing the above mentioned, we can say that the scientific-and-pedagogical research on the formation of an interdisciplinary approach to future pharmacists' training in the system of teaching professional disciplines proves the importance of the discipline "Information Technologies" in pharmacy, which requires modern curriculum for timely and adequate response to current economic, managerial, social demands, for the fullest use of the potential of students and teachers of higher medical educational establishments. It is important to realize that the interdisciplinary approach does not absorb and does not encroach on the content and methods of each discipline, but creates the preconditions for a more relief and broader view of a particular subject (object) of research, increases scientific knowledge to solve problems with higher efficiency.

Working with students at the professional and specialized levels of teaching computer science and information technologies allows one to prepare a highly qualified pharmacist who has special knowledge and skills in working with automated workstation and network administration, which, in its turn, allows more efficient use of existing software products and complement them with own programs that are commercially attractive for pharmacy chains [10].

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ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ В СИСТЕМЕ ПОДГОТОВКИ СПЕЦИАЛИСТОВ ПО СПЕЦИАЛЬНОСТИ «ФАРМАЦИЯ»

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Аннотация

В данной статье раскрывается значение междисциплинарного подхода к профессиональной подготовке будущих специалистов фармацевтической отрасли в процессе преподавания специальных дисциплин. Выявлены и проанализированы проблему использования междисциплинарного подхода, в частности при проведении теоретических и практических занятий по информационным технологиям в фармации. За основу работы автором взяты маркетинговые исследования в области сервисного обслуживания посетителей аптек с использованием информационных технологий и собственный опыт во время проведения практических занятий в вузе.

В статье также представлены результаты маркетингового исследования, подтверждающие необходимость использования информационных технологий в фармации в качестве обязательной дисциплины, с учетом изменений и дополнений в учебной программе соответственно.

Ключевые слова: фармацевтическая отрасль, междисциплинарный подход, образовательная деятельность, профессиональные дисциплины, информационные технологии в фармации, учебный процесс, интеграция, дистанционное обучение, инновации, креативность, учебный план.

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