

DOI: 10.21802/artm.2019.3.11.93.  
UDC 378.147+614.253.4**THE USE OF INFORMATION AND EDUCATION ENVIRONMENT OF DISTANT LEARNING OF STUDENTS AT HIGHER EDUCATIONAL INSTITUTIONS**T.P. Mandzii<sup>1</sup>, Yu.M. Kucheriavii<sup>2</sup>, Z.M. Ragrina<sup>3</sup>, A.R. Grytskyk<sup>4</sup>, O.G. Popadynets<sup>5</sup><sup>1</sup>*Ivano-Frankivsk National Medical University, Department of Pharmacy, Ivano-Frankivsk, Ukraine, ORCID ID: 0000-0001-8094-6303, e-mail: tarasdgr@rambler.ru,*<sup>2</sup>*Zaporizhzhia State Medical University, Department of Clinical Pharmacy, Pharmacotherapy and MFE of FPE, Zaporizhzhia, Ukraine,**ORCID ID: 0000-0001-6485-8813, e-mail: kucherjavii@zsmu.zp.ua,*<sup>3</sup>*Zaporizhzhia State Medical University, Language Training Department, Zaporizhzhia, Ukraine, ORCID ID: 0000-0002-7823-5630, e-mail: ragrinazhanna@gmail.com*<sup>4</sup>*Ivano-Frankivsk National Medical University, Head of the Department of Pharmacy, Ivano-Frankivsk, Ukraine, e-mail: grycyk@ukr.net*<sup>5</sup>*Ivano-Frankivsk National Medical University, Head of the Department of Human Anatomy, Ivano-Frankivsk, Ukraine, e-mail: oksana-g@live.ru*

**Abstract.** Lately the distant education has started to be popular within the educational sector. From 2014 onward, the most common searches on Google includes a variety of phrases which connects to a completion of higher education. A new type of education called «Open education» includes continuity, equal access and personal orientation forms offered to the students.

However, problems can arise when modern educational tools are involved. The main implementation of higher education is the use of information for student learning. Gathering and implementation of this model was conducted on the basis of reviewing materials from contemporary scientific articles which includes topics from cloud services, questionnaires, processing of online sources and modern literature to clarify how to use Microsoft Office 365 online tools. The article presents the use of Office 365 and SharePoint in the educational environment of Ivano-Frankivsk National Medical University and Zaporizhzhia State Medical University. Further highlighter the use of these software tools for higher education in academical environment.

A questionnaire has been developed which encompasses the training and course contents for students who use Office 365 and this has been summed up in order to analyse the results for above mentioned universities in Ivano-Frankivsk region. During the research a variety of methods has been used to analyse the Internet sources, types of studies and the experiences of students who use information for educational purposes. This has led of introduction of modern equivalent of distance learning or evening learning which corresponds to the use and implementation of distance learning included in the document order of MESU issued in April 25. 2013 № 466. By doing so online tools enhances not only students experiences and learning activities but also teachers and instructors capabilities of delivering, coordinating and continuous improve the educational cycle, and by this makes them a professional instructors.

The questionnaires were designed to survey all types of students in both part time and full-time studies. Further the questions were designed to target these two particular groups for a statistical comparison. This activity correlates to another monitoring tool which has been connected to student class activity and module grade achievements which has been reviewed by teachers and lecturers. Although materials and training is checked constantly by tutors in order to comply with the Ukrainian educational legislation. After analysing the results undertaken from the survey, a clear distinction has been made between full time students who are more likely to use Microsoft Office 365 and SharePoint in comparison to part time students.

**Keywords:** information and education environment, higher education institutions, virtual learning environment, Office 365.

**Introduction.** The development of education based on the principles of continuity, equal access, personal orientation forms a conceptually new model of education is «Open education». Therefore, the problem arises to use the appropriate modern educational technologies [1]. Information educational environment is an effective tool for creating an open educational environment as a separate institution of higher education and the education sector as a whole. Major suppliers and compet-

itors in the cloud services market right now are Microsoft and Google with Microsoft Office 365 and Google Apps.

**The purpose of the work.** Show ways of using the information-educational environment in the Department of information educational space of higher education.

Research methods: analysis was conducted on the basis of materials of scientific works of contemporary researchers in the field of cloud services, questionnaires, processing of online sources and modern literature to

clarify how to use Office 365. During the research were used such methods as analysis of theoretical sources on the use of Internet resources in educational process, study and generalization of experience of organization of independent work of students using information-educational environment.

Over the last two decades, the process of transition from traditional learning to learning based on computer technologies. This was possible mainly with the development of the Internet, which made possible to send the desired information to remote places of the world, pursue discussions with other users in the network, a video conferencing mode «online» and post information on Internet sites or on the cloud in SharePoint, making it available to everyone.

Modern information technologies give the opportunity to increase and improve the efficiency of the educational process. During the reform of education in institutions of higher education to the progressive, the concept of the virtual learning environment that involves the development of various technologies, including technologies of blended learning.

A virtual learning environment in Ukraine at the modern stage equivalent to full-time, evening, correspondence and external studies that is implemented mainly by distance learning technologies [1].

The concept of virtual education development in Ukraine has been decreed with the Ministry of education and science of Ukraine by V. G. Kremen, on 20th December of 2000 and decree of Ministry of education and science of Ukraine of 25.04. 2013. № 466 «On approving decree of distance education». A virtual learning environment is a way of education using computer and modern information technology that provides students the opportunity to study at a distance, no separation from work and travel abroad. Virtual learning environment has a number of advantages over other forms of training. Therefore, not leaving home or not leaving your seat, you can maintain regular contact with the teacher via telecommunication technologies, including video and to structure learning material presented in electronic form [2 – 4].

Some part of the virtual learning environment can be realized in the full-time form of education (passing exams, laboratory works, and practical works).

High professionalism, spirit of cooperation, self-determination and a high level of communication with colleagues – this is the main features of distance learning that includes pedagogical and information technologies.

Virtual education expands and updates the assignment of the teacher, make him a coach-consultant who shall coordinate the educational process, continually improve the courses that he teaches, and increase creativity and skills in accordance with the innovations and innovation. Improving the creative and intellectual potential of the person that acquires distance education, at the expense of self-organization, the pursuit of knowledge, the use of modern information and telecommunication technologies, the ability to make their own responsible decisions.

The quality of virtual education is not less efficient than full-time education, since the training of teaching methods attracted the best faculty and uses the latest

teaching materials; the introduction of specialized monitoring of the quality of virtual education to meet educational standards.

Information and communication technologies constantly change the structure of the processes of teaching and submission of materials for students and provide new opportunities to use modern platforms for learning. Therefore, computerization of educational process and the use of virtual forms of learning is one of the ways to improve its effectiveness. Modern technologies increase the flexibility of training that students can obtain access to knowledge regardless of time and geographical barriers. The development of information and communication technologies, rapid access to the latest information in various fields of human activities, as well as the opportunity to work collectively on common projects, despite the geographical location of the participants, with the help of innovative technologies that contribute to improving teaching and academic achievement of students. However, you need to remember that teachers need not only to formally submit the training material in electronic form but also to adapt it to perceive in a new way using technology.

E-learning and Microsoft Office 365 provides simple and quick access for students to learning materials: lectures, practical, laboratory and independent work.

Having worked for Microsoft cloud services and making a comparison between institutions of higher education to make up that database use one, but presenting information different.

**The results of the study.** We have processed the material presented on the website IFNMU and ZSMU, which set out the materials for students, pharmacists and students. They can be divided into the form of training courses and so on.

For analyzing, we chose the materials for a full-time form of education of IFNMU that include information for students according to the course and subject. Each subject or course, which is posted on the website, contains the following information: this guidance and the recommendations of independent extracurricular work with students, the thematic plan, the list of questions for the module tests, the calendar-themed plans, etc.

IFNMU site has also subsection «Repository», where methodological instructions, lectures, tests, monograph, and textbooks are published. Two independent sites have been developed for checking the level of students' knowledge:

1. The site a-test has been developed for checking knowledge level of:

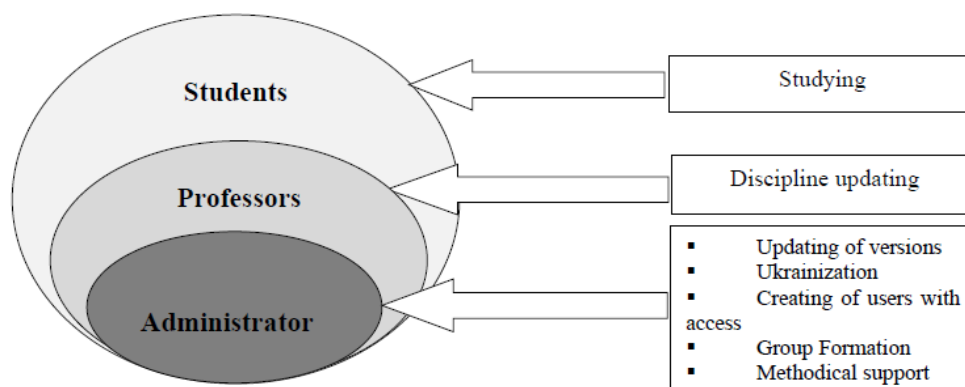
- 1.1. Medical Faculty
- 1.2. Dental Faculty
- 1.3. Pharmacy Faculty;
- 1.4. Physical therapy, ergotherapy;
- 1.5. Educational and scientific institute of postgraduate education;
- 1.6. College - Medical;
- 1.7. College - Nursing;
- 1.8. College - Orthopedic Dentistry.

This site has been made for checking student and trainee's knowledge namely for graded credit, training content modules, final module tests, exams; passing the first stage of USQE (Unified State Qualification Exam),

that consist of graded exam KROK 1 and Professional Foreign Language Exam, KROK 2, 3.

The site <http://tests.ifnmu.edu.ua> was made for preparing module test and rector's control preparing to «KROK».

According to the structure of the usage in HEI is also developing (Fig. 1) [5-6].



**Fig. 1. The structure of using platform Microsoft Office 365**

In the ZSMU provides important links on the library EDX, departments, sites, students and teachers, the Tempus website and the main website. On the website for teachers, students detail the following information, namely: clinical neurology, medicine and culture, student individual work in medical chemistry, instrumental methods of functional diagnostics, individual work in Management and Economics in Pharmacy for pharmacist-interns, individual student work in Physical chemistry, individual work in special training for pharmacist-interns, «Functional gastrointestinal disorder in children», individual student work in Biophysics course, the basis of sexology

and sexopathology, the usage of medicine (pharmaceuticals), pharmaceutical care, theoretical basis of organic synthesis, dietology, children obesity, clinical pharmacy, optional courses and etc. is covered on the website for teachers, students and trainees.

The questionnaire has been made for surveying students of full-time and part-time forms of education. The results of usage the virtual learning environment by students of the full-time and part-time form of education are presented due to the prepared strict questions (table 1 and table 2).

**Analysis results of using Office 365 by students of full-time education**

**Table 1**

HEI and form of education	Do you know what is cloud technologies		How often do you use Office 365				Does information published in Office 365 help you during the study		Do you understand how to use Office 365	
	Yes	No	Very often	Once a week	Not once	I don't know what is it	Yes	No	Yes	No
IFNMU full-time education	65	42	36	38	26	7	75	32	78	29
ZSMU full-time of education	39	22	19	19	12	11	35	26	39	22

After processing 188 questionnaires, we can conclude that students are presented material on websites promotes learning, namely: free access to information, applicants' education independent from teachers in obtaining certain information in the preparation of a pair of

modules, and it can be concluded that the students of daily form more knowledgeable in the use of virtual learning environments and study materials, which are the website (Fig. 3).

Table 2

Analysis results of using Office 365 by students of part-time education

HEI and form of education	Do you know what is cloud technologies		How often do you use Office 365				Does information published in Office 365 help you during the study		Do you understand how to use Office 365	
	Yes	No	Once a week	Very often	Not once	I don't know what is it	Yes	No	Yes	No
IFNMU part-time education	13	7	11	8	1	–	18	2	18	2

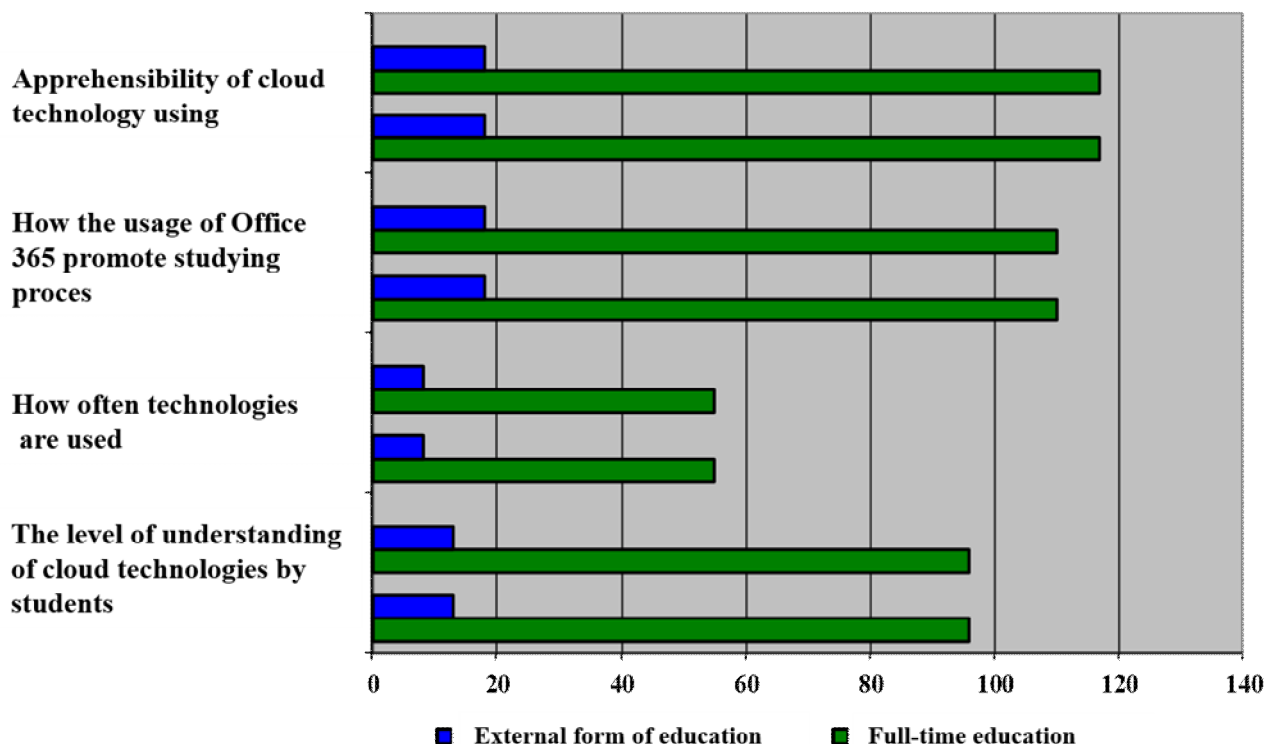


Fig. 3. Scheme positive student use virtual training programs

Tests on the subjects and passing of module control enables students and trainees to obtain the results and verify the effectiveness of the past and of the material processed and independently assess your level of knowledge of the learnt material. The presentation of the material should be checked constantly by a tutor who needs to make changes to the material intended for the students to follow the changes in Ukrainian legislation and reforms taking place currently in the state.

**Conclusions.** After analyzing the forms of education and knowledge of students in the use of the material presented to them in Microsoft Office 365 and SharePoint, of course, it can be argued that the students of day form of education are more likely to use the site to prepare for couples and testing even at home.

Nevertheless, as in every form of learning, in a virtual environment, there are some disadvantages, so overcoming them is possible thanks to the systematic practical application of this form, not only as a support

and as possibly equivalent to the classical forms of education. Given the above, we can predict some trends in the development of virtual education: to provide more information, and to convey to students information about Microsoft Office 365, SharePoint, terms of use, to increase the number of massive open online courses, develop programs for virtual learning, integrating ICT in learning process of virtual education, to combine the benefits of virtual learning from a classical form of education, to monitor the achievements of higher education institutions not only in Ukraine, but all over the world continue to use a useful experience.

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УДК 378.147+614.253.4

### ВИКОРИСТАННЯ ІНФОРМАЦІЙНО-ОСВІТНЬОГО СЕРЕДОВИЩА У ДИСТАНЦІЙНОМУ НАВЧАННІ СТУДЕНТІВ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ

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**Резюме.** Останнім часом все більшої популярності набуває дистанційна освіта: ще в 2014 році на сторінці Google найчастішим пошуковим питанням була повна вища освіта.

Розвиток освіти на основі принципів безперервності, рівного доступу, особистісної спрямованості формує концептуально нову модель освіти – «відкрити освіту». Тому виникає проблема використання відповідних сучасних освітніх технологій. Викорис-

тання інформаційно-освітнього середовища для навчання студентів є одним із основних упроваджень у заклади вищої освіти.

У статті представлено використання інформаційно-освітнього середовища під час навчання в ІФНМУ та ЗДМУ, коротко розкрито використання Microsoft Office 365 та SharePoint. Підведено підсумок у використанні інформаційно-освітнього середовища студентами ІФНМУ та ЗДМУ.

Проведення тестування з предметів та здача модульних контролів дає змогу студентам і курсантам отримати результати та перевірити ефективність пройденого і опрацьованого матеріалу та самостійно оцінити свій рівень знань із засвоєного матеріалу. Виклад матеріалу повинен постійно перевірятися викладачем, який мусить вносити зміни до матеріалу, призначеного для студентів, слідкувати за змінами в законодавстві України та реформами, що відбуваються в теперішній час у державі. Відповідно до наказу МОНУ від 25 квітня 2013 р. № 466 «Про затвердження указу про дистанційну освіту», віртуальна освіта розширює та оновлює завдання вчителя, робить його тренером-консультантом, який координує навчальний процес, постійно удосконалює курси, які він викладає, підвищує творчість та навички відповідно до нововведень та інновацій.

**Ключові слова:** інформаційно-освітнє середовище, заклади вищої освіти, віртуальні навчальні середовища, Office 365.

УДК 378.147+614.253.4

### ИСПОЛЬЗОВАНИЕ ИНФОРМАЦИОННО-ОБРАЗОВАТЕЛЬНОЙ СРЕДЫ В ДИСТАНЦИОННОМ ОБУЧЕНИИ СТУДЕНТОВ ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЙ

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**Резюме.** В последнее время все большую популярность приобретает дистанционное образование: еще в 2014 году на странице Google частым поисковым вопросом было высшее образование. Развитие образования на основе принципов непрерывности, равного доступа личностной направленности формирует концептуально новую модель образования – «открытое образование». Поэтому возникает проблема использования соответствующих современных образовательных технологий. Использование информационно-образовательной среды для обучения студентов является одним из основных внедрений в высших учебных заведениях.

В статье представлены использования информационно-образовательной среды при обучении в ИФНМУ и ЗГМУ, коротко раскрыто использование Microsoft Office 365 и SharePoint. Подведены итоги в использовании информационно-образовательной среды студентами ИФНМУ и ЗГМУ.

Проведение тестирования по предметам и сдача модульных контролей позволяет студентам и курсантам получить результаты и проверить эффективность пройденного и обработанного материала и самостоятельно оценить свой уровень знаний по усвоенному материалу. Изложение материала должно постоянно проверяться преподавателем, который должен вносить изменения в материал, предназначенный для студентов, следить за изменениями в законодательстве Украины и реформами, происходящими в настоящее время в государстве. В соответствии с приказом МОН от 25.05.2013 № 466 «Об утверждении указа о дистанционном образовании», виртуальное образование расширяет и обновляет задачу учителя, делает его тренером-консультантом, который координирует учебный процесс, постоянно совершенствует курсы, которые он преподает, повышает творчество и навыки в соответствии с нововведениями и инновациями.

**Ключевые слова:** информационно-образовательная среда, учреждения высшего образования, виртуальные учебные среды, Office 365.

Стаття надійшла в редакцію 12.09.2019 р.