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USE OF THE CISCO COLLABORATION MEETING ROOMS AT COLLABORATIVE EDUCATIONAL PROCESS OF HIGHER SCHOOL IN UKRAINE

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ВИКОРИСТАННЯ СЕРВІСУ CISCO COLLABORATION MEETING ROOM ПІД ЧАС КОЛАБОРАТИВНОГО НАВЧАННЯ В ОСВІТНЬОМУ ПРОЦЕСІ ВИЩОЇ ШКОЛИ УКРАЇНИ

Abstract. The system of views on conducting collaborative activities in the educational process has been reviewed in the article. The advantages of collaborative training have been emphasized. The opinions of scientists on the problem of conducting collaborative classes in qualitatively new conditions of the information society have been highlighted. Various electronic platforms have been reviewed which can be used during collaborative training in higher education institutions and their characteristics have been presented. The main advantages of the Cisco Collaboration Meeting Rooms have been highlighted. The process of organizing and conducting a collaborative session using the Cisco Collaboration Meeting Rooms service has been presented. The results of the survey of students of higher educational institutions of Ukraine have been given who were present at online meeting on the effectiveness of the use of the Cisco Collaboration Meeting Rooms service in the educational process.

Анотація. У статті розглянуто систему поглядів на проведення колаборативних занять в освітньому процесі. Виділено переваги колаборативного навчання. Висвітлено думки учених на проблему проведення колаборативних занять в якісно нових умовах інформаційного суспільства. Розглянуто різноманітні електронні платформи, які можуть використовуватися під час колаборативного навчання у закладах вищої освіти та наведені їх характеристики. Підкреслено основні переваги сервісу Cisco Collaboration Meeting Room. Представлено процес організації та проведення колаборативного заняття з використанням сервісу Cisco Collaboration Meeting Room. Наведено результати анкетування студентів вищих закладів освіти України, які були присутні на онлайн-зустрічі щодо ефективності використання сервісу Cisco Collaboration Meeting Room в освітньому процесі.

Keywords: collaborative training, Cisco Collaboration Meeting Rooms, educational process, higher educational institutions.

Ключові слова: колаборативне навчання, Cisco Collaboration Meeting Room, освітній процес, заклади вищої освіти.

Introduction

Modern trends in the development of the world economy, the expansion of international, cultural and economic ties of Ukraine with other countries, the objective needs of business relations with foreign partners cause changes in all spheres of public life and in the system of higher education in particular. In connection with this, there is a need to modernize the professional training of future professionals through the profound knowledge of the basics of professional interaction; the establishment of the relationship of general cultural, professional, foreign language education and future professional activities; search for new constructive ideas to solve the problem of optimization and intensification of content, forms and methods of training.

Modernization of education is determined by the ability to design and simulate an educational process in a higher educational institution using various information technologies.

New information and communication technologies lead to a new world, where there are virtually no barriers to the creation, exchange and dissemination of knowledge. This is mainly due to the development of the Internet and new technologies that minimize the number of links in the path of knowledge from their creation to the embodiment of innovation.

Higher education institutions face a new challenge – to integrate students into this new space, providing access to relevant knowledge and technologies that are in demand in their future professional activity. In turn, educational technologies that allow conducting classes in cooperation with enterprises and organizations, namely collaborative training, begin to be actively used. According to the semantic meaning, the word "collaboration" means working together to achieve a common goal. This is a recursive process, when actors are set to cooperate with desire and aspiration, build consensus in achieving the results of the task [6]. In the process of such training, learners gain knowledge through an active joint search for information, discussion and understanding of the subject matter. Recently, collaborative training received a new interpretation in the context of e-learning (computer-supported collaborative training). In this sense, collaborative training provides the use of web services.

In this case, the question of the right choice of a web service for colloquial training with the involvement of practitioners is topical.

Collaborative education has British roots, based on English teachers' work who has explored ways to help students acquire the experience of professionally oriented interaction by enhancing their activity in training [2].

The basis for collaborative training is the consensus which is formed on the cooperation of the members of the group, in contrast to the adversarial principle that is characteristic of traditional pedagogy. This is a recursive process, when actors with desire and aspiration are set to cooperate, to build consensus in achieving the results of the task. Participants should be characterized by sufficient communicative and initiative. The relationship between the members of the cooperative group is determined by such characteristics as: democracy, equality, autonomy. Collaborative training, as a form of interaction during the educational process, requires from teachers team-working, teachers and students, as well as discussing plans and outcomes with a teacher as a moderator.

There are some advantages of collaborative training:

- the work in a group will help to avoid the risk of making an incorrect decision;
- at least four people work on the task, which reduces the probability of loss of important details;
- when working in a group, the conditions are created for a more complete realization of the intellectual potential of each of its members;
- the group stimulates its members to mutual help, support each other, responsibility not only for themselves but for the whole group;
- work in the group elaborates patience, readiness to submit to common interests, to accept the opinion of others, to honestly discuss [8].

Nowadays rapid development of the latest information technologies and their integration into all spheres of human life, the important task of higher educational institutions is to carry out collaborative training in new conditions of the information society. This causes the problem of finding new forms, methods and means of training, which will ensure the effective use of information and communication technologies and take into account the interests of modern science.

The analysis of scientific and pedagogical information testifies that various aspects of the use and application of educational platforms in the educational process of higher education became the subject of scientific research of many scholars.

So Bykov, Mencken, Pasi, Higgins, Russell, Thomas devoted their works to the use of virtual training platforms. In particular, Mencken, Pasi, Russell and Thomas observe that the use of innovative educational technologies allows increasing the intensity and efficiency of the learning process; creating the conditions for self-education and distance education, thus permitting the transition to continuous education; in conjunction with telecommunication technologies; solving the problem of access to new sources of diverse information.

Some theoretical and practical aspects of the application of innovative educational technologies have been highlighted in the works of Buckley, Biggs, Durdle, Cross, Meijger, Motoshnik-Pitrik, Remsden, Hennefin, Hill and others.

Problems of using Internet services of cloud technologies and social networks as educational technology in distance training have been studied in the works of such scholars as Barnes, Jill, Berger, Buchanan, Lane, Nijholt, Liyoshi, Kumar, Armbrust, Fox, Griffith, Subramanian, Sultan and others.

The advantages and disadvantages of ICT as a means of learning a foreign language were analyzed by [5;10;13].

Such well-known scientists as T. Bondarenko and O. Ageev highlighted the experience of using Google's cloud-based search services, including the placement of methodological materials in the Google Drive Cloud Storage, remote testing of student achievements based on the use of the form of the Docs.Google service, the management of the training process events for using the cloud-based Google Calendar service, creating a Google-based remote education system and placing all the necessary distance learning materials on it [1].

According to T. Yaschuk, the most optimal software product for the development of automated testing systems for distance learning is the ASP.Net Web design environment based on the Visual Basic programming language that is part of the Microsoft Visual Studio package. This platform allows testing for pre-selected disciplines and semester training, which should be thematic or final control [12].

An important interactive training tool for students with limited abilities is the Cisco WebEx Meeting Center, which, through the use of multimedia and feedback, gives the opportunity to be present at training sessions at a distance [3].

Many researches are devoted to the innovative component of the e-learning environment. Spanish scientists have created web-based laboratories for distance education [10] which help illustrate natural phenomena and processes without value and complex equipment. It is interesting to use Internet resources for forecasting final student assessments [13]. Moodle and social networking projects are becoming more widespread. Authors [11] point out that Facebook is an interesting interactive tool for training. Students feel safer and more comfortable with feedback from peers, communication with colleagues in a relaxed atmosphere.

Despite the availability of scientific works devoted to the problem of the use of information technologies in the educational process, the issue of using web services during collaborative training in higher education institutions of Ukraine remains insufficiently investigated, which determines the topicality of our research.

The following tasks were investigated according to the set goal:

- to characterize the possible information web services for conducting collaborative classes;

- to analyze the possibilities of the Cisco Collaboration Meeting Rooms service in the course of an online meeting of a specialist with students;

- to conduct a questionnaire for students of online meeting and to analyze their results;

- to analyze the effectiveness of using the Cisco Collaboration Meeting Rooms service in the educational process of higher education institutions.

Methodology of Research

The following methods, such as the analysis of philosophical, psychological and pedagogical, scientific and technical literature on the problem of the implementation of information technologies in the educational process of higher education institutions were used to analyze the possibilities of information services Moodle, ATutor, Claroline, Ilias, Docebo, and Cisco Collaboration Meeting Rooms.

The presentation of the algorithm for conducting on-line meeting with a specialist-student practitioner during a collaborative session took place using the Cisco Collaboration Meeting Rooms service. To do this, they used free access to the WebEx service for 14 days. The questionnaire for students of higher educational establishments of Ukraine was carried out.

The questionnaire for students of higher educational establishments of Ukraine, namely: Academy of Recreational Technologies and Law and Lesia Ukrainka Eastern European National University were held on the basis of the Academy of recreational technologies and law. The results of the survey of the students' present at online meeting made conclusions about the effectiveness of using the Cisco Collaboration Meeting Rooms service in the educational process of high school.

Results of Research

For organization of collaborative training in higher educational establishments different technologies can be used for delivering information online through the use of ICT by those who teach and those who study. As an example, the training platform Moodle, this is intended to unite teachers, administrators and students in a safe, secure and integrated system for creating personalized learning environment.

The main characteristics of the system are: extended functionality, low cost of implementation and the availability of embedded development tools and educational content editing, integration of various educational materials for different purposes and support of the international standard SCORM, modularity, comfort and simplicity of use, availability moodle.org website, which acts as a centralized source of information, discussions and collaboration among Moodle users.

A web-based learning management system ATutor is also widely known. ATutor is a Web-based Learning Management System (LMS). The software product is easy to install, to set up, and to maintain system administrators; teachers (instructors) can easily create and transfer teaching materials and run their online courses. As the system is modular, that is, it consists of separate functional units – modules, and it is opened for the modernization and expansion of functionality. ATutor system extends on the basis of GNU General Public License (GPL), which allows using, modifying and supplement the program.

Claroline is a training system that greatly simplifies the deployment of online classroom or the organization of student work in the Internet. Use of this app helps teachers to create a course description, to publish multimedia documents, to prepare online exercises, to administrate the wiki and forum, to give home tasks, to send messages, to revise statistics of students' courses using. The system has a very laconic, convenient, user-friendly interface.

The ILIAS platform supports content management functions, online exercises, questionnaire, chat, forum. The advantage of this system is its standard and also complex identification set up. It has a strong test module, the ability to limit access to the materials by the tasks' results, the export of the material for viewing on a local machine. The system has a concise interface, quite clear to users of all groups – the administrator, teacher and student.

Docebo is a multipurpose environment that is even hard to attribute to a specific system. This is modern educational system that supports SCORM2004 and content management system with its frameworks and functions and a system of electronic commerce. It is configured to support multiple training models (self, mixed, collaborative, social training).

The listed software products are basically free, easy to install and to setup. However, their installation and support requires system administrators and qualified users.

Collaboration Meeting Rooms, as a new solution in WebEx's portfolio services, can be an effective platform for collaborative training. WebEx offers the best on-market tools for organizing audio and video conferences with screen sharing functions and chat. WebEx services can solve such tasks as: training and brainstorming with the participation of territorially distributed colleagues, clients and partners; conducting webinars; distance demonstration of new software solutions of any complexity; the support for users who are at distance from the place of conducting classes, workshops; the creation of high-grade educational videos due to the possibility of recording everything that is happening during the classes, workshops. At the same time, all participants in the training process are always provided with such convenient and practical tools as: sharing the desktop, keyboard and mouse, MS Office documents and other applications; chat and instant messaging; web session record; voting; annotation tools.

The Collaboration Meeting Rooms service allows conducting collaborative training using not only personal computers, mobile devices, landline telephones, but also with video terminals and software clients that support the SIP - setup. Working with the Collaboration Meeting Rooms, you can easily and quickly renew documents, presentations, work on shared content with participants in the training process, regardless of their placement. This service allows collaborative training with invitees from the whole world, using a variety of devices. It reduces business travel expenses, since you can interact with colleagues without leaving your workplace; provides access for all participants in the training process to the class at any time. Work and document changes are carried out in real time.

The advantages of Collaboration Meeting Rooms are: large scale (up to 25 SIP terminals and software clients, up to 500 video points of the WebEx Meeting Center, up to 500 WebEx Meeting Center audio telephony points); the use of landline telephones (telephony is supported by the company's own forces); the integration with Lync, Jabber; the efficient use of resources through collaborative tools; the uninterrupted work of the Collaboration Meeting Rooms at the expense of 16 date centers around the world; the own technical support for WebEx / CMR clients 24x7; the exchange of information with territorially distributed teams; high definition of audio and video; secure data transfer using AES 12bit encryption; free pilot with CTI engineer support throughout the test cycle and no travel costs.

An important advantage of the Cisco Collaboration Meeting Rooms service is that it provides an opportunity for a collaborative activity with a guest in a personal, always accessible virtual meeting place quickly at any time. This platform allows creating instant appointments, when necessary, to add a third person to a conversation or to start a new meeting. It should be noted that such service is payable, but its affordable value is justified by good results and allows future specialists to be present at a specialist's lesson of their specialty.

To demonstrate the effectiveness of using the Cisco Collaboration Meeting Rooms service, the specialist of computer academy "SHAG" in Ukraine, Alexander Linchuk, was invited to conduct a pilot lesson. During the time of conducting the lesson, he was at his workplace. The algorithm of such a collaborative lesson was as follows. Firstly, it was necessary to schedule a meeting. On the "Upcoming Meeting" tab, we chose the "Schedule Meeting" panel. In this tab we put the subject of the lesson, for example "Conducting practical lesson with a specialist of the computer academy "SHAG" Alexander Lynchuk", date and time of its conducting, duration and possible options for solving the issues. After that, the e-mail address of the teacher who organized the class was introduced (Fig. 1).
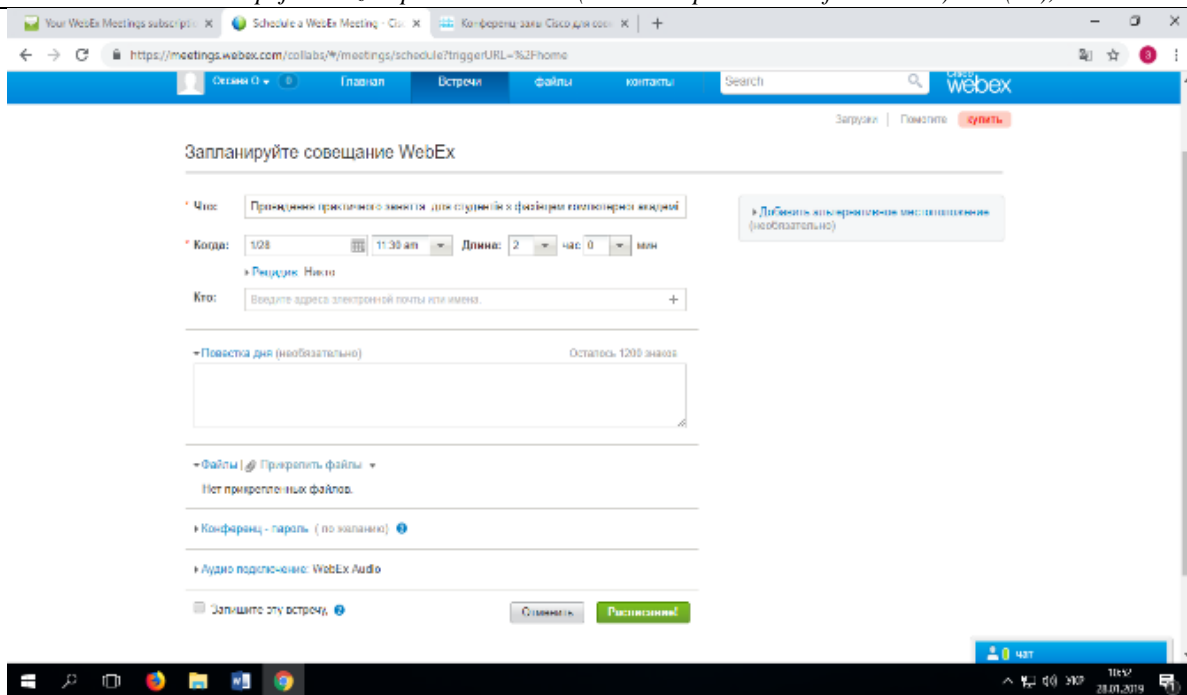
Figure 1. A view of the window in which the planning of the meeting is carried out

After the meeting was scheduled, the participants of the meeting were invited. Among those invited in our case were Alexander Linchuk and students of higher education institutions in Ukraine, including students who could not be present in the classroom at that moment at valid reasons and students with limited abilities. To do this, in the "Who's invited" panel, their e-mail addresses were entered.

After conducting these operations, the training meeting was considered planned.

Attendees of the educational process were received messages at the e-mails about the meeting and the right time they joined it (Fig. 2).
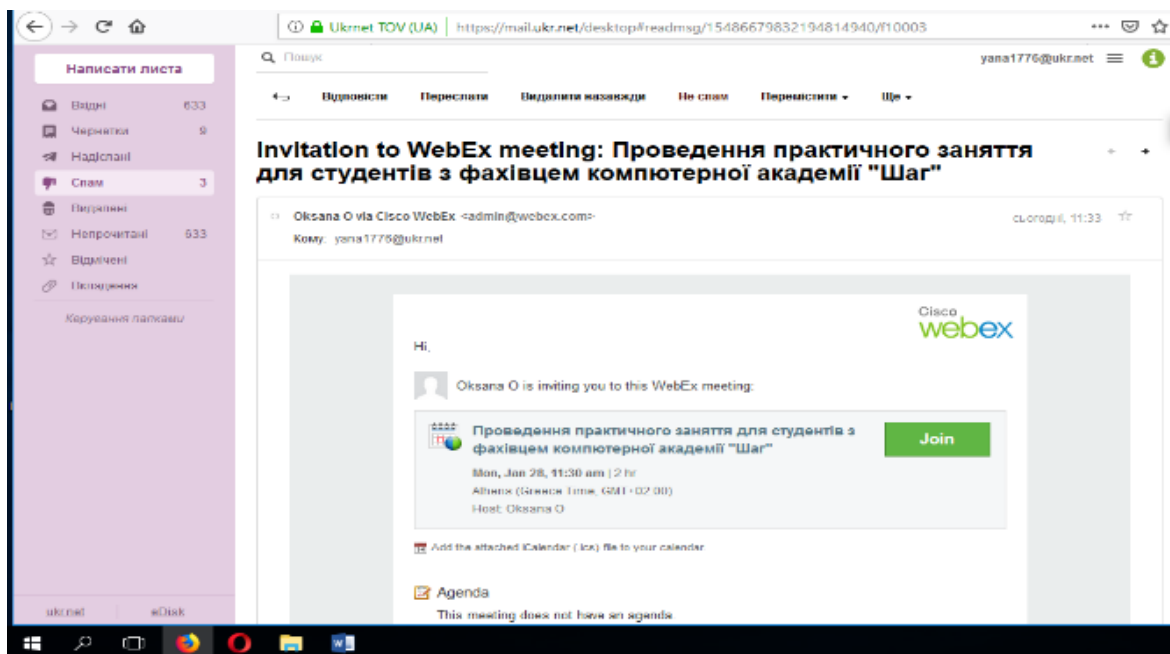

Figure 2. View of the window of the invited participant in the training lesson

At the scheduled time, all the participants joined the educational process and after that there was an educational process.

All participants of the educational process were provided with reliable and clear sound transmission in telephone mode or through VoIP setup. The sponsor of the educational process was given the opportunity to record lessons and to store those records for reviewing and using them with a network-based recording function. In addition, the sponsor of the educational process has the ability to broadcast it in streaming mode during an interactive lesson. The recording reflects all aspects of the training session, including sound, data, videos, and comments.

After the lesson, we conducted a questionnaire for the students from Academy of Recreational Technologies and Law and Lesia Ukrainka Eastern European National University, who attended online meeting as to the effectiveness of using the Collaboration Meeting Rooms service in the educational process.

The results of the conducted questionnaire indicate that among 42 students, 38 respondents consider effective the use of the Collaboration Meeting Rooms in the educational process of higher education institutions that is, 90.5%; 3 students – ineffective that is, 7,1%; 1 respondent – ineffective, that is, 2,4% (Fig. 3).
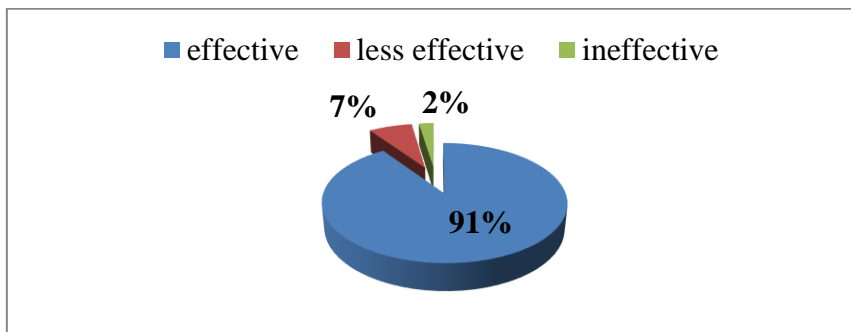
Figure 3. Distribution of students' answers on the effectiveness of using the Collaboration Meeting Rooms service in the educational process of higher education institutions (%)

Discussion

Having analyzed the electronic services of the modern Internet, namely: Moodle, ATutor, Claroline, Ilias, Doceb, it can be grounded that the described components are implemented by powerful corporations and are basically free, easy to install and setup. However, their installation and support requires system administrators and qualified users, requiring additional financial costs from the establishment.

Cisco products are the most relevant to the requirements for such services, due to a wide range of features and availability (Figure 1-5). Nowadays, Cisco annually has more than 6 billion minutes of online meetings. In 2018, more than 1000 options were added to Cisco.

An important feature of the Cisco Collaboration Meeting Rooms service during the scheduling of the meeting is that it allows marking not only the theme of a collaborative lesson but also the key points of discussion. After the frenzied rhythm of the working day, a specialist who conducts lesson often forgets about its topic. Therefore, by sending an invitation to all the participants of the meeting, the topic of the lesson can specify the key points of the discussion, and all participants will come to the lesson with a clear idea of the topic and possible solving options.

The Cisco Collaboration Meeting Rooms service provides the opportunity for meeting participants at any place, at any time, and from any device. It allows participants in the training process to attend classes even while on the road, in the park. To do this, simply download the WebEX application in advance.

The positive point of the Cisco Collaboration Meeting Rooms service is that it reduces user engagement in routine processes, since it owns tools for recording jobs and sharing one another with edited files. In order not to forget any ideas and points of the decision of the set tasks, at the beginning of the online meeting you need to use the "Record" button (Fig. 1). This will help to make the correct lesson protocol, view the meeting later or share it with anyone who skipped it.

The reasonability of using the Cisco Collaboration Meeting Rooms service in the educational process is testified by students' questioning who was present at online meeting (Figure 3). Almost all interviewed students (90.5%), consider the Cisco Collaboration Meeting Rooms to be effective for conducting training sessions.

Conclusions

1. Collaborative training is characterized by participants' activity in the educational process. They are ready with the desire and aspirations to cooperate, to build consensus in achieving the results of the task.

2. Conducting training sessions in higher education institutions with the involvement of practitioners suggests the use of web services.

3. Among the collaborative training services, Moodle, ATutor, Claroline, Ilias, Docebo, Cisco Collaboration Meeting Rooms have to be underlined.

4. The Cisco Collaboration Meeting Rooms is an effective platform for colaborative activities in higher education institutions. The main advantages of which are large-scale, the possibility of using fixed phones; integration with Lync, Jabber; efficient use of resources through collaborative tools; own technical customer support; exchange of information with territorially distributed teams; high definition of audio and video; secure data transfer using AES 12bit encryption; lack of travel expenses.

5. The effectiveness of using the Cisco Collaboration Meeting Rooms service is evidenced by the by students' questioning of higher educational institutions of Ukraine who took part in a probation session with the involvement of a specialist-practitioner.

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IMPLEMENTATION OF THE PROFESSIONAL TRAINING MODEL FOR FUTURE PRIMARY SCHOOL TEACHERS, BASED ON CLOUD TECHNOLOGIES

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РЕАЛІЗАЦІЯ МОДЕЛІ ПРОФЕСІЙНОЇ ПІДГОТОВКИ МАЙБУТНІХ УЧИТЕЛІВ ПОЧАТКОВОЇ ШКОЛИ, ЩО БАЗУЄТЬСЯ НА ХМАРНИХ ТЕХНОЛОГІЯХ

Summary. The article deals with article discusses the possibilities and practical application of cloud technologies in the educational process. The practical implementation of the model of professional training of future primary school teachers with the use of cloud technologies in the process of studying special disciplines is considered. The questions of the feasibility of using such technologies to implement this model are explored. The application of G Suite for Education Platform for studying special disciplines is shown. The organization of interaction of participants of the educational process by means of cloud technologies is considered.

Анотація. У статті розглядаються можливості та практичне застосування хмарних технологій у освітньому процесі. Розглянута практична реалізація моделі професійної підготовки майбутніх учителів початкової школи із застосуванням хмарних технологій у процесі вивчення фахових дисциплін. Розкриваються питання доцільності застосування таких технологій для реалізації даної моделі. Наведене застосування платформи G Suite for Education при вивченні фахових дисциплін. Розглянута організація взаємодії учасників освітнього процесу засобами хмарних технологій.

Keywords: Cloud Technologies, Cloud Services, G Suite for Education, Google Drive, Google Clasroom, Google Sites, Gmail, Google Calendar, Google+ Hangouts.