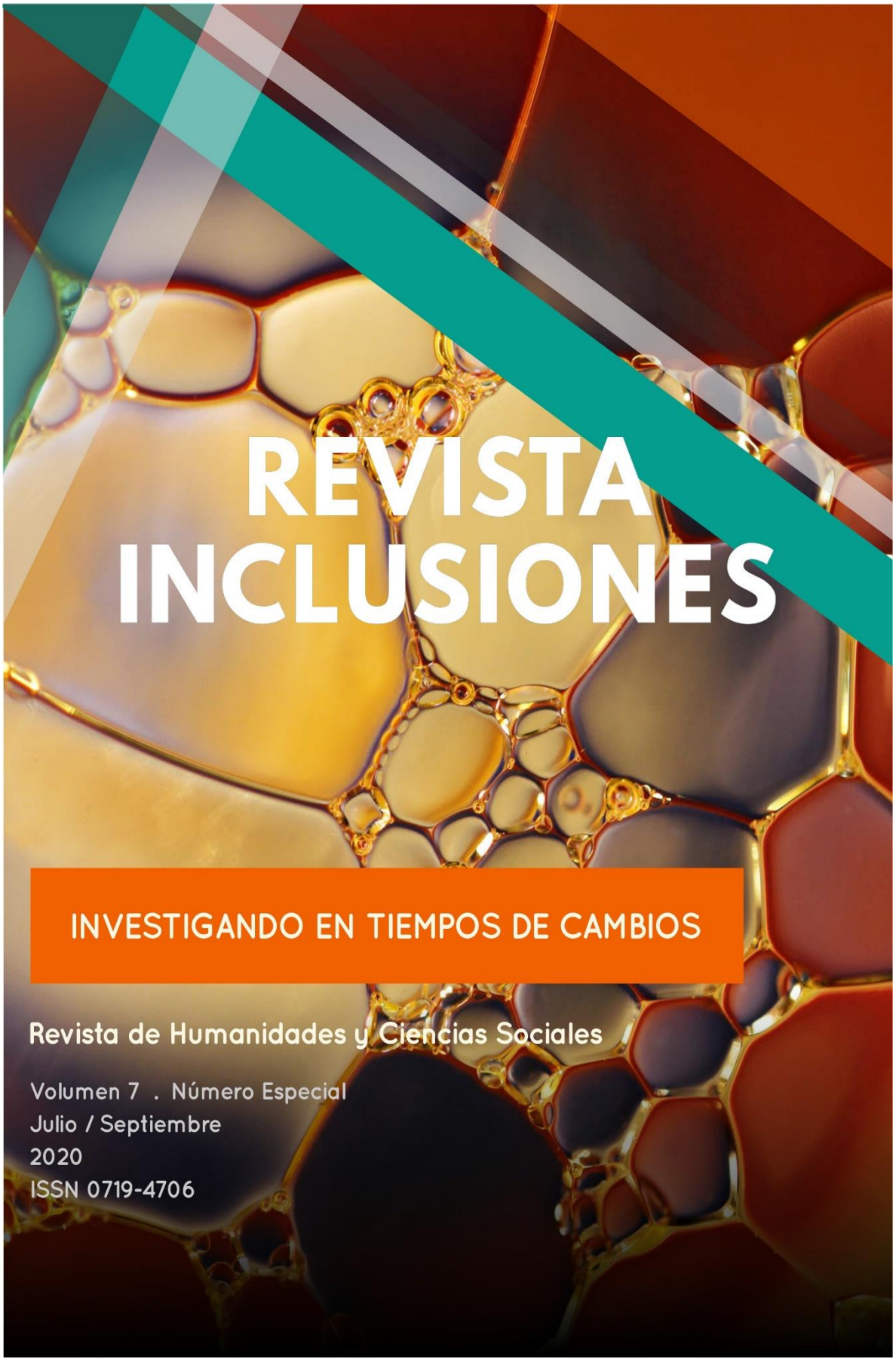

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THE USE OF OPEN PLATFORMS FOR THE IMPLEMENTATION OF ONLINE LEARNING: THE SEARCH FOR OPTIMAL FORMS

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Abstract

Today, technical prerequisites have been created in Russia for the introduction and widespread use of distance learning, and Internet resources are becoming increasingly popular among young people because their advantages include easy accessibility, a free-of-charge basis, and ease of use. Also, new opportunities are opening up for universities that have started implementing so-called distance education systems based on modern platforms. The article defines the features of using open platforms for implementing various forms of on-line training; the theoretical analysis of the main concepts of the articulated topic of the article has been carried out.

Keywords

Distance learning – Information and communication technologies – Open platform

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Introduction

The advantages of distance learning are obvious both for students (availability of materials at any time, the objectivity of knowledge assessment due to independence from the teacher, etc.)[1] and for teachers (easy registration of students often with the possibility of their personalization and differentiation of access rights to educational materials, convenient and fast creation of online courses, ease of knowledge control through automated test results, etc.)[2].

Research comparing distance learning with traditional contact learning has shown that distance learning can be as effective as traditional learning when using methods and technologies that provide interaction between students, feedback between the teacher and the student, and the student's activity at all stages of cognitive activity[3]. Today, the Internet is actively replacing other forms of distance learning. This is primarily due to the development of technologies that allow for cheaper and more convenient means to simulate any educational model. The main arguments of online learning are the independence of the listener from the geographical location of educational institutions, the state of their health, employment and an opportunity for the student to participate in the educational process: to determine the rate and sequence of learning material, etc.[4]

At the same time, the modern education system is increasingly acquiring the qualities of openness: the extension of the concept of Open Source software to educational materials leads to the emergence of open, freely distributed training courses[5].

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The recommendations of the Council of Europe, the Cape Town Declaration of Open Education ("Opening the Future of Open Educational Resources") 2007 and the decisions of the UNESCO World Conference on Higher Education in 2009 emphasize that the formation of competencies of the 21st century is possible with the integrated use of open and distance education and ICT tools which create conditions for mobility and wide access to quality education (in particular, based on open educational resources)[6].

The openness of education is primarily related to the free access of all learning subjects to ICT tools, through which there is free access to educational materials and free access to education in general[7]. ICT of online training should provide open access not only to traditional educational materials in the form of teaching aids, textbooks, etc., but also to educational laboratory equipment – both directly, through remote control, and indirectly, through the use of virtual laboratories[8].

It is noted in the "Magna Charta Universitatum" that openness of education presumes a careful attitude to the achievements of each education system[9], which include, first of all, its following features: a) training both in mobile groups and in groups with a fixed composition; b) continuity and graduation, not only in the process of studying at a university but also in the system "school – college – university"; c) direct reflection of the curriculum in the training schedule[10].

At the same time, the problem of choosing a suitable distance learning platform, as well as platforms that will be most effective in the implementation of online learning activities, becomes of particular importance. The importance of this problem is evidenced by an increasing number of publications devoted to various aspects of the problem of distance learning, including reviews of various systems and platforms for distance learning[11].

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Analysis of modern ICT tools for open education has shown that the most universal among them are open learning management systems, common properties of which are: the openness of the software code and development process; hardware and software mobility; support for pedagogical technologies of electronics, distance and mobile learning[12].

The use of open learning management systems creates conditions for giving the quality of continuity to the learning process through the technological integration of classroom and extracurricular work in the combined learning system[13].

However, a review of the functional characteristics of open learning management platforms shows that none of them fully take into account these features. The openness of these systems makes it possible to modify them in order to take into account the peculiarities of the national education system, but making appropriate changes may require a radical restructuring of the core of these systems[14].

The purpose of the article is to conduct a comparative analysis of the main functions and features of modern open distance learning platforms to determine their didactic potential when teaching humanities to students.

The purpose of the research is to solve the following tasks: to give a clear definition of the key concepts of the research; to outline the range of the most popular modern open distance learning platforms; to compare the features and main functions of selected open distance learning platforms when teaching students of humanities.

Research hypothesis: the use of open distance learning platforms will increase the effectiveness of training for future humanities specialists, while the teacher is a key figure in the distance learning process, the choice of a specific open distance learning platform depends on it.

Based on the results of the study, it can be concluded that the goal set in the study was achieved.

Methods

An approximate set of theoretical and empirical research methods was defined to achieve the research goal:

- theoretical methods (analysis, synthesis, comparison, generalization) – for the study of scientific literature on the state of the research problem;

framework, heuristic, and lens: Tools for understanding lecturers' adoption of OER", Open Praxis Open Education Consortium Global Conference Vol: 9 num 2 (2017): 151–171.

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- empirical methods (expert survey) – to perform a comparative analysis of the main functions and features of modern open distance learning platforms and determine their didactic potential.

Results

Let us start by defining key concepts in order to avoid terminological confusion in the future.

Based on the expert survey, the following concepts were formulated.

A distance learning platform, in its most general form, can be defined as software that makes it possible to implement pedagogical and information technologies of distance learning by automating the creation and acquisition of knowledge in the distance learning system, as well as by providing the tools necessary for the three main users – the teacher, the student, and the administrator. Platforms for online learning events are Internet resources that provide users with services for implementing their online communication for educational purposes.

Distance learning platforms can be commercial or open (free of charge). In particular, according to experts, commercial platforms have several advantages, namely: functionality, security, reliability, a proper level of user support, regular updates and new versions, the ability to configure, and the availability of technical support.

In our research, we will focus on open platforms for organizing distance learning, implemented on the basis of Open Source solutions. These include ATutor, Claroline, Dokeos, LAMS, Sakai, Moodle, ILIAS, Google Classroom, and others.

The experts noted (85% of respondents) that the undoubted advantages of such platforms are that there is no need to pay for their installation and further use, a significant geographical distribution around the world, and the ability to make changes.

The experts (75% of respondents) attributed the following shortcomings: the difficulty in maintenance and technical support and sometimes complete lack of the mentioned support. However, the advantages outweigh the disadvantages, and in general, distance learning platforms based on Open Source solutions help to effectively organize the learning process.

Given the limited scope of our article and the increasing number of open platforms for distance learning, it is impossible to cover all of them, so the natural step is to consider the most promising and convenient solutions available at the moment, which the experts attributed to Moodle, Google Classroom, and Sakai (Table 1).

At the same time, the experts noted that these platforms can be effectively used when teaching full-time students of humanities, because the system can be used to place tasks for independent work of students, as well as to receive tasks completed by students in electronic form with a fixed date of delivery and conclude and conduct various tests, which can significantly optimize the work of the teacher, in particular by removing unnecessary work on checking the test answers, which is advisable to do automatically.

No.	Platform	Advantages	Basic possibilities
1	Moodle	- one of the most popular in the world, used in more than 100 countries, and the number of its users reaches more than 18 million people; - freely downloaded from the Internet; - allows creating high-quality distance courses, its capabilities are not inferior to the functionality of many commercial systems; - ability to adapt to the needs of a specific educational project and add new services; - the main emphasis is on the interaction between students and the wide use of discussion; - simple, convenient and efficient interface; - the design has a modular structure that can be easily modified, and language packages that can be connected allow achieving full localization.	- for teachers: registration of students with the possibility of their personalization and differentiation of rights to access educational materials, creating and conducting online courses, maintaining training reports and statistics, monitoring and evaluating the level of knowledge, conducting surveys and creating survey materials, ability to integrate with other information systems. - for students: ability to edit your accounts, add photos and change numerous personal details, get familiar with reminders of events in the course, upload completed tasks, view the results of tests and courses, communicate with the teacher via personal messages, form, and chat, constant availability of educational materials and tools for communication and testing.
2	Google Classroom	- integrated with Google Docs, Drive, Gmail, and is a part of the specialized educational package G Suite for Education along with the calendar, email, and other programs; - time-tested services that are combined in one program; - large user audience; - its functionality, despite the relatively short time of the platform's existence, is not inferior to existing market leaders.	- for teachers: organization of communication with students, quickly prepare tasks and conduct classes, the ability to use the option of sharing the document, or the option of automatically creating a copy for each student, ability to see who is completing the task for each student, providing feedback and the ability to survey students in real-time; - for students: interactive access to tasks and materials that appear in folders on Google Drive, as well as comments in test task files; direct communication, both with the teacher and with classmates.
3	Sakai	- users can change and manage their passwords; - administrators can create an unlimited number of users; - it is used by several major universities in the world, including Stanford University, the University of Michigan, and others.	- for teachers: settings for rotating the appearance of tasks, messages, or new course materials based on fixed dates or the activity of course participants, adding materials for a group or individual student, the creation of a group, even outside of courses, viewing student grades, creation of various tests and individual tasks,

			setting the time when students can access the tests, and limiting the time they take; - for students: self-registration for the course, the creation of personal folders in which they can upload files and into which teachers can download materials, use of search on topics of forums and documents, repeated test execution, getting a score based on test results immediately after they are completed.

Table 1
Characteristics of open distance learning platforms
Note: compiled on the basis of the expert survey

Having considered the platforms that have a significant potential for organizing various forms of distance learning, it is possible to turn to open platforms that can be successfully used for online learning events in the format of webinars, online training, online presentations, online training, online meetings, online conferences and effectively complement the system of distance education. These platforms for online learning activities can be installed on the university's server or placed on the Internet on the servers of outsourcing companies.

Based on an expert survey, let us provide a brief overview of the aforementioned platforms (Table 2).

No.	Platform	Characteristics	%*
1	Adobe Connect	Web conferences, webinars, PowerPoint presentations, collaboration with desktop applications, and video streaming. It is possible to use both a web service that does not require software installation or as a desktop client (AIR).	90%
2	WebEx	High-speed web conferences, support for audio conferencing (VoIP, regular phone), integration with MSOffice, and messengers. A WebEx player is required.	87.5%
3	COMDI	Web conferences and webinars based on the SaaS model with an audience size of up to 1,500 visitors.	85%
4	Firmbook	Free webinar service. It is possible to create paid webinars, but in this case, it is necessary to pay a percentage of the service.	82.5%
	OnWebinar	Conducting video conferences, webinars, video broadcasts, and surveys. The functionality contains chat (general and personal), common resources (drawing board, presentations, desktop display, files, and links).	
	OpenMeetings	Video conferencing, desktop sharing, sharing files on the whiteboard, uploading MSOffice documents and then converting them for collaboration.	
	Teamtalk	Conducting video conferences, webinars, and communicating with other users in real-time using both audio and video communication.	

Table 2
Characteristics of open platforms for online learning events
Note: compiled on the basis of the expert survey; * – percentage of expert mentions

These platforms are the most popular, according to the experts, and can be used for lectures, seminars, practical and laboratory classes, and consultations for correspondence

(distance) education. All software products are approximately the same in terms of their functionality, but free of charge (openness) is one of the important criteria when choosing a platform for conducting these classes.

Discussion

According to one of the experts interviewed, "the leading characteristic of distance learning is the indirect interaction of those who study with those who teach, that is, the use of active forms of interaction". At the same time, the majority of experts (90%) noted that the main types of training, including distance learning, are: lectures, seminars, practical classes, laboratory classes, consultations, and others. The peculiarity of using these types of classes is that they are conducted with students (students, listeners) remotely in synchronous or asynchronous mode. Getting training materials, communication between subjects of distance learning during training sessions conducted remotely is provided by the transmission of video, audio, graphic, and text information in synchronous or asynchronous mode.

In other words, active forms of communication and exchange of information between subjects of the educational process are being introduced in the education system today: seminars, training, round tables, conferences, and so on. At the same time, the experts noted that modern Internet technologies allow using the above-mentioned forms of communication between participants located in different parts of the world. Their communication is provided by computer technique with the use of the channels of the Internet and related software tools.

A separate interest in discussing the results of the study was caused by the technology of creating online courses using open distance education platforms.

Based on the expert discussion, it can be concluded that the first stage of creating online course materials is the development of a work program, in accordance with the hours allocated for the course by the university's educational department. At the same time, it should be taken into account that this is a distance education, and some lectures can be recorded in video format, and some of the material can be uploaded online. According to one of the respondents, "this combination will help you become more familiar with the theoretical material of the course and have a conscious understanding of the discipline". This aspect should be taken into account when developing a thematic plan in the work program.

After the approval of the work program, the panel of authors begins to develop a draft script for the online course or its expanded plan. The experts specified that the course authors should plan how much time is needed to develop individual topics, prepare video materials, and multimedia support; time is planned for technical processing and filling in the material of the created course on the selected platform. Each of the processes must have a responsible author assigned to it. Also, it is planned to spend time on testing the course and how often the course material is updated with new information.

The experts reminded that distance learning has all the components inherent in the educational process – goals, content, methods, organizational forms, and means of learning. This is all reflected in the next section – the draft scenario, which provides the structure and annotation for each section of the online course; reveals the purpose of training, the list of skills, the necessary technical support, a glossary and the structure of teaching theoretical

material for each topic. Additionally, a list of drawings, diagrams, tables, and video material is attached. It is planned to control the knowledge of students and tasks that need to be completed by students of the online course. At the end of the draft scenario, there is a list of recommended literature, links to the collection of electronic documents of famous Russian libraries.

The next step is to create an online course scenario. It is based on a draft course scenario, which is filled with ready-made theoretical material, links to video lectures, other multimedia, and links to tasks for evaluating the knowledge of course participants. The course scenario is a completed project that begins a new stage-technical filling of the online course with the material.

The person responsible for the technical implementation of the course (course administrator) creates the course on the selected platform; creates a team of course co-authors and empowers them; creates the structure of the course and adjusts the start time of registration for the course and the release time of each section and topic.

The experts reminded that the use of fonts, properly balanced distribution of text and graphic material, the size of text fragments – all this should be taken into account when creating theoretical blocks of the course. Authors should know the general components of media literacy before the technical content of the blocks. Each author fills the assigned topic with theoretical and multimedia materials from the online course scenario.

It is necessary to use the capabilities of Microsoft Office 365 to maximize the exchange of information and visualization between the tutor (teacher) and students. After receiving the password, the student logs in to their Microsoft account, and Office 365 provides the student with a complete set of tools for working with documents and communicating online.

Thus, the developed online course is ready before the registration of students for the course, and students have a full set of tools for proper training and assimilation of the course materials.

Conclusion

The article delineates the concepts of "distance learning platform" and "platforms for online learning events" and highlights promising resources for building an effective distance learning system.

A detailed analysis of three dedicated distance learning platforms (Moodle, Google Classroom, Sakai) showed that all of them are suitable for developing a training course, because they have all the functions necessary to ensure effective learning, and, therefore, the choice of one of them will depend entirely on the personal preferences of each teacher. The process of creating an online course includes such stages as developing a work program (thematic plan), a draft script for an online course (extended course plan), an online course script (filling in the material for the draft script), and technical transfer of the script to the appropriate platform. Platforms for online learning events can be used for lectures, seminars, practical and laboratory classes, and consultations for distance learning. All software products are approximately the same in terms of their functionality, but free of charge (openness) is one of the important criteria when choosing a platform for conducting these classes.

Thus, the hypothesis of the study was confirmed that the use of open distance learning platforms will increase the effectiveness of training for future humanities specialists, while the teacher is a key figure in the distance learning process, the choice of a specific open distance learning platform depends on it.

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