Distance Learning and Learning Management Systems

O'rinov Nodirbek Toxirjonovich

Teacher, Department of Information Technology, Andijan State University

Djuraboyev Maqsudbek Karimbeko'g'li

Teacher, Department of Computer Engineering, Andijan State University

Abstract: Recently, technology has developed rapidly, and it has become necessary to use technology in the field of education. In this regard, there was a need to reorganize the education sector. The needs of both students and teachers are also changing. Teachers should prepare their lecture notes in the most efficient way and as soon as possible. For students, it was necessary to remove the concept of time and space and encourage them to study independently. On the other hand, educational institutions strive to provide the highest level of education with the lowest level of investment. LMS seems to be on top of the latest technological advances that will meet all the requirements of teachers and students. The author has prepared this article to provide general information about LMS systems, as well as describe all aspects of LMS systems, such as their general structure, types, and so on. In particular, the very popular Moodle LMS system is described in more detail.

Keywords: learning management systems, e-learning; Moodle, interactive learning environment.

1. Introduction

These days, we can clearly see rapid changes and developments in technology (Cavus, 2009). The development of technology forces people and, consequently, institutions to realize the need to become part of the modern era. It can also force them to reorganize if necessary. In particular, a new era has begun with the use of the Internet for instant access to any knowledge. With the rapid development of knowledge technologies, new methods of knowledge generation, knowledge representation, and ways to acquire knowledge have emerged. Technological developments have also influenced teacher training methods, as technology opens up different perspectives on the concept of education (Uzunboylu, Bicen&Cavus, 2011). Currently, the Internet is preferred in education because of the technological opportunities it provides and its potential to reach a much larger mass of people. The education system is perhaps at the top of the systems affected by technological change, and is undergoing fundamental changes:

➢ Learning needs are growing and becoming more diverse, and at the same time it is becoming a service that people can look for throughout their lives.

➢ Students demand more flexible, personalized, and easily accessible teaching methods.

➢ Students don't want to depend on a particular learning method.

➢ There is a need to teach the student at a gallop instead of the classic teacher at a gallop.

➢ The teacher has become a person who guides students in how to achieve knowledge, instead of giving knowledge.

➢ Students are demanding to learn more and more at the time and place they choose, and at a time that is convenient for them learning rates.

Educational technologies offer many benefits to students and teachers, helping them learn using interactive and collaborative methods (Concannon, Flynn & Campbell, 2005). In particular, the Internet currently offers teachers a variety of tools and application packages that can be used at all stages of learning, and such tools increase the efficiency and effectiveness of training.

2. Learning management systems

The distance learning model is the formation of a system of mandatory delivery of an educational subject or subject (Moore & Kearsley, 2004). LMS provides a virtual platform for e-learning, providing management, student monitoring, delivery, learning tracking, testing, communication, enrollment process, and scheduling. West, Waddoups and Graham (2007) indicated that LMS include a number of features that save time and make them more convenient for instructors. The LMS provides a platform for a virtual learning environment, and some common features of the LMS are:

➢ guiding students in the direction of education,

➢ Providing knowledge to students in various forms, such as word, word, power-point, flash, video, audio, etc.,

➢ Students ' ability to make interactive applications,

➢ Assessment of students through homework and exams,

➢ Delivering results to students,

➢ Communication between student and student and student and teacher (for example, discussion boards, chat, email, etc.),

➢ Interaction between the content of a student's lesson,

➢ Registration process (Cavus& Momani, 2009),

➢ planning,

➢ Class management (Woods, Baker & Hopper, 2004),

➢ record keeping for students, teachers and the system (i.e. logs),

➢ registration for exams and record keeping of results,

➢ collect homework (Ioannou and Hannafin, 2008),

➢ Maintaining valuations (Morgan, 2003; Malikowski, Thompson & Theis, 2006),

➢ Reporting (Cavus& Momani, 2009),

➢ Student tracking (Harrington, Staffo& Wright, 2006),

➢ tracking student attendance records,

➢ students see their own learning time,

➢ distribution of e-learning content online, and

➢ exchange of knowledge and ideas.

There are many LMS systems on the market that can be obtained for free (for example, Moodle, Claroline, ATutor, etc.) or for a fee (for example, Blackboard, WebCT, and many others) (Cavus, 2010). Moodle seems to be one of the most efficient and popular LMS among

the free and open source LMS systems.

3. Moodle

The Modular Object-oriented Dynamic Learning Environment (Moodle) is one of the open source LMS systems that can compete with commercially available LMS systems. A recent survey and study found that Moodle is the most efficient and most commonly used open source LMS system currently available (Hotrum, Ludwig &Baggaley, 2005; Winter, 2006; Cavus& Momani, 2009).

3.1. Moodle's most powerful Features Moodle

➢ This is an open source learning management system.

➢ It is easy to install both locally and on the network.

➢ It allows teachers to create online lessons.

➢ It has a very broad user base. As a result, new versions are announced very often.

➢ To date, Moodle is available in 75 different languages. You can use all languages or only one language in a given LMS session.

➢ Moodle is used in more than 215 countries around the world, and in itsown website (Moodle, 2012).

➢ There is no need to pay any licensing fees for using Moodle. It is distributed for free and open source under the General Public License (GPL). An institution that uses Moodle should only spend time (and money) creating lessons.

➢ Moodle was developed in accordance with the Social Network approach. Constructionist approach Pedagogy. This is one of the features that distinguishes Moodle from other LMS systems.

➢ Teachers can easily upload their lesson notes prepared in various formats (for example, SCORM, flash, MP3, RSS, etc.)PowerPoint, PDF, Word).

➢ Moodle can compete with commercial packages (for example, Blackboard, WebCT) and has a large share in the education sector.

➢ Used by very well-known establishments.

➢ Moodle can be easily used if you have an account with a web service provider.

➢ There is no need to write even one line of the program to use Moodle.

➢ New features are constantly added, and these modifications are distributed free of charge (for example, a blog or module).

➢ Since Moodle is an open source package, security issues are resolved in a shorter time frame compared to commercial LMS packages.

➢ Since Moodle is free, it has a large user base that can test the system.

➢ Moodle is a user-driven system.

As you can see from the list above, Moodle can easily be used by any distance learning institution, without any fee.

3.2. Properties of the Moodle learning Management system Moodle that teachers are interested in

➢ Moodle is based on and supports the pedagogy of social constructivism.

- ➢ It can be used for face-to-face (synchronous learning) training, as well as for fully online learning.

- ➢ The interface requires a simple, efficient, compatible, low-tech Internet search engine (for example, Internet Explorer, Firefox, etc.).

- ➢ It sends lesson lists to the Internet through a service provider. Courses can be indexed using Google search engine as a guest.

- ➢ The lesson can be divided into several categories, and these categories can then be searched as needed. In Moodle LMS, you can upload and monitor several thousand lessons.

- ➢ The WYSIWYG HTML editor can be used to edit various elements, such as resources, forums, etc.

- ➢ Multimedia products such as video, Flash, Power Point, Excel, etc. can be used with Moodle.

Moodle includes very extensive modules and blocks. All created modules and blocks are free of charge. Some of these modules are loaded automatically during system installation and startup. Since Moodle is an open source LMS system and is supported by many universities and user groups, new modules are constantly being created and added to the system, and these modules are distributed to users for free. The created modules are available on the Moodle website (http://www.moodle.org) and can be used free of charge by all interested parties. The required module is simply downloaded from the Moodle website to the user's server computer and then used.

3.3. Some training tasks and modules in Moodle

Lesson learned: They can be accessed over the Internet, and they can be saved and reused in later years. All activities related to the lesson can be shown in a weekly format, and the student can easily see and follow all activities that will take place in the semester.

Exam: The most important activity in Moodle is the designed exam module. This module makes it easy to set up multiple-choice exams, as well as quickly evaluate such exams. In this way, missing items in subjects taught using theory can be instantly recognized, and the questions that students have encountered the most difficulty with can be studied, and the corresponding subjects can be asked again. In the exam module, you can ask different types of questions. For example, multiple choice, when only one answer is correct, multiple choice with more than one correct answer, filling in blanks, paired answers, and questions like "true-false". In addition, students can enter answers to math questions, and the answers can be accepted as correct if they fall within a given area. Exams can be held not only during lecture hours, but also during extracurricular hours. The system can change the order of questions and answers randomly. Thus, in the context of a repeated exam, you can exclude the answer by memorizing the order of questions. Students can instantly recognize their grades, see correct answers, and then instantly find out where they made mistakes. These exams can also be turned into a learning activity. Because of this, students are given the opportunity to repeat their answers if their first answer turns out to be incorrect. As a result, students can view questions that they gave incorrect answers to. If desired, you can set a percentage coefficient so that for each incorrect answer of a student, his or her score is reduced by the selected coefficient.

Assignment: Students are asked questions based on the theory given to them in the classroom, using destination module. Students who have completed the applications can download the results files (.doc, .exl, .cpp, .java, etc.) in Moodle. Tasks submitted by students

can be marked either automatically by the system or by the teacher. Students can send feedback on their assignments to let them know how well they did. It is also possible to automatically send students their results by email. Task completion dates can be limited by several criteria. You can easily find out all the activities that a student completed during the semester, such as what assignments were completed, what grades were given, and so on.

Survey: Using the survey module of the Moodle system, you can quickly and efficiently find out students ' opinions on certain topics. For example, the way the lecture was conducted, the difficulty of assignments, quizzes and questions, as well as ideas that students had, can be converted into a survey, and then this survey can become a Moodle survey module, where all students can participate and express their opinions. This will greatly help the teacher as he or she will have feedback about the overall level and opinions of the class.

3.4. Some communication modules in Moodle

Some communication modules in Moodle: forum, wiki, email, blog, chat, etc.

Forum Module: Using the forum module in Moodle, students can ask their questions in a pre-prepared forum. The fact that students can use these forms during and outside of class to ask questions and get answers allows them to expand their learning activities beyond normal lesson hours. In addition, the forum module can rate posts. If desired, these grades can be converted into student grades, resulting in a more efficient and better learning environment. All messages sent by all students can be easily tracked throughout the semester. Students who are too shy to ask questions in class can easily use the forms to ask their questions. All questions and answers sent to these forums can be collected and then combined into a frequently asked questions category, which will then become an invaluable source of knowledge.

Wiki Module: A wiki is a collection of knowledge pages that anyone can access and modify as they see fit. If the teacher prepares notes for the course using the Wiki, students can add or edit these notes as they see fit. This makes it easy and very fast to prepare lecture notes, review them, and correct any errors. All modifications made by students can be tracked, and if desired, all these modifications can be deleted. The pages that will be used for each topic can be classified according to different keywords. This way, you can link to Wiki pages when this keyword occurs anywhere on the course's website. Students can also be asked to form groups and work on wiki pages on specific topics. As a result, it is easy to establish joint training of students in a team. Pages prepared by a group of students can be changed by other students if desired. Thus, any errors can be easily and quickly eliminated, and a knowledge environment is created that can be used in the following years.

3.5. Distribution of authority in Moodle

Different people in Moodle can have different powers and responsibilities:

a) System administrator: Prepares the server (installs PHP, Appach, MySQL). Downloads Moodle and installs it on the server, adds teachers, opens lessons; assigns teacher(s) to the lesson(s), adds students to the system, can have a backup copy of the system, can restore the system if necessary, can try to solve problems related to the system operation.

b) Teacher: uploads lesson programs to the system, uploads assignments to the system, prepares exams, adds offline sources, prepares communication tools (such as chat, forum, blog), adds a dictionary to the system, can back up your own lesson, can monitor your students ' progress and actions from logs.

c) Student: log in using your user name and password can gain access to the content of the lesson, preparing assignments and loads them in the system, exams, checks the results, can

see the results of their exams, to communicate with friends or with a teacher, you may download the document offline on your computer or print them; can see their own level of achievement in the classroom.

d) Guest: can perform an internal search using the restricted areas assigned to it.

4. Conclusion

As a result of the daily increase in the number of students in the field of education or the need and importance of acquiring knowledge when necessary, there has been a need to use new technologies. Recently, LMS has taken a place in the forefront of developing and changing technologies. Therefore, educational institutions, teachers, and students should have practical knowledge of LMS systems and use them before it's too late. This stage has already begun in developed countries and continues to expand day by day. According to the author, it is obvious that if we want to reach the level of developed countries, we must start using LMS systems as soon as possible.

References

1. Cavus, N. (2010). The evaluation of Learning Management Systems using an artificial intelligence fuzzy logic algorithm. Advances in Engineering Software, 41(2), 248-254.

2. Cavus, N., & Momani, A. M. (2009). Computer aided evaluation of learning management systems. Procedia-Social and Behavioural Sciences, 1(1), 426-430.

3. Concannon, F., Flynn, A., & Campbell, M. (2005). What campus-based students think about the quality and benefits of e-learning. British Journal of Educational Technology, 36(3), 501-512.

4. Harrington, T., Staffo, M., & Wright, V. H. (2006). Faculty uses of and attitudes toward a course management system in improving instruction.Journal of Interactive Online Learning, 5(2) 178-191.

5. Hotrum, M., Ludwig, B., &Baggaley, J. (2005). Open source software: fully featured vs. the devil you know. International Review of Research in Open & Distance Learning, 6(1), 1492-3831.

6. Ioannou, A., &Hannafin, R. (2008). Deficiencies of course management systems: Do students care? Quarterly Review of Distance Education, 9(4), 415-425.

7. Malikowski, R. S., Thompson, M. E., & Theis, J. G. (2006). External factors associated with adopting a CMS in resident collage courses. Internet and Higher Education, 9(3), 163-174.

8. Moodle (2012). Moodle Statistics. Retrieved June 25, 2012 from http://moodle.org/stats

9. Morgan, G. (2003). Faculty use of course management systems in the University of Wisconsin System. EDUCAUSE Center for Applied Research Report. Retrieved June 19, 2009 from http://www.educause.edu/LibraryDetailPage/666?ID=ERS0302

10. Uzunboylu, H., Bicen, H. &Cavus, N. (2011). Efficient virtual learning environment: Case study of Web 2.0 tools and Windows Live Spaces.Computers& Education, 56, 720-726.

11. West, R. E., Waddoups, G., & Graham, C. R. (2007). Understanding the experiences of instructors as they adopt a course management system.Educational Technology Research and Development, 55(1), 1-26.

12. Winter, M. (2006). Learning management systems for the workplace. Retrieved June 19, 2009 from http://www.tanz.ac.nz/pdf/LMS_Final.pdf

13. Woods, R., Baker, J. D., & Hopper, D. (2004). Hybrid structures: Faculty use and perception of web-based courseware as a supplement to face-to-face instruction. Internet and Higher Education, 7, 281-297.