Leveraging Open Source Moodle Learning Management System in B-Schools Education: A Case Study

Abstract

Information and communication technology (ICT) is the fulcrum of new revolution in the field of education. As ICT continues to transform the higher education, many educational institutions around the world are adopting it to maximize the potential of digital technologies in teaching and learning. This paper studies the potential of leveraging Moodle learning management system (LMS) in teaching and learning of higher education.

Keywords: Virtual learning environment, Moodle, Online learning, E-learning, technology assisted learning, Open Source Software

Introduction

Many research studies reveal that the traditional pedagogy through books and figures seems not enough. With emergence of information and communication technology (ICT), the traditional pedagogical methods and learning process have been supplemented with virtual learning environments or electronic learning (e-learning) systems; and opened up a new avenue for open learning which is more social and participatory in nature. In today's education, e-learning is the fastest moving trends to facilitate interactive instructional environments to students and increase their learning potentials in both online and traditional learning. Since there is a vast pedagogical benefits of e-learning, which is peer based self-directed, is used as a tool for supporting a style of learning by various institutions around the world. Various proprietary as well as open source teaching and learning applications such as Blackboard, WebCT, Moodle, Sakai, ATutor etc. are adopted to provide 'anytime''anywhere' earning experience. For the developing economics, it is not economically feasible to buy the proprietary e-learning software, which are very costly to buy their license and annual maintenance cost (AMC).

To leapfrog the technological advancement in education, open source software (OSS) offers aptly suited solution for the educational institutions, who do not want to buy

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proprietary software. There are many e-learning software or learning management systems (LMS), which are available under open source license having all major functions that is needed to facilitate virtual learning or e-learning platform. There are no significant differences in functions and usability between open source and proprietary LMSs. Moodle, robust e-learning software, is used by many universities and educational institutes around the world to develop professional and interactive learning environment. Most of premier educational institutions in India like Indian Institute of Management, Indian Institute of Technology, National Institute of Technology, central universities and other institute of repute have started using Moodle because it is inexpensive tool for creating professional educational environment. Jaipuria Institute of Management Jaipur has successfully implemented open source Moodle to combine classroom lessons with e-learning.

Aims and Objectives of the Study

· To present a collection of learning methods using information communication technology for the students;

· To design and develop a virtual learning environment (VLE) using OSS;

· To facilitate interactive instructional learning environment to the students;

· To improve the learning potential of students in face-to-face as well as in e-learning;

· To facilitate students 'anytime' 'anywhere' learning environment, where they can access course contents and learning materials.

Research Methodology

This paper explores the potential of Moodle OSS; and how it can be implemented in Jaipuria Institute of Management, Jaipur, thereby facilitating blending learning to students. Moodle was downloaded from official website of Moodle[1]; and installed in a Windows Server. It was customized and theme of the home page personalized. The course contents of PGDM 2012-14 and PGDM 2013-15 were created. To facilitate the students with hands-on training on how to participate in a quiz, submit assignment, collaboration and check grade and attendance, training programme was conducted. Besides, training programme for the faculties were also conducted, so that they would have hands-on how to create courses, upload teaching notes, administer online quiz and manage their courses.

What is e-learning?

E-learning has been a buzz word in the academic parlance and it is widely acceptable and popular since last decade. There are many definition of e-learning given by both vendors and academicians. But the definition given by academicians is authoritative and authentic. The American Society for Training and Development (ASTD), the world biggest professional body for learning and development defined "e-learning as anything that is delivered, enabled or mediated by information communication technology exclusively for learning purpose". It comprises of computer-based learning, online learning, web-based learning and. Further, e-learning is collection of learning methods using

information communication technology, thereby enabling distribute and enhance learning (Fee, 2009).

Jaipuria Institute of Management, Jaipur

Jaipuria Institute of Management, Jaipur was established in 2006 under the aegis Jaipurias family. It educates graduates in management; and offers a well crafted two years full time Post Graduate Diploma in Management (PGDM), approved by AICTE. The institute follows a trimester system of study and the entire two years programme divided into six trimesters. It follows continuous evaluation system to assess the learning outcomes of students; and each courses are assessed the learning of students by conducting quizzes, assignments, case analysis on regular basis, in addition to holding mid-term and end-term examinations.

Moodle and Development of E-learning Platform

Modular Object-Oriented Dynamic Learning Environment abbreviated as Moodle, is a learning management systems (LMSs) to create personalized learning environment. Developed by Martin Dougiamas, it is widely popular LMS across most universities to develop interactive educational environment. It is robust and integrated system, which is user-friendly and easily customizable OSS to facilitate e-learning platform. Though, it was originally developed for Linux Operating System, now it is available in various Windows and Macs OSS platform. Moodle LMS supports plethora of interactive features.

Table 1: Important Features of Moodle

Features	Details
Assignment	Students can submit assignment online, and teachers can grade and give comments on assignments.
Attendance	Allows taking online attendance of students.
Chats	Facilitates real-time discussion with students and faculty alike.
Forums	Allows students/teachers to have online discussions on a given topics.
Glossary	Allows creating/maintaining a list of definitions of the terms
Lesson	Allows delivering content in bendable ways
Quiz	Allows teachers to administer online quiz with automatic evaluation.
Survey	Allows creating survey instrument to garner data from students.
Wikis	Allows creating a collection of web pages with permission to add/edit content.
Feedback	Allows creating/conducting surveys to get feedback
Link to resources	It facilitates linking to other resources available online/locally (linking to youtube video, flicker, old question papers, learning resources etc.).

Course/e-learning management system is implemented in the Institute using Moodle to facilitate the course instructors to organize the academic programme, create quality courses, enable effective delivery of teaching and manage the learning outcomes of

students. Students can access e-learning platform of Jaipuria Jaipur using any of the devices i.e. computers/laptops/Ipad/smart phone and participate in a courses.

Create Categories and Courses

Using unique user ID and password, Jaipuria e-learning platform can be accessed. After logging in to the e-learning platform, the faculty and administrator having the requisite privilege can create course categories and courses by clicking 'turn editing on' option, which is available at the right corner of the home page of e-learning platform.

Figure 1: Home Page of Jaipuria E-learning Platform

Moodle supports various course format i.e. social format, weekly format, topic format, Learning Activity Management System (LAMS), Sharable Content Object Reference Model (SCORN). Since Jaipuria Jaipur offers two years PGDM programme only, two course categories i.e. PGDM 2012-2014 and PGDM 2013-2015 have been created. Each course category is further divided into sub-categories according to their Trimesters (Figure 1 & 2).
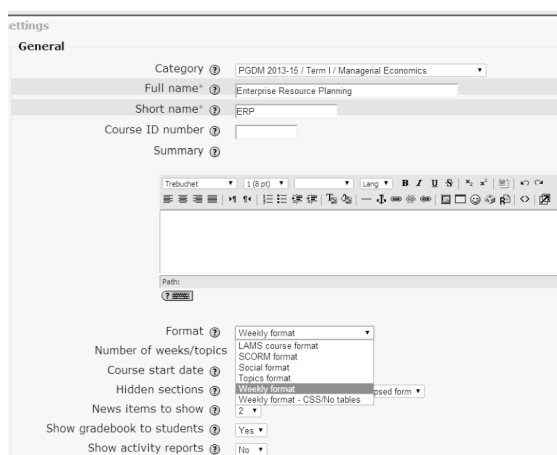
Figure 2: Creating Courses in E-learning Platform

Adding Teachers and Enrolling Students

Administrator of the e-learning platform can add teachers and enroll students. All the faculties of Jaipuria Jaipur were added and assigned the role of a teacher in their respective courses. User ID of all students of PGDM 2012-2014 and PGDM 2013-15 batches were created; and were enrolled into e-learning platform. Orientation classes were conducted to make them aware about working of the e-learning portal.

Figure 3: Adding Teachers and Enrolling Students in E-learning Platform

Uploading Course Materials

Learning resources that the faculty use to support learning of student i.e. a file or website link can be added in the e-learning platform. Course materials and learning resources i.e. course outline, old question papers, PPTs and reading materials pertinent to their studies/ assignment have been uploaded in the e-learning platform, so that students can access it 24*7.

Adding Quiz

Creating quiz in Moodle is quite easy and flexible. With the help of rich text HTML editor, quiz can be created easily. Since quiz is an important activity to evaluate the students' learning, the Institute conducts quizzes on regular basis. Earlier the institute used to conduct quiz on paper. With implementation of Moodle, the Institute is now conducting quiz online, which is more convenient and easy. Consequently, the Institute saves a lot of papers and toners.

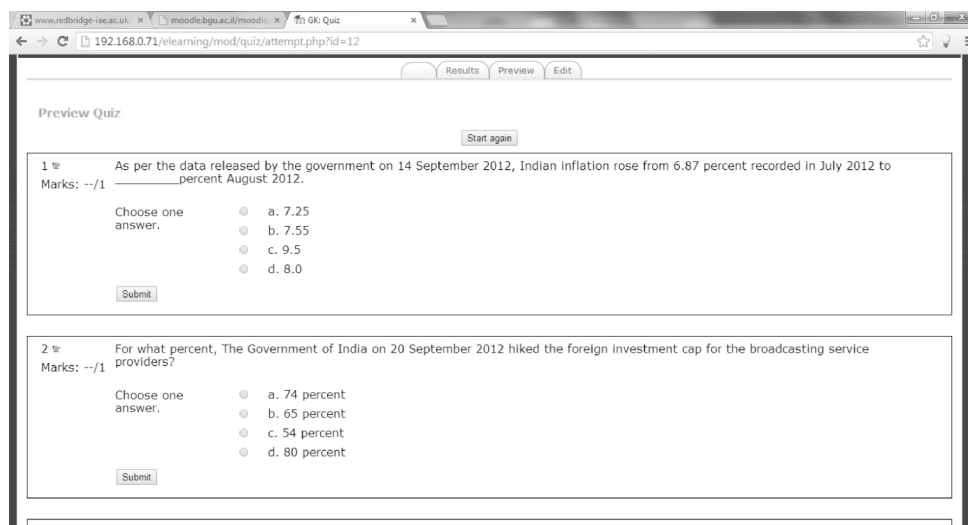Figure 4: Adding quiz in E-learning Platform

Figure 5: Quiz Questions

Adding Audio/Video Resources

Jaipuria e-learning platform allows the faculty to upload audio/ video and other multimedia into the course page. Using iFrame code, educational video and audio resources available in www.youtube.com or other websites can be added in the Moodle platform.

Conclusion

Since e-learning offers immense pedagogical benefits, it is used as a tool for supporting a style of learning by various institutions around the world. In India many institutes/ universities of repute have started implementing e-learning to supplement the traditional pedagogy. Further, e-learning fosters social interaction and collaboration among students; consequently, it improves their learning skills. Due to skyrocketing cost proprietary e-learning software, Moodle OSS is the best suited option to develop a virtual learning environment. Adopting and successfully implementation of Moodle LMS in Jaipuria Institute of Management is a prototypical framework, and it can be adopted in other business schools as well higher education institutions to facilitate web-based, computer-assisted learning. Through adoption of Moodle LMS, the students, teachers and other agencies will be benefiting a lot to experience collaborative learning.

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