Abstract
Library and information professionals always play a crucial role to make the users informed and knowledgeable and to support the teaching, research and institutional programmes. Today Librarians are experimenting new methodology of learning with organizational learning that is an attempt to cope with the rapid change which is a need of today's academic environment. Libraries have long been an educational means equal in importance to instructional aids used in classroom. Digital technologies are revolutionizing the practices of teaching and learning at scientific and research institutes all around the world. With the emergence of Internet and web technologies, these institutions are passing through the new innovations which are increasingly exploring the potential use of e-learning technologies to cater to the ever-growing demands of flexible teaching. The basic idea of this paper is to develop a framework for a learner-centered as opposed to a course-centered Learning Management System (LMS) for the academic institutions. The paper describes the approach to develop such LMS system by integrating Web 2.0 applications into one place, which enables users to create and join communities of practice, engage in reflective learning and collaborate with peers online. This paper examines and studies the features of the open source learning management software such as Moodle.

Keywords: Learning Management System, Moodle, E-learning.

Introduction
Change is the law of nature. The library or institution, which does not change with the passage of time, always lags behind and goes into oblivion after some time. To meet the challenges of today's information exchange and sharing activities driven by the internet and World Wide Web, more and more academic administrators, faculties, librarians and other professionals worldwide are seeking new and innovative ways of enhancing and integrating academic information applications, databases, programmers, resources, services and systems in diverse student-centered and service-oriented academic learning environments. To foster and promote practical skills for critical thinking, decision making, and problem-solving, they need to teach students necessary skills to dynamically and interactively access, locate, synthesize, store, and transform multi-format information in interactive academic learning scenarios.

For an effective and efficient access to learning materials, the concepts and methodologies of technology-based learning are gaining importance with e-learning becoming a crucial resource for institutions. The advantages of e-learning as opposed to traditional learning are instantly evident with e-learning making education independent of time and location (Argyris and Schon, 1978). More importantly, it opens up fresh possibilities for implementing pedagogical innovations in an environment where students are expected to function as active, independent, self-reflected and collaborative participants. In addition, e-learning assists teachers in the management of online courses, allowing them to create, add, modify, customize, and reuse digital content and learning objects.

Technology facilitates learning and knowledge sharing in a big way. The LMS is a tool that handles all aspects of the learning process. Other tools that enable knowledge sharing are 'blogs' and 'Wikis'. Wikis are socially mediated tools that are rich in potential for communication, information sharing, and collaborative endeavors. Blogs and Wikis (user-edited, collaborative websites) have provided a democratic, accessible community of users responsible for its own content, supported by an open model of knowledge creation and communication (Ramos and Piper, 2006). By supporting users who want to shape and share their content, while allowing other users access to the tools and means to modify the original contents, blogs and Wikis continue to grow in utility. The collaborative design of blogs (via the comments feature) and Wikis (through the direct editing of content by users) allows...
a process of bottom up editing, where the expertise is not in the hands of a few, but rather emerges from the combined efforts of the many.

E-Learning and Academic Institution
Today ICT has developed so speedily that it is viable to access the classes and resources from anywhere in 24/7 environment and any number of times. This also results in a new trend in academic sector of learning and teaching pedagogy. The exemplary scenario is unfolded by virtual classrooms that facilitate the collaboration and integration of discussion forums, chat rooms, quiz management, lecture notes and assignment repositories, subscription services, relevant web links, e-mail distribution lists and desktop video-conferencing into a conventional lecturer-based system. The concept of learning adapted in new mode of teaching and learning in academic institution is more interactive and multidimensional, there is a change from lecturer-centered to student-centered/learner-centered approach in the mode of teaching. Learners are inclined to participate more actively and contribute to their learning. They need to be more disciplined and have greater self-management, and they must know what to learn, how to learn, and have the ability to evaluate their own learning. The successful implementation of an e-learning environment depends on the development of the appropriate infrastructure and the support environment (Iahad and Dafoulas, 2004). Such an environment must ensure the relevance and quality of the Content, Assessment, Course Management and Communication. The environment must not only consider technology-related aspects but also pedagogical aspects of e-learning.

What is Learning Management System (LMS)?
The learning management system is the infrastructure that delivers and manages instructional content, identifies and assesses individual and organizational learning or training goals, tracks the progress towards meeting those goals, and collects and presents data for supervising the learning process of an organization as a whole (Szabo & Flesher, 2002).

Learning management systems allow students to view multimedia lectures, communicate with their teachers and each others in learning communities, download course materials, take online quizzes and submit homework and classwork assignments. In addition, these systems are used for improving the internal faculty organization. The intricacies of these complex systems are resolved by including a lot of modules in their implementation. For example, teachers can create lessons with specialized lesson tools, or they can create them in web-ready HTML form with multimedia data. In such a scenario, both users and teachers can become confused as to which are the proper modules to use for accomplishing the intended goals. If the system has 15 modules, it is using all 15 modules appropriate for any given situation. If the teacher uses every available feature, will he and the students have enough time to concentrate on the process of learning. Even if only selected modules are used, the variety of courses offered at a university might create a different learning environment for each course.

Major Benefits of a LMS
The major benefit of using an LMS includes:

- Control over registered users
- Provides a secure environment for learning.
- Learner centric, not only course centric.
- Communities can capture and retain shared knowledge / learning.
- Comprehensive access controls – content can be made as private or as private.
- Provide opportunity for institutions to maintain links with former students and connect with future students

Blogs and Wikis vs. LMSs
The big question concerning many an educational institute is whether they need a comprehensive learning management system (LMS) or whether they are better of with license fee and popular Web 2.0 tools, like blogs, Wikis. LMS’s are designed to handle everything. The reason to choose LMS is that, people have to be persuaded to become active users of online learning environments. If a blog is used in one course and a Wiki in another, and for some course you have to use a separate calendar application, these tools (or web sites) do not get to be used. But if you have an environment, where you have to log in to return some assignments, check out your a calendar, take part in a reflective conversation or even discussions on the next student party, you tend to visit all your online classes during the same log-in.

There are many other reasons to use LMS over the Blog and Wiki is like Easy to use, user management, publishing content/ content management, security and privacy etc. handling is much easier through LMS.

Moodle an Integrated LMS
Moodle is an e-learning tool that can offer simple and safe solutions to any institution, no matter how large or small, be it an individual teacher or a huge university. Moodle facilitates online collaborations, which can be teacher-to-student, teacher-to-teacher or student-to-student.

With Moodle, we can create learning spaces called ‘courses’. Each course has its own set of resources and activities, called ‘modules’ in Moodle, and can be customized in terms of organization and appearance. We can password-protect courses so that only enrolled students or teachers have access. We can
also time limit access to courses. Once a course is set up, then we can fill it with activities and texts, including audio and video. Students are also free to access those texts whenever it suits them. Moodle works particularly well when combined with face-to-face learning – also known as blended learning. Here are some examples of what we can do:

- Enhance the teaching with online supplementary activities
- Provide students with links to websites relevant to a course.
- Upload a series of learning activities created in some authoring software.
- Ask students to reflect on their learning through a blog or a journal.
- Work in teams to co-author a document using a Wiki.
- Set up a list of things for students to do before coming to a lesson.

Why Choose Moodle?
Moodle has been around since 1999. It is used by tens of thousands of institutions for online learning worldwide. Moodle’s biggest draw is that it allows organizing a wide variety of resources and activities in one place along with learner tracking and individual learning pathways. Moodle is open-source. This means that the code is freely available. As a result, it is free to download, there is global support for it from enthusiasts and professionals and it is customizable.

Table 1 shows a comparative study of moodle with Blackboard, Angel, eCollage and Desire 2 Learn.

Framework of Learning Management System with the Help of Moodle
The Library and Information Professional can play a vital role in designing and organizing of resources for the LMS. The work that can do includes: Categorize lesson plans and learning objects at the departmental level, categorize documents by department level in order to create a searchable structures that use descriptions based on those who use those documents. Connect educators together who share similar interests through tags. Information professional can also do unintended learning through the discovery of resources and information shared by others. They can create a unique shared tag where anyone can add to a specific set of resources by knowing the unique tag word, which could then be aggregated through RSS feeds. Figure 1 shows an example of a Moodle based LMS.

Learning-centric attributes of Moodle based LMS
Assignments
Students can upload Assignments for teachers to mark. Teachers get an automatic alert when a new assignment arrives. All marks can be stored in the Moodle grade book. There is not needed to worry about losing score sheets. Learners can submit tasks in any file format (e.g. MS Office, PDF, image, a/v etc.).

Figure 1: Main user interface of Moodle based LMS(http://demo.moodle.org/course/view.php?id=5)
Chat room
The Chat module allows participants to have a real-time synchronous discussion via the web. This is a useful way to get a different understanding of each other and the topic being discussed - the mode of using a chat room is quite different from the asynchronous

Forums
The Chat module contains a number of features for managing and reviewing chat discussions. Setup properties include the ability to establish a Chat session date/time (displayed on course calendar), schedule repeating chat sessions, a period for saving past chat sessions for students to review and
whether or not these past sessions can be viewed.

**Choice/Questionnaire**
A choice activity is very simple – the teacher asks a question and specifies a choice of multiple responses. It can be useful as a quick poll to stimulate thinking about a topic; to allow the class to vote on a direction for the course; or to gather research feedback.

**Database**
The Database module is good for building searchable repositories. A common use of this module is for storing past exam papers, activities for students to do or print out, or collections of students’ work.

**Forum**
This activity can be most important in terms of helping learners construct new knowledge. Discussion takes place among the participants and teachers. Forums can be structured in different ways, and can include peer rating of each posting. The postings can be viewed in a variety for formats, and can include attachments. By subscribing to a forum, participants will receive copies of each new posting in their email. A teacher can impose subscription on everyone if they want to:

- Forum setup properties include:
  - How students are allowed to post to a forum
  - Whether subscription is forced
  - Maximum size of attachment upload
  - Whether posts can be rated and by whom, the type of rating scale used and how
  - Students can view these ratings, and a time period in which ratings can be applied.

**Glossary**
The Glossary is like the database, except that you can allow users to rate each other’s contributions. Words can be hyper linked to texts on the site. So students can click on a difficult word in a text and they will automatically be taken to the explanation you provide in the glossary. Glossary entries can be categorized to make searching easier. Typical uses are an A–Z of difficult words and collections of useful websites.

**Lesson**
The Lesson module allows a teacher to write a series of lesson pages, each one ending with a question. If the students answer it successfully, they may continue. Otherwise, they can be sent back to review the lesson or directed to a remedial page. This allows students to spend as much time as they want or need on tricky questions.

**Calendar**
Keeping a calendar of events is important to both the learner and course instructor. Events can be created for different categories, including:

- Global events that appear in all courses (system admin).
- Course events set by an instructor.
- Group events set by instructor relative only to a group.
- User events set by learner (e.g. due dates, personal etc.).

Upcoming Events appear on the course homepage, alerting the learner across all courses they are enrolled in of different category events. Alerts are colour-coded by category.

**Quiz**
Quiz module allows the teacher to design and set quiz tests, consisting of multiple choices, True/false, short answers questions etc. These questions are kept in a categorized database, and can be re-used within courses and even between courses. Quizzes can allow multiple attempts. Each attempt is automatically marked, and the teacher can choose whether to give feedback or to show correct answers. Quiz module includes grading facilities.

**Webquests**
It allows you to group students, create a web page for the main task, set up the links and provide chat and forum spaces where the groups can discuss their projects. Students can then use the assignment tool to upload the results of their work, or they can use the forum module to display their work.

**Wiki**
Moodle has its own simple Wiki, which can be used for collaborative writing, such as planning projects together or group writing exercises. The simple procedure of editing and saving means that group work can develop quickly without students needing to be in the same place at the same time.

**Role of Libraries and Librarian**
The library, as a knowledge base, is the sum total of all documents, organization, tools, services and environment that actively support the use of records for knowledge creation.

The role played by librarian is to tend to this human knowledge base and constantly increase its value for the betterment of society. They provide support for both students and teaching faculty in the process of learning. More specifically, there is want of dedication for student and teacher community in the academia. The most effective support system for teaching faculty is in building up a course contents for the development of advanced teaching methodology.

The following are the platform which a librarian provides on building L M S:

i) in the development of collection (contents)

ii) in providing value added services.

iii) hyperlink the e-courses with the library e-reference resources such as e-books and e-journals as
well as with the web-based open-access resources

iv) designing integrated web portal to provide friendly access library scholarly e-resources with efficient browsing and research abilities.

v) e-literacy programmes to develop e-learning information search skills;

vi) acquisition of core e-collections specifically that recommended by e-learning initiative;

vii) promotion of library e-services to the virtual e-learning community; and prompt document delivery and outreach services via electronic transmission 8 efficient helpful tools to support instructor-created e-course.

viii) facilitation of scholarly communication and virtual classroom collaboration

Conclusions and discussion

The integration of e-learning in academic institution has hitherto focused on providing learners with the concepts and skills necessary to use the centrally run learning management systems. This has been useful for making the technology transparent for the learners who have never had exposure in working in a web-based learning environment. Learners are excited at having the power to design and publish their own online content, and the ability to develop their own online learning activities without facing any technical constraints. However criticism of learning management systems from learners come when attempts are made to design learner-centered online activities that are collaborative, reflective, experiential, participatory and networked across a wider community of peers or experts(Bailey and Pearson, 1983).

With the rise in popularity of technologies such as blogs, Wikis, RSS and community-building tools, new opportunities have been created for communicating, sharing ideas and engaging in the learning process. It is time for the focus of online learning support in organizations to move towards providing learners with the choice to create their own learning networks. These environments would ideally go beyond the artificial construct of an individual unit of study that make up their programmes, and ideally beyond the individual programme.

References


5 Moodle official website available at http://docs.moodle.org/en/About_Moodle

