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## Emerging a collaborative structured Learning Management System for effective usage of course materials in e-learning

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### Abstract

Educational Universities have developed to practice the Learning Management System (LMS) as part of the Information and Communications Technology (ICT) technologies to transporting the courses materials to the learners. LMS is a software application for teachers and organizations for teaching and delivering the educational information through an electronic media, and similarly termed as e-learning. LMS is a powerful tool to manage as multipart databases with a collection of course syllabus, teaching resources and assessment tools. Learners from different places can easily and speedily assess the materials from the LMS. Course content for number of courses with various modules can be developed by module instructors and teachers with many activities. Course content prepared by different instructors may be in different structure and May not able to follow by all learners, sometimes makes difficult also. This may cause the learners to stand behind in utilizing the course materials properly and may affect in progress. This paper recommends the instructors to have a collaborative structured learning management system, where the instructors may develop the learning content structure similar for all the modules and helps the learner to have a common path to follow.

**Keywords:** *Learning Management System, Information and Communications Technology.*

### 1. Introduction

Over the past era, Learning Management System (LMS) has taken an imperative role in educational institutions. The Information and Communications Technology (ICT) always supports and strengthen the learning process in many important origins to the educational establishments <sup>[1]</sup>. ICT with LMS is an important learning and teaching platform for tutors and learners. LMS has a relation which involves computers, internet and education. LMS is a learning platform for learners to have the easy note to download the course materials, to engage with activities, to appear in module assessments, post or receive the messages, educators to grade the assessments, to have a useful discussion boards with other learners, wiki's and to has many useful stuffs. LMS customarily supports the organizations in presenting the module materials or instructional design for different graduation programs and also implicates in serving to achieve the goals of the institutions <sup>[2]</sup>. LMS can be used as e-learning or distance learning by the organizations.

Learning materials can be posted by the module leaders or tutors for the module. Instructors be able to prepare and post their own learning and teaching materials to the LMS which may support the learners to learn the module. Different instructors will have to involve in developing the learning materials for different modules. Sometimes the developers may not have change to communicate or to share the information on the progress. Because of the gap the materials may not aligned to have a formative structure. A Learners using the materials for different modules will see different material structure and has a variation to mislay the pathway. This may cause the learners to have less interaction with LMS, and to push to dropout from the module or course. This article recommends the module developers to follow a standard LMS development structure to help the learners to have a well-organized interface. The standard structure has been shaped in exploring several course materials used in LMS.

#### 1.1. LMS in ICT study

In education field for the recent years, the ICT have involved in several edges with the faculty departments to deal in delivering the course information in teaching and learning systems. Higher educational organizations are recommended to change to use of latest technologies and tools available <sup>[3]</sup> correlated to ICT. Many researcher have proposed the impact of ICTs on the quality of teaching and learning should be frequent focused in organizations <sup>[4]</sup>. LMS have been

reserved the utmost imperative part in ICT technology. LMS are accessible as free, open source and as commercial purpose. Free LMS is completely free and the source codes is exposed, and also the source code can be modified as to the course delivery, but free software will be more complex to modify than other LMS types [5]. Open source software is peer production available with the source code and documentation to public without any cost with some limitations [6]. Commercial LMS offers with support member to modify the source code as to the institution structure for use. Moodle, SWAD, Open OLAT are few for open source and Black board, Web study, SSLearn, SAP are some of the commercial LMS.

LMS are used as communicator from the institutions to deliver the course to the learners for distance learning or blended learning. LMS are meant as e-learning. LMS is a software works with internet that includes many tools for learners to study online from anywhere and anyplace [7]. E-learning through LMS should be focused on the collaborating activities where the learner’s can contribute as in traditional class to improve the learner’s skill [8]. E-learning is different from regular teaching and learning background to face many challenges to tutors and learners contributing in online environment [9]. There are many challenges faced by both the tutors and the learners in using the LMS system. Learners and tutors are not familiar in accessing the technologies and tools involved in LMS. Tutors are having problem in developing the content and learners are finding difficulties to use the system. But, strongly recommended by researchers to have

LMS in organizations to aggressively stand in educational domain.

This paper discusses the challenges faced by the learners and tutors in using the LMS and also provides a standard structure for the effective courses in LMS.

**1.2. Challenges in LMS**

Tutors or instructors are emerging the materials for the modules as e-learning materials and posting those materials in LMS. For example, for under graduate degree programs the learners has to study four or five modules in first semester. But, the content for those different modules are not prepared by same instructor and mostly not have any structure to follow. Learners will access the first module content and may access the second module content. Sometimes, it will be difficult for the learners to navigate as same in both of the module. Learners will feel it difficult if having a different structure for various modules. It brands or forces the learners to drop interest in accessing the LMS.

**1.3. Standard Structured Layout for LMS**

The following table 1 provides the standard template for creating the content or navigation in the LMS for both the instructors and learners. This table describes the list of course tools to be used and how it will be useful for instructors and learners. Research has been done in several modules running as e-learning in LMS from different Colleges, Universities and also observations has taken place to find how the learners are using the LMS. From this analysis, the following list of course tools are suggested to practice in LMS.

Course Tools	Usage from instructors	Usage from Learners
Home Page	Viewed as first page	Viewed as first page
Announcements	Helps to post the messages for the courses and also LMS announcements	Helps to view the posted messages
Course or Module Guide	Helps to post the Course or Module descriptor, Lesson Plan, Milestone, Module Guide etc.,	Allows to view or download the Module descriptor, Lesson Plan, Milestone, Module Guide etc.,
Learning Materials	Helps to post learning or supporting materials like <ul style="list-style-type: none"> <li>• Slides</li> <li>• Video materials</li> <li>• Web links</li> <li>• Activities</li> <li>• Handouts</li> </ul>	Allows to download supporting materials like <ul style="list-style-type: none"> <li>• Slides</li> <li>• Video materials</li> <li>• Web links</li> <li>• Activities</li> <li>• Handouts</li> </ul>
Software Details	Helps to post the required software or the link to download the software	Allows the learners can download the software
e-library	Helps to provide the institution link as e-library if it is available	Allows to use the e-library from the institution if available.
Assessments	Helps to post the different types of assessment	Allows to download and post the assessment back
My Grades	Helps to post the grade for an assessment	Allows to view the grade for an assessment
Send e-mail	Helps to send the e-mail to individual or group	Allows to view and reply for the e-mail
Discussion Board	Helps to post a topic for discussion and also can grade the discussions	Allows to view and respond on the topic of discussion
Live chart	Helps to communicate to the learners live	Helps to communicate with the instructor or with other learners.
Calendar	Helps to capture, note and track the important task and dates	Helps to capture, note and track the important task and dates
Virtual Classroom	Helps to create and manage Virtual Classroom and chats sessions	Allows to participate in Virtual Classroom or chats

**Table 1:** List of Course tools

## 2. Conclusion

LMS has become a common tool to support e-learning as a collective practice for the institutions in endorsing the courses to worldwide learners. An effective course in e-learning or blended learning should be easy to access and interactive for learning the materials from the LMS. Learners should be motivated to use the LMS, not to step out from using the LMS. In this paper, a list of course tools are recommended to be used as a course structure for the developers to create the course materials in LMS. This helps the learners to have a good and standard navigation for all the modules in LMS.

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