



# Designing and Development of Learning Management System using MOODLE for B.Ed. Teacher Trainees

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## Abstract

The Present study is related to the use of Information Technology in education with the incorporation of internet services for solving a number of problems of teaching and learning. As, in present scenario, students want to learn by their own pace and at their own place. They prefer to get formal Education, informally. To overcome the flaws of formal education system, technology has created a virtual ambience around the learner to enhance the knowledge and hence augment the learning outcomes. One of these virtual environments is the use of Learning Management Systems (LMS). The aim of this paper is to design and develop a Learning Management System on some selected topics of psychological perspectives of learning for B.Ed. Teachers Training by using hybridized model. Investigators had tried to develop LMS on some selected topics of Psychological perspectives of learning for B.Ed. Teacher Trainees. Investigator used four quadrants in LMS for developing course content. Researcher has used the MOODLE together with the Google doc, wiki, discussion forums, chats, for the teaching Learning theories to B.Ed. Teacher Trainees. The investigators' opinion is that these tools can increase the achievement and motivation of teacher trainees. In conclusion it can be said that LMS on psychological perspective of learning can be effective learning source for the B.Ed. trainees.

**Key Words:** Learning Management System (LMS), MOODLE, Psychological perspectives of learning

## Introduction

The Present study is related to the use of Information Technology in education with the incorporation of internet services for solving a number of problems of teaching and learning. As, in present scenario, students want to learn by their own pace and at their own place. They prefer to get formal Education, informally. To overcome the flaws of formal education system, technology has created a virtual ambience around the learner to enhance the knowledge and hence augment the learning outcomes. One of these virtual environments is the use of Learning Management Systems (LMS).

## Learning Management System

The Learning Management System (LMS) is a software application that is used to plan, deliver, publish and place self-paced online courses. Learning Management System (LMS) works as central repositories to address all type of educational needs. The major areas addressed by LMS deployment are Curriculum Planning, Instant Evaluation, Learner Engagement and Content Management. An effective learning management system should possess characteristics of (i) Scalability (ii) Security (iii) Adaptability (iv) Administrative support (v) Cost effectiveness.

## Aspects of Developing LMS

The main aspects for designing the LMS are given below:

- **Technical Specifications and Support:** Without technical support, LMS has no base. The LMS should be easy to install and operate even with the persons having weak technical hands. It should be compatible with the systems available. The information shared by the tutor and the student should have security and surety for not being shared by any other resources. If a particular LMS is mobile phone operated, it should have compatibility with the software of those mobile phones. LMS should accept international e-learning standards besides technical support.
- **LMS Pedagogy:** The development of LMS should also consider different pedagogical styles. A dialogue between student and teacher, clearing doubts, evaluation and immediate feedback are must in an LMS to make student engaged in a course. Keeping in mind these points, constructivist methodology is best suited for developing an online course using LMS. Haefner (2002) believes that “deeper learning” or “engaging learning” leads to better understanding of concepts. This deeper learning has five aspects:
  - **Social:** facilitates interaction between teacher and student, student and student, teacher and parents and students and parents.
  - **Interactive:** emphasis is given to those tasks which involve real world tasks and need practice.
  - **Meaningful:** innovative ideas are being generated by the teacher to increase the knowledge of the students.

- **Stimulating:** enhancement of divergent thinking by creating highly challenging and low threatened environments.
- **Student- owned:** promoting self-learning through self-pace and at student's own place which make student independent and self-responsible.

### **Aim of the Study**

The aim of this paper is are as follows:

To design and develop a Learning Management System on some selected topics of psychological perspectives of learning for B.Ed. Teachers Training by using hybridized model

### **Modular Object Oriented Dynamic Learning Environment (MOODLE)**

MOODLE is a software application developed by Martin Dougiamas in 2002, which can be understood as an extension of a class room through web to make it flexible in terms of location as well as time. It is a free online Course Management System (CMS) which contains many user friendly tools for the creation and operation of a number of courses. MOODLE allows a learner to explore bulk of resources that a student cannot usually learn in a regular face-to-face class room due to time-constraint. MOODLE is an asynchronous online platform which makes learning a flexible event. A learner can log on to the course, download the content and discuss the doubts by sending messages to the tutor, anytime from anywhere. Among all the features of the MOODLE, the most impressive feature is free installation of mobile application of MOODLE in any mobile phone having android or apple software in them.

### **Development of LMS**

A hybridized model of LMS has been developed by the investigator. Investigator has selected MOODLE, version 3.7 (2019), to develop the LMS on psychological perspectives of learning for B.Ed. Trainees. The investigator has followed the following steps to create the LMS (MOODLE) on Psychological Perspectives of Learning.

### **Selection of Area**

For developing Learning Management System, the first priority was the selection of area. Before the selection of the area, the investigator has thoroughly reviewed the related literature and scrutinized the materials developed by other investigator related to the topic. From the review of related literature, it is very clear that various courses have been developed in MOODLE, but, yet not developed for B.Ed. trainees on the paper of Psychological Perspectives of Learning.

## Course Content and Task Analysis

For the development of Learning Management System on Psychological Perspectives of Learning using MOODLE the course content related to the present subject has been analyzed in details by the investigator and two units have been selected. Based on this selection and analysis, the content of the course was divided into following parts:

- Concepts & Factors Affecting Learning
- Approaches of Learning
  - ✓ Behaviorist Approach of Learning
  - ✓ Cognitive Approach of Learning
  - ✓ Constructivist Approach of Learning
  - ✓ Social Approach of Learning
  - ✓ Humanistic Approach of Learning

### Specification of Objectives

For the specification of the objectives, the investigator has created two types of behaviours i.e entering behavior and terminal behavior.

#### Entering Behaviour

The examples of entering behavior which are pre-requisite for the learning through LMS, are as follows:

B.Ed. Trainees...

- can define the term teaching.
- can define the term learning.
- can explain role of teacher in the classroom.

#### Terminal Behaviour

After the learning through LMS, learning outcomes will be achieved by the Learners, some of them are:

- Describe the factors affecting learning
- compare classical conditioning theory and operant conditioning
- explain the theory of trial and error

### Creation of Course Content and Upload on Moodle

In the present study, the course was aligned, arranged and presented by keeping in mind the four quadrants of online learning:

**e-Text** (pdf, wiki, open content, text): The researcher has added course material in the form of text based upon the first two units of the course of Psychological Perspectives of Learning, from the syllabus of B.Ed. second semester designed by DAVV, Indore. The course has been displayed on the dashboard, and after logging in a learner can easily see the list of courses offered in the developed LMS. The screen shot of text uploaded on the developed LMS is given in Fig. 1

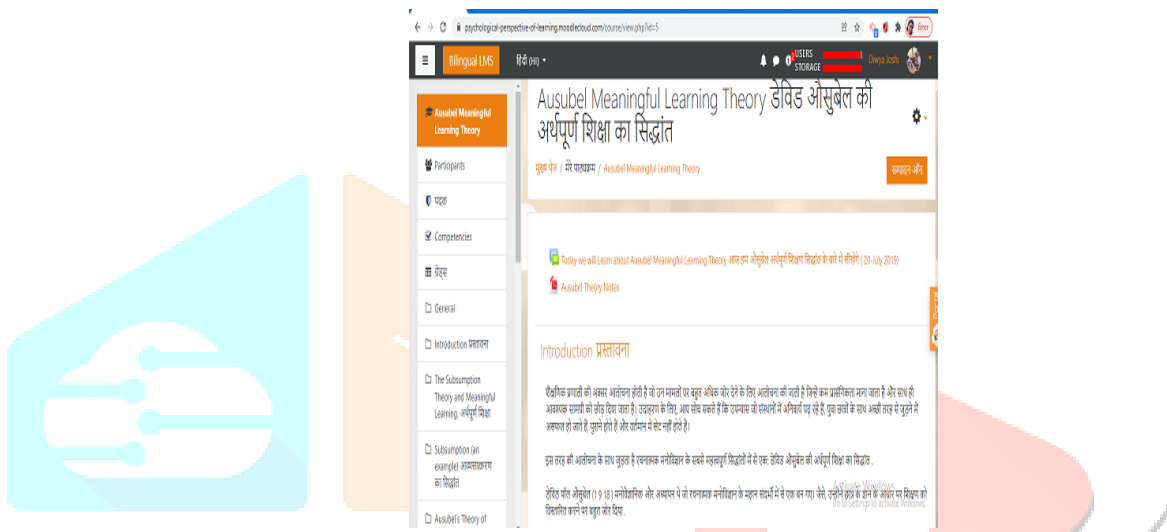


Fig. 1: Screen shots of E-Text

**e-Tutorial** (Video with transcription): Along with e-text, the researcher has developed some power points slides on various topics included in the experiment and converted them to audio video using Presentation tube, freemake, and moyeamedia. These videos were an integration of visuals and audio of the researcher which were prepared to make the process of learning an effective one. The screen shot of the uploaded Video on the developed LMS is given in Fig. 2.



Fig. 2: Screen shot of Video

**Self- Assessment** (MCQ, quiz, assignments): After the completion of every topic, there was an assessment of the B.Ed. trainees, either by multiple objective type questions, quizzes, or assignment sessions. This feature is helpful in assessing the extent of learning by the B.Ed. Trainees. The screen shot of the self assessment is given in Fig. 3.

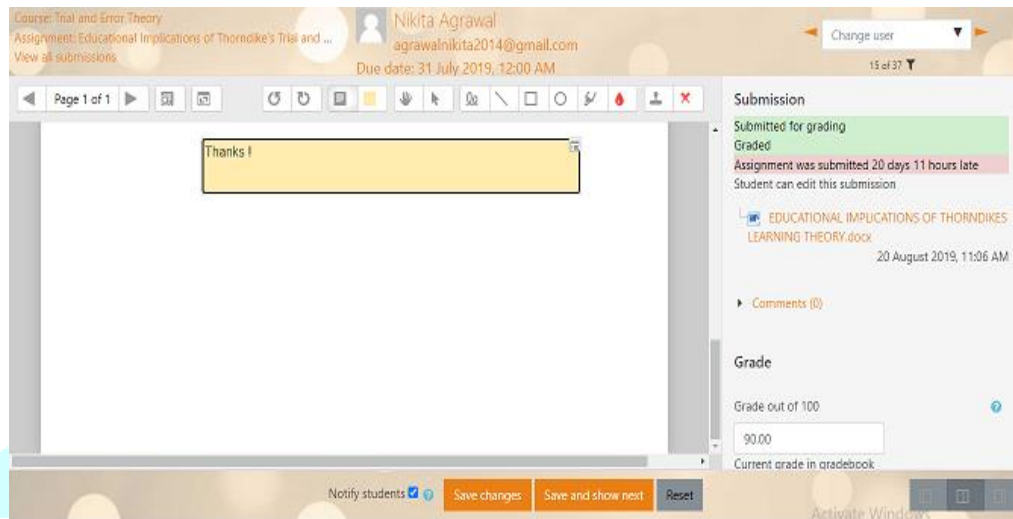


Fig. 3 Screen shot of Self Assessment Tool on LMS

**Discussion** (collaboration): Chat feature provided by MOODLE is used for clearing the doubts faced by the B.Ed. Trainees by discussing with the tutor or the admin and the notification makes new course content, badges, timely available for them. These were treated as reinforcement in the process of learning. The screen shot of the Discussion Forum on the developed LMS is given in Fig. 4.

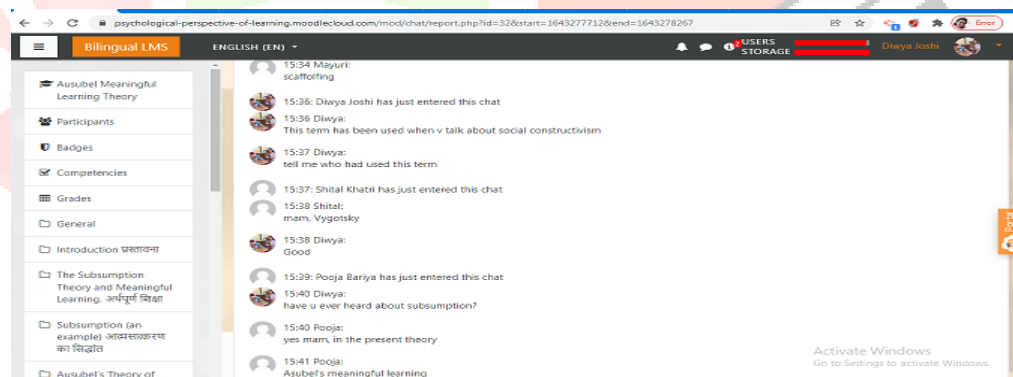


Fig. 4: Screen Shot of the Discussion Forum

In between this, every information has been shared by the researcher in LMS group on What's app to make the developed LMS more effective in terms of Achievement and Achievement Motivation.



## Tryout

The developed LMS on Psychological Perspectives of Learning is now ready for experimenting on the B.Ed. Teacher Trainees. Before the implementation of that LMS Experts opinion was taken and then pilot study was employed.

## Expert Opinion

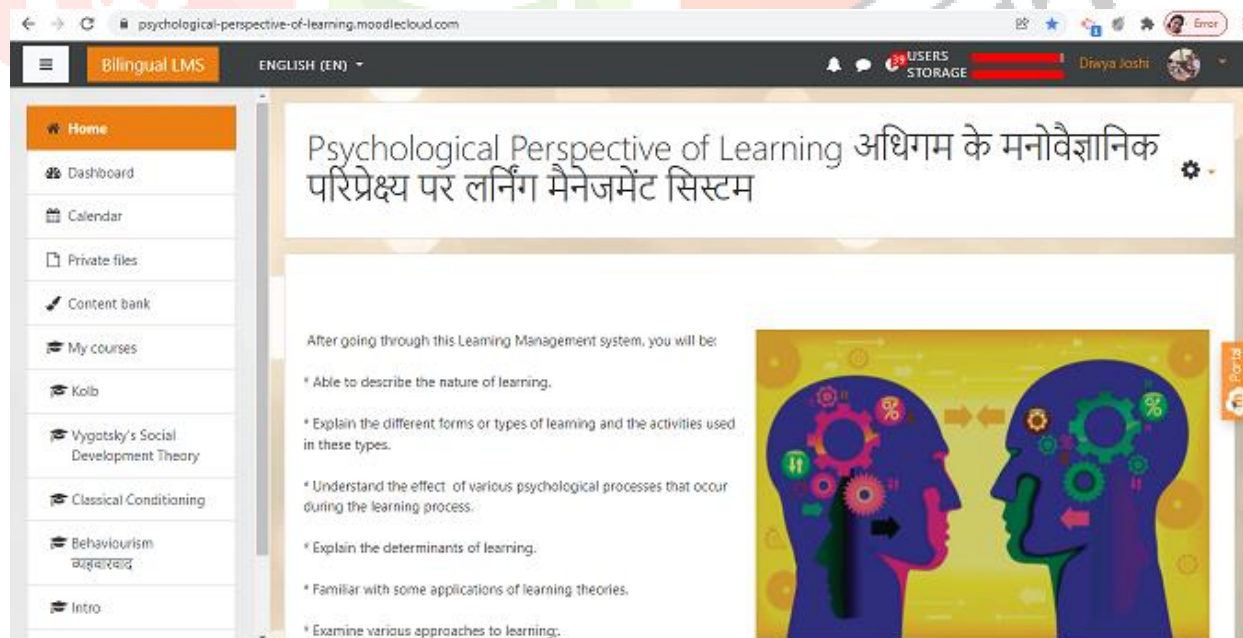
Before starting the experiment, the developed LMS has been shown to two Experts in Technical field and two Experts from the Educational field. Many suggestions regarding the installation of MOODLE, language of the course, course content, display of the content on LMS has been shared by the experts and researcher has accepted those suggestions to make the developed LMS on MOODLE as and effective one.

## Pilot Study

During the pilot study, the researcher has given the course content through the developed LMS to 15 B.Ed. Trainees of second semester of Comp. Feeders Takniki Prakshishan Sansthan Indore. Firstly, the researcher has generated ids and passwords of all those 15 B.Ed. Trainees and then met them personally for orientation about the research work to be done using developed LMS. The content based upon Learning and Factors affecting learning was provided to the B.Ed. Teacher Trainees. The duration of the study was two weeks.

## Finalization of LMS

Correction were made after the pilot study, which are faced by the investigator during pilot study, then a final LMS on MOODLE was ready for the experimentation.



**Fig. 5** Screenshot of the home page of developed Learning Management System on MOODLE

## Conclusion

The above study is based on the designing and development of a Learning Management System on Psychological perspectives of learning for B.Ed. Teacher Trainees. Investigator had tried to develop LMS on some selected topics of Psychological perspectives of learning for B.Ed. Teacher Trainees. Investigator used four quadrants in LMS for developing course content. Researcher has used the MOODLE together with the Google doc, wiki, discussion forums, chats, for the teaching Learning theories to B.Ed. Teacher Trainees. The investigators' opinion is that these tools can increase the achievement and motivation of teacher trainees. In conclusion it can be said that LMS on psychological perspective of learning can be effective learning source for the B.Ed. trainees.

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