



## A CASE STUDY ON MOODLE: AN EFFECTIVE LEARNING MANAGEMENT SYSTEM IN THE PRESENT SCENARIO

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### Abstract

All the sectors of the economy were affected in a massive way. Covid 19 has literally urged the governments to look for alternatives by changing the policies and plans. The research is conducted on MOODLE as a Learning management system (LMS). It is an open learning platform that is designed to provide administrators, educationists, trainers and learners an integrated and secured system with personalized learning environments. The foremost objective of the research is to understand in detail how a learning management system operates by selecting Moodle as LMS. The second objective is to explore the various activities which can be performed in Moodle. The third objective is to know the benefits of Moodle for faculty as well as the students. Lastly to give suggestions for the overall engrossment of all the users with the LMS.

The research is descriptive in nature as it describes the functioning of Moodle. The research is primary as the functioning has been explained with practical examples after creating its own website in Moodle.

The aspects covered in the case study are - installing Moodle, adding a bulk list of users, adding teachers and assigning roles, creating categories and courses, how teachers can make question banks for respective subjects, conducting quiz and assignments online and lastly grading and downloading the results with feedback.

If institutions longing to adapt Moodle as a Learning Management system, the suggestions given in the paper can act as guideline for successful adaption and receptivity.

To achieve this objective, primary research would be a supporting end. Moreover, a comparative analysis of various learning management systems can give a better insight on the utility and service of the LMS.

**Keywords:** Learning Management System, Moodle, Online, Students, Teachers.

### Introduction

The current situation of the world has changed the outlook of every person. All the sectors of the economy were affected in a massive way. Covid 19 have literally urged the governments to look for alternatives by changing the policies and plans. ‘Social distancing’ is the key to survival in recent times. The education system of India got predominantly troubled as this was the time of annual exams, board exams and admissions for future endeavours. Taking this in the perspective of higher education there is a big issue of course completion, conducting examination, grading of copies and making results. UGC in various circulars promoted and focussed on ‘e- learning’.

The curriculum, need and scenario of every institution differs. There is a necessity for an integrated system for individual colleges and universities which can cater the needs of individual students and teachers. To attain this Learning management system can become a weapon for its accomplishment.

### Learning Management System (LMS)

According to Ellis and Ryan “A learning management system is a software application for the administration, documentation, tracing, reporting and delivering by e- learning education courses or training programs”. In general terms Learning management system (LMS) is a framework of content development, evaluation, reporting and collaboration between the institute, the teachers and the students. It helps in creating, managing and delivering e- learning content.

Attributes of Learning management system are -

- Content management – Topics to be taught, detailed notes, important points can be shared in the same way as the classroom teaching.
- Use of multimedia- Teachers can share e-books, videos, website links for better understanding of the content.
- Testing and assessment – Any form of assessment be it assignment submission (word, pdf or handwritten), quiz, test can be conducted on this platform in a time frame and evaluation can be done in a very short period of time.
- Discussion and feedback – LMS platform provide a two-way communication process as students can discuss and clear their doubts by raising query and teachers can give feedback on the performance of the student.

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- o Security- To be a user of LMS both as a teacher or as a student user ID and password is essential. So, there is no question of exposure of information.

#### Role of Learning Management System (LMS) in current scenario

The universities and institutions already having LMS have not been completely affected by the restrictions imposed by the government on educational institutes. There is no requirement of physical presence of the teacher to teach and the student to learn. This aspect of LMS fits completely in the present scenario.

#### MOODLE

There are many different Learning management systems used these days like Blackboard, TalentLMS, eFront, Docebo LMS, Mindflash, SkyPrep, Canvas and many more. The research is conducted on MOODLE as a Learning management system. It is an open learning platform which is designed to provide administrators, educationists, trainers and learners an integrated and secured system with personalized learning environments. The user base is 90 million users which make it one of the biggest learning platforms. The well documented resources and up to date versions make it suitable and easy to use.

#### Objectives of the Study

1. The foremost objective of the research is to understand in detail how a learning management system operates by selecting Moodle as LMS.
2. To explore the various activities which can be performed in the Moodle.
3. To know the benefits of Moodle for faculty as well as the students.
4. To give suggestions for the overall engrossment of all the users with the LMS.

#### Literature Review

N.A. Azharuddin and L.H. Ling in their study “Learning management system among university students: Does it work? Came to the conclusion that the internet in the coming years will become a powerful tool to disseminate information with the highest speed. The use of the internet has paved a way for use of LMS. It helps students to keep updated with their course. But before implementing LMS Students should be given proper training. There should be a team of technical expertise for providing solutions to the problem of the students. Tanmay Kulkhrestha and A. Ravi Kant in the research paper titled as ‘Benefits of Learning management system in Indian education explained in detail the working of LMS. According to them LMS gives a different edge to the institution in terms of promotion especially during admissions and placements. The key aspect noted in the work is the content would be beneficial only if it is receptive in student’s psychology. Chirag et. al in the research work “A survey paper on e-learning based learning management Systems (LMS)” conducted a comprehensive study relating to the features offered by different platforms of LMS - Tracking of learning, Testing, Registration, Online course material, Delivery, Offline course material, Assessments, Account Management, Security Protection, Collaborative Learning, Student Activity Tracking, Feedback Collection, online electronic Experiment etc. However, they concluded that none of the LMS systems is a unification of all the features. The study suggested that a cloud-based learning management system (CLMS) is the most useful mechanism as it incorporates all the features required in an effective LMS.

#### Research Methodology

The research is descriptive in nature as it describes the functioning of Moodle. The research is primary as the functioning has been explained with practical examples after creating researchers' websites in Moodle. The secondary sources like articles and research papers on the learning management system have been referred for understanding the practical relevance. The pictorial presentation of the content is done by using screenshots of the website for quick receptivity.

#### Working in Moodle as a Learning management system

1. Moodle installation (latest version) – There are two different ways for Moodle installation-

a. If the institution wants to make their own Moodle, then the prerequisites are –

- Apache2.x+, MariaDB 5.5.30+, PHP 5.4.4+
- These can be installed separately or by using a Web server distribution like XAMPP.

b. Another way is institution can use any cloud based online Moodle hosting service provider like ‘Moodlecloud’ or ‘Gnomio.’



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By the above two processes institutions can make their own website.

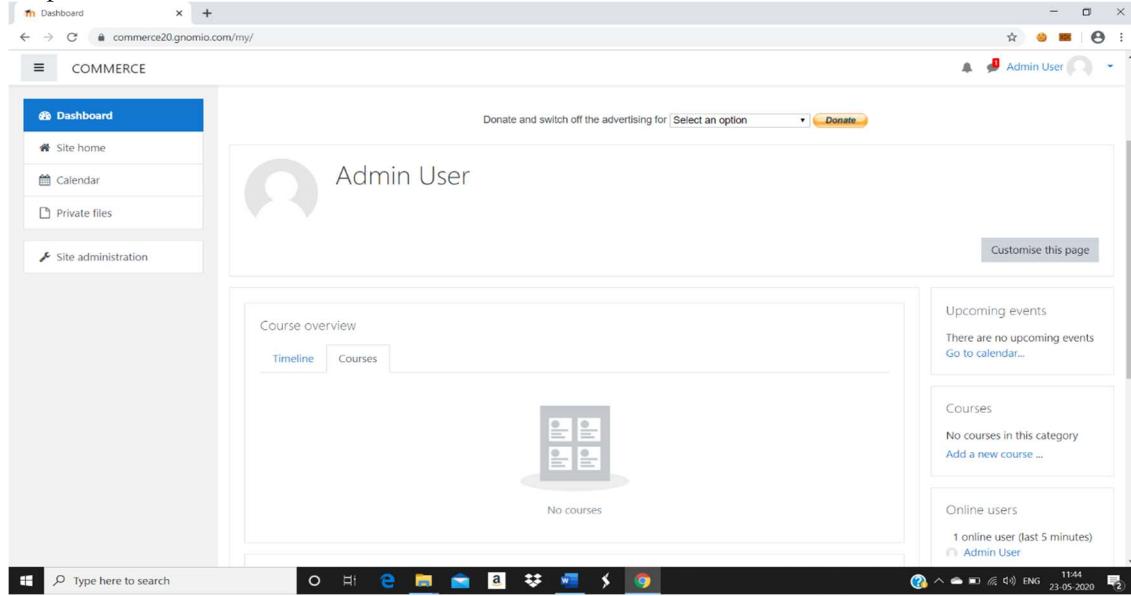


Fig. 1. The page displayed above is a front page of the website. This page will be displayed to the users when they login. This short name of the website is commerce which is displayed above. The site administrator can edit the front page, can add image, short name and add blocks. The blocks serve a specific purpose. Blocks contain information which you want to let your users see when they login.

## 2. Adding users and creating course

- Adding user- The site administrator can add users and if they want to add bulk users, they can do this by recording the details in CSV file Format. There are five mandatory fields in this format- username, password, first name, last name and email.
- Creating category and course- The site administrator can create courses and make respective categories.

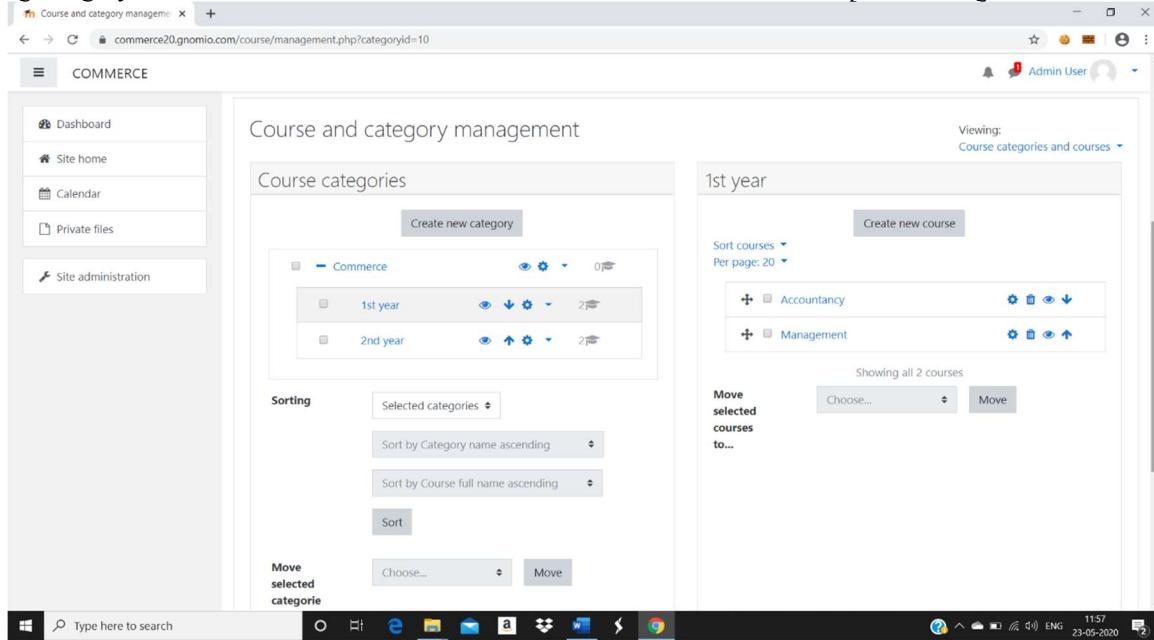


Fig. 2. The above page displays the category and course created by the site administrator. The category under commerce is 1<sup>st</sup> year and 2<sup>nd</sup> year and the course under 1sr year is accountancy and management.

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### 3. Teacher's dashboard

The role as a teacher is assigned by the site administrator. Teachers can login by entering username and password. The front-page opens the teacher's dashboard. The subject assigned to the teacher will be displayed under courses. As a teacher the following editing can be done-

- Course Administration- Under this teacher can rename the course assigned to them and can set a start and an end date for a course
- Upload and edit course material- The teacher can add course material like notes, book, file, folder, URL, Wikipedia page link etc.

The screenshot shows the Moodle Course Management interface for a 'COMMERCE' course. The left sidebar lists course management options: Management, Participants, Badges, Competencies, Grades, Announcements, General management, Marketing management, Organisational behavior, Human Resource management, and Communication. The main content area displays a forum titled 'General management' with sub-topics: 1. Principles of management, 2. Organizing, 3. Directing, 4. Controlling, and 5. Coordination. Below this, there are four activity items: 'Lecture 1 notes' (meaning and definitions of management), 'Understanding of management' (video demonstrating the value of management), 'Principles of management' (restricted), and 'Assignment 1- Basics of management'.

Fig.3 In the above page the teacher has added the topics to be taught in sequence and added notes, video and also gave assignments.

4. Question bank in Moodle- Teacher can make a question bank for taking test, giving assignments and conducting quiz. There are various types of questions that can be given with ease like multiple choice, true -false, match the column, short answer type, numerical, essay, drag and drop, missing words.

5. Conducting Quiz – The quiz is one the important parts of the curriculum. Moodle provides an excellent platform for conducting quizzes in a time bound manner. The questions can be added manually or can be taken from the question bank. There is an important feature that allows to shuffle questions for every student attempting the quiz.



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The screenshot shows a Moodle quiz interface. The left sidebar is titled 'COMMERCE' and includes links for Management, Participants, Badges, Competencies, Grades, Announcements, General management (which is selected), Marketing management, Organisational behavior, Human Resource management, Communication, Dashboard, Site home, and Calendar. The main content area is titled 'Management' and shows the 'Quiz 1- Basics of management'. It states: 'Quiz contains 4 questions. It is timed and you get 10 minutes to submit it. Quiz not submitted after 10 minutes gets submitted automatically.' Below this, it says 'Attempts allowed: 1', 'This quiz closed on Sunday, 17 May 2020, 2:30 PM', and 'Time limit: 10 mins'. A summary section shows 'Attempts: 3' and a table with 'State' (In progress) and 'Review' columns. The bottom status bar shows the Windows taskbar with various icons and the date 23-05-2020.

Fig.4 Here the quiz is prepared for management students for the topic basics of management. The time schedule selected by the teacher allows the students to attempt the same in the respective time only. There is only a single attempt for the quiz.

6. Overview and download the result of the quiz- The teacher can review the quiz attempted by the students by clicking on attempts. It gives ample opportunity to the teacher to review, cancel, edit or make any type of changes to the attempted quiz. The detailed result can be downloaded by clicking an option ‘download’ which allows teacher to download in the following formats- comma separated value (.csv), Microsoft excel (.xlsx), html table, javascript objection notation(.json), open Document (.ods).

The screenshot shows a Moodle quiz results overview page for 'Marks for each question'. It has a 'Show report' button and buttons for 'Regrade all' and 'Dry run a full regrade'. A note says 'Only one attempt per user allowed on this quiz.' Below is a table titled 'Download table data as Comma separated values (.csv)' with a 'Download' button. The table lists student details, their attempt status, and their scores for four questions. At the bottom, there are buttons for 'Overall average', 'Select all / Deselect all', 'Regrade selected attempts', and 'Delete selected attempts'. The bottom status bar shows the Windows taskbar with various icons and the date 17-05-2020.

First name / Surname	Email address	State	Started on	Completed	Time taken	Grade/10.00	Q. 1 /2.50	Q. 2 /2.50	Q. 3 /2.50	Q. 4 /2.50
Priya Sinha Review attempt	priyaspoken@gmail.com	Finished	16 May 2020 5:06 PM	16 May 2020 5:06 PM	43 secs	5.00	✗ 0.00	✓ 1.25	✓ 1.25	✓ 2.50
kirti singh Review attempt	kir@gmail.com	Finished	17 May 2020 7:49 AM	17 May 2020 7:50 AM	1 min 11 secs	3.00	✗ 0.00	✓ 0.50	✓ 2.50	✗ 0.00
shivani singh Review attempt	shivani@gmail.com	Finished	17 May 2020 7:59 AM	17 May 2020 8:01 AM	1 min 22 secs	10.00	✓ 2.50	✓ 2.50	✓ 2.50	✓ 2.50
Overall average						6.00 (3)	0.83 (3)	1.42 (3)	2.08 (3)	1.67 (3)

Fig. 5 The above figure shows the description of the students who attempted the quiz. As it can be seen, the total number of questions was four. The sixth column records the time taken by the student to complete the quiz. The grading was out of 10 and the scoring of each and every question is separately given.

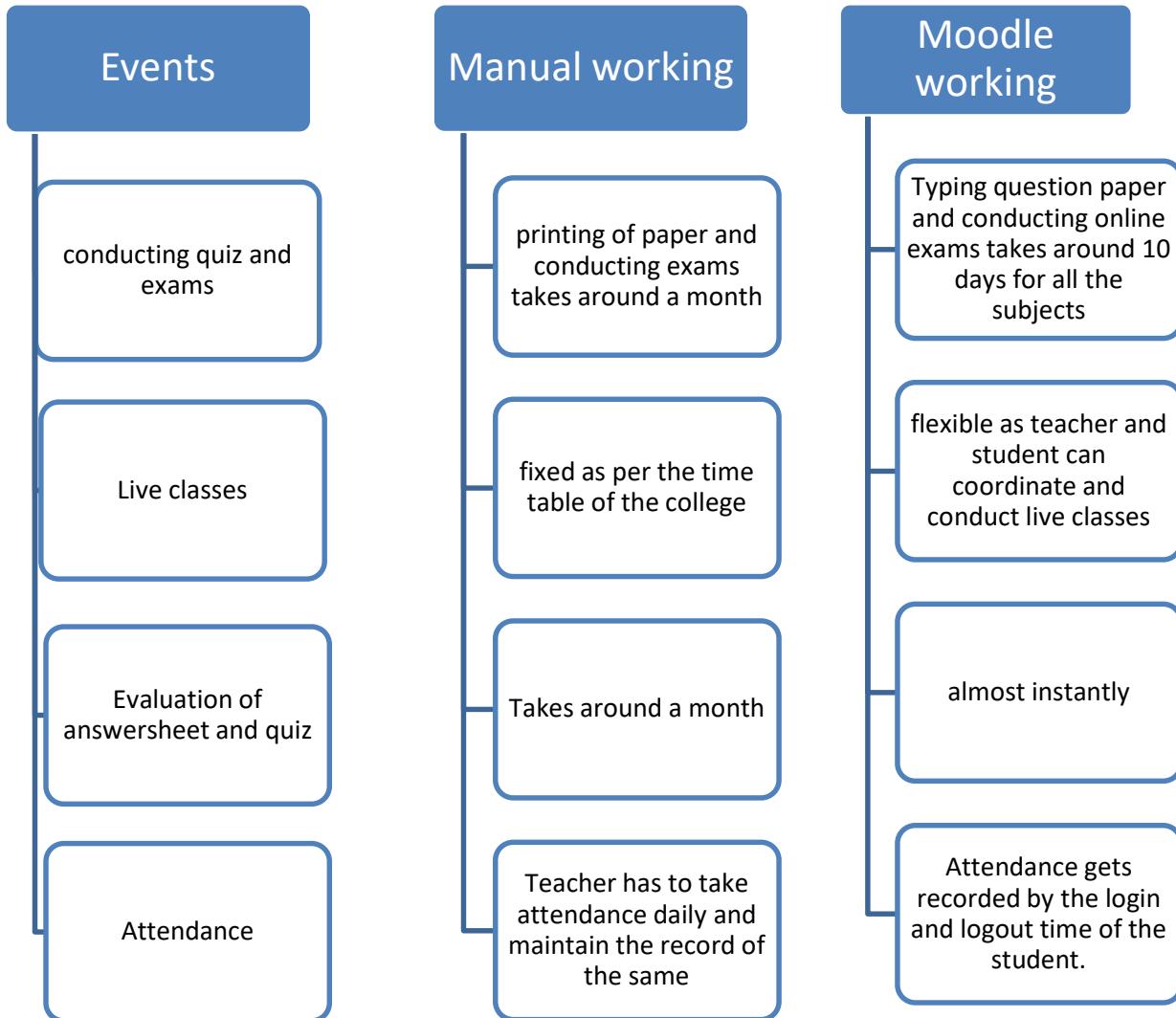
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7. Forums- The forums are created by the teachers for the discussion with the students. It is an open platform where teachers can solve the queries or doubts raised by the students. Like a group discussion, other students can also give answers to the raised query.

### Benefits of Moodle

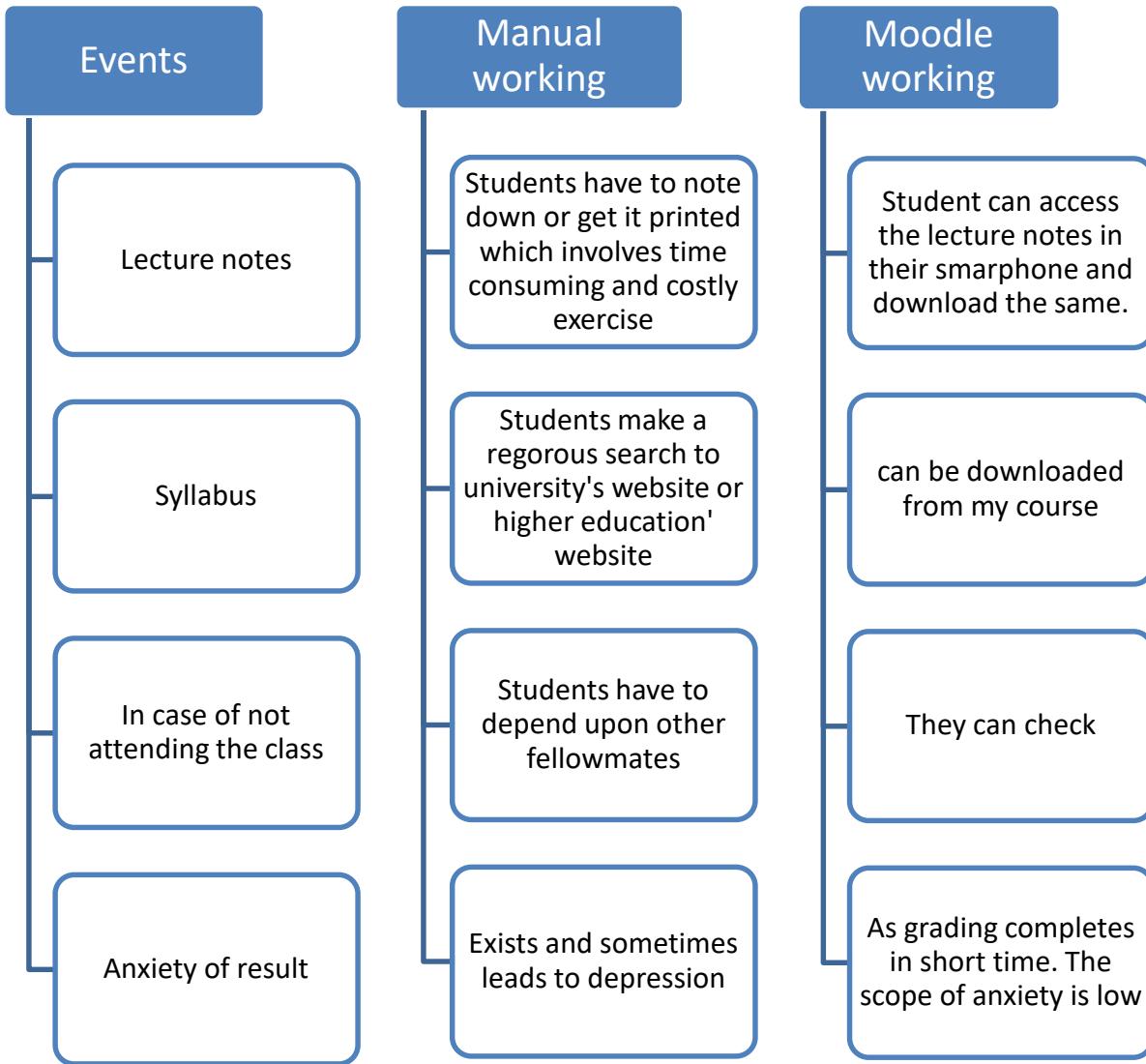
Moodle as a Learning management system is easy to understand and provides ample benefits to the students and teachers which are noted below-

- Benefits to the teacher



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- Benefits to the student



### Suggestions

- The choice of Learning management system depends upon the requirements of the institute, so Moodle is just a suggestive LMS.
- The mind of any Learning management system is the faculty of the colleges. So, colleges should conduct workshops for faculties to make them understand their role.
- Availability of electricity and internet is a prerequisite. Institutions have to spend on infrastructure in order to get equipped with the Learning management system.
- The backbone of the Learning management system are the students. Student's perception and acceptability for the LMS should be assessed in advance for the successful implementation.
- Colleges and institutes should make a comparison between various Learning management systems and service providers before finalising the LMS.
- To ensure the use of LMS by every faculty, institutes should make an activity be it a quiz or assignment needs to be compulsory conducted through LMS.
- If the percentage of smartphone users (teachers and students) cross 80% then only LMS should be adopted. For the rest 20% institute should make an alternative arrangement within the campus.



Cover Page

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## Limitations

The research is more conceptual in approach but for its implementation this needs to be evaluated in terms of the mindset and approach of colleges. To achieve this objective, primary research would be a supporting end. Moreover, a comparative analysis of various learning management systems can give a better insight on the utility and service of the LMS. The concepts of Moodle explained above are basic in nature as there are many different advance concepts which have not been taken into consideration due to time constraint.

## Conclusion

This covid period has urged the institutions to be ready with various other accessories. For this Learning management system is the easiest way to overcome this challenge. India is moving towards digitalisation so, digitalising the course, tests, assignments is a good tool to make students technology and digitally literate. But before adapting the Moodle or other type of Learning management system, questions to be thought are: Will it be able to maintain the cordial relation and the two-way communication process between students and teachers? Would it make our students sit for long hours in front of screens and hinder their eyesight? Would the readymade course material impede the logical and evaluative mindset of the students? The implementation of the Learning management system lies upon the answers of above questions as these questions would affect the student's development in a long run.

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