LMS TOOLS TO ANALYZE AND IMPROVE THE QUALITY OF EDUCATION

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Abstract
Learning Management System is an effective tool in elearning. This tool can be used in computers, laptops, mobile and tabs to improve the quality of education. A lot of issues contribute to the quality of education, for example, faculty's perception, strength of the classroom, learning styles of the students, students' strength in basics, time spent by the faculty to teach the subject, evaluation methodology, the curiosity of the students etc. All the setbacks have been discussed in detail and LMS as a possible replacement to improve the quality of education is discussed.

Introduction

Q Factor (Quality factor) is an important aspect in education. A lot of issues contribute to the Q Factor, for example, faculty's perception, strength of the classroom, learning styles of the students, students' strength in basics, time spent by the faculty to teach the subject, evaluation methodology, the curiosity of the students etc. We will discuss all the setbacks in detail and look for the alternatives available to improve the Q Factor.

The LMS tools can be used to analyze the student's progress provide the vital inputs for the faculty and make the whole learning process interactive, focused and enduring. The LMS tools can be used in computers, mobiles, and tabs either as cloud-based or standalone tools. This facilitates the faculty in promoting high quality education, minimizes the efforts of faculty and students, makes the whole process focused, and above all facilitates the outcome based education.

Faculty's Perception

The faculties' classroom management depends on his/ her perception. Generally, we have three philosophies on classroom management. 1. Sacred Temple Method: The faculties of similar perception believes in treating classrooms as a sacred temple. They promote discipline, severely warn the latecomers; early exit doesn't arise at all. They are teacher-policeman, for them teaching is a passion. They are strict, punctual; willing to take extra classes and are always worried about syllabus completion. 2. Cafeteria-Style: The faculty provides enough liberty to the students to move freely, chat, discuss, free movement is allowed. The teachers confine themselves to the studious students, and they aren't bothered about the irregular and back bench students, the meritorious students are allowed to occupy the first rows. Teaching is not the first preference for them. 3. Middle Path: As the name suggests, it's between the two extreme methods. The faculty shall allow the students to have an interactive session, but with some restrictions. The latecomers are allowed with clear instructions or at times receive mild punishments, early exit is not encouraged, and the disruptive students are warned. They are strict but accommodative and thereby are the favorite teachers.

Problems In Addressing The Weak Students

The large classroom often makes it difficult for the faculty to maintain one-to-one interaction with students. But by dividing the whole class into teams, the faculty can make a wonderful impact, but it's time consuming. If time is not a constraint then this small team wonders can impact greatly, and bring an interactive energized response from students. The semester system has cut down the time of the academic calendar, now a lot of content/ topics are covered in the limited available time. The faculty's rush to cover the syllabus, which at times leaves the students' dry, very less time is devoted to cross check the basics of the students. By making use of the available technology the faculty can surely be more effective. The students should be made to understand his/her learning style. This critical introspection will bring a lot of change in the students' perception.

LMS Tool To Analyze

LMS means Learning Management System; the other name for this is an Integrated Learning System (ILS). The LMS tools can be used in desktop computers, laptops, mobiles, and tabs. LMS uses the internet as a medium to deliver its content, apart from content delivery. The system also helps in managing the learning process, tracking the learning curve, and provides foolproof documents for future use. LMS are also known as 'Performance Appraisers'. The industry/ software companies use LMS platform to identify the employees' competency, strength of the technical skills, gaps in the system, and also help the employees abreast with the latest technical / software developments.

Integrating LMS Tool Into The Regular Classroom

The LMS is used for training the students or employees in new technological domains by effectively augmenting internet.

LMS tool certainly lessens the burden of the teaching faculty by providing the necessary inputs like understanding the students' learning style, students' strength or hold on the concerned subject, identify the weak students, average and merit students, challenge the quick learners with new projects and tasks. LMS shall never be a replacement to the teaching faculty. Each person is unique by his/ her learning style. By using a common learning style for all the students, we compel the students to switch over to new learning style, which at times generate negative results. The Individual Development Plan (IDP) in the LMS can be effectively used to track the student's learning curve and appropriate measures can be taken to make the learning process interactive.

Assessment Pattern and LMS Methodology
Assessment is an indispensable necessity for any learning practice, a powerful tool for teachers and students. While good assessments help the students master the content, it also depicts the efforts of the teachers in creating a wonderful learning environment. The assessment pattern has to be designed on the basics of the content of the subject, so that it becomes a part of the curriculum, and this acts as a self-paced assessment tool and would be a great motivator to improve the learning curve of the students.

There are two assessments: 1. Formative Assessment and 2. Summative Assessment. The two assessments are for different purposes; formative assessment is designed for tracking the student's progress and provides the crucial feedback both to the students and faculty. Summative assessment is an end exam, where one has to pass to get a certificate or degree. The formative assessment provides the crucial feedback to the faculty about the student's strength and weakness. Allowing the student's to attempt the formative assessment before starting a new topic is a good idea, it provides the necessary inputs for the faculty to plan his teaching schedule. The crucial question of how much time should I spend on brushing the basics is addressed. So this provides the opportunity for the faculty to clear the queries of the students' before venturing into a new topic. Summative assessment is conducted only at the end of the course to know the knowledge level of the student and checking whether the student has achieved the learning objectives. It would be quite late if we only emphasize on the summative assessment, the crucial learning time is lost and the end result may give negative feedback like the student did not reach the desired level of proficiency. The formative assessment gives the students sufficient time to identify his/ her gaps and acquire the requisite skills set to reach the desired level of proficiency.
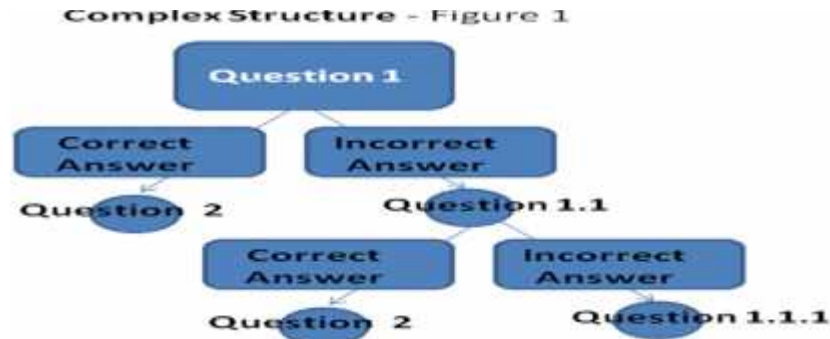
The five ways of formative assessment:
1. Basics Check: The assessment at the start of the new topic can be preceded by an assessment, where the students' basics/ technical knowledge are assessed.
2. Faculty Scrutiny: The faculty analyzes the test and identifies the strength and weakness of students by the questions attempted and scored. LMS has an inbuilt features which do the analysis work to a greater accuracy.
3. Course Blog: A course or batch wise blog can be created, where the subject wise provision is provided. The thoughts on the content and core ideas help the faculty perceive the students' progress.
4. Peer Group: Each group should have a merit student, who can guide the team. Each group should be constituted by six students, and it should be a diverse team with mixed knowledge level group members.
5. Self assessment Report: The students are encouraged to grade themselves to a level of 10. The student's confidence level, perception towards the subject, knowledge level is identified. This report is evaluated by the concerned faculty and the necessary constructive feedback is provided.

The summative assessment is conducted at the end of the course, to check the knowledge level of the student and to determine the level of proficiency of the student. The summative assessment pattern should be discussed with the students even before they attempt the final exam (summative assessment). This prior notice allows the students to analyze the exam pattern and enhances the students' chances to excel. If the majority of the students are receiving very low grades, it only emphasizes that the course structure and assessment in not in perfect synchronization.

Designing the Assessment
The best design practice is to create assessment before creating the content. The testing and assessment should be on what is taught and not on what is expected. The simple design structure where for example 10 multiple questions are posed to students and student answers them in the allotted time. The complex structure as shown in figure 1 would be ideal for an interactive learning environment. For example, by answering the question 1 correctly the next question 2 is displayed. If the student fails to answer question 1 correctly, then it takes him to next question 1.1 which stresses on the basis of a lower knowledge level. If the student fails to answer question 1.1 correctly, then it takes him to next question 1.1.1 which stresses on the basis or must know facts about the topics.

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Complex Structure - Figure 1

The second method is shown in figure 2; here for every incorrect answer the question directs the student to the page of the content/ material. The student can read the content once again and then provide the right answer before proceeding to the next question.

Complex Structure – Figure 2
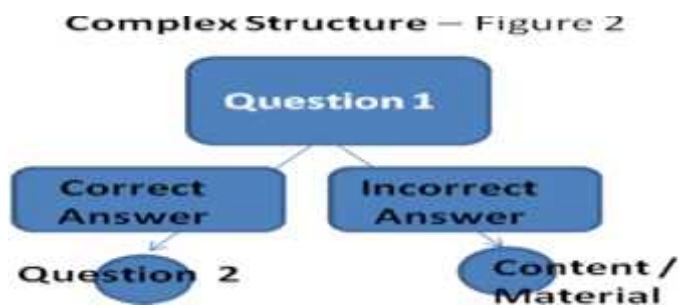
It would be great if the assessment is integrated into the content, short and frequent quizzes often are more effective than a long test at the end of the unit or chapters. The assessments should reinforce and strengthen the content material by repeatedly highlighting the most important points. To keep the students motivated a gentle pop-up message or pop-up sound congratulating for successfully completing the test would bring smile onto the face of the student.

LMS Cost Factor
The cost factor shall depend on the features, functions and support services of the service providers. We should weigh our priorities and cost to get a reasonable outcome.

1. Pay per user: The cloud-based LMS doesn't need any software installation to work. The cost is charged on the number of learners and works well for small institutions or colleges. The drawback is you will end up paying for all the features, whether you use all the features or not.
2. Pay per use: The cost varies on the features provided for the LMS. This would reduce the cost considerably, but one has to plan much ahead of the schedule and structured perfectly to the course content.
3. Pay per active user: The cost depends on the active learners and not on the persons who got registered. This would be great for the private institutions/ coaching institutions where they don't have any control on their students.
4. Limited time licensing: This can be done by paying the limited charges for cloud or hosting limited period. The college or institute has the right to add new course modules within the same pricing.
5. Self hosted: The LMS solutions can be bought from clients and the college can use its servers to host the LMS.
6. Open source LMS: We do have open source LMS which are available for free, but you need to have a strong technical team to use it or fix some deficiencies.

Conclusion
By using LMS tools with a special emphasis on the formative assessment, we can definitely provide high quality education at low cost, with fewer efforts both from students and faculty.

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