

Learning Management System and Its Role in the Effective Delivery of Medical Education

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ABSTRACT

Studying online and the shift from pen and paper to the digital world is a trend that has been on a rise over the past decade. With this growth, arises the need to effectively design and implement learning management systems (LMS) in the current scenario. For the acquisition of knowledge, being up to date with the world around and enabling learning to be uninhibited, facilitates growth, and reflects greatly on the outcomes of the student. The current state and ability of institutions to provide knowledge were tested with the coronavirus disease-2019 pandemic that engulfed the entire globe, where learning had no choice but to move into the digital domain. This paper highlights the role that LMS and e-learning are currently playing in the field of medical education. The success of LMS depends on many factors, such as accessibility, course content, usage of appropriate resources, and assessment criteria. This paper has been written to explore the role of LMS and e-tools in ensuring improvement in the acquisition of knowledge and understanding of concepts and skills.

Keywords: Education, E-learning, Learning management system, Medical students.

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INTRODUCTION

In countries like USA and Canada, the role of LMS in medical schools has picked up.¹ Learning management system is a software application or a web-based technology that is used to plan, implement, and assess a specific learning process, which is a form of e-learning. A well-developed and an ideal LMS aims at addressing these three domains of learning: cognitive (thinking), affective (emotions), and psychomotor (skills).² The cognitive domain is the knowledge acquisition aspect and consists of knowledge, which is the ability to recall data; comprehension, the ability to understand the meaning of what is known; application, the ability to use knowledge in a new situation; analysis, which is the ability to differentiate facts and opinions; synthesis, the ability to integrate different concepts to form a new structure; evaluation, which enables judgment over concepts.³ The affective domain includes the feelings and attitudes of the learner. And finally psychomotor deals with the coordination of skills. Creating a system that incorporates all these three domains is impossible. What we see currently in play in most LMS is the cognitive domain being supported. This article highlights the potential that LMS has, the resources offered, teachers' and students' perceptions, and its shortcomings.

POTENTIAL OF LMS

Learning management system is a study tool that is present 24/7 to everyone and anyone who has a phone, laptop, or tablet and their login ID. This brings us to the biggest advantage of the LMS platform which is increased convenience. There is constant access to resources regardless of the time or location. There is a reduction of cost in terms of transport fees involved in reaching the college, in canteen expenses, and even reduction in overall tuition in some colleges.

Everyone is different, in the way a person perceives information the way they process and store it to the speed at which they do

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this, varies from one to another. As such, not everyone learns at the same pace. For example, some may find in-person classes to be taxing as they need to be punctual and be present at a certain time and place to learn. While on the other hand, the same topics uploaded on an LMS along with their respective reading material allow for learning to take place at the convenience of the learner, thereby allowing learning to be more fluid and catering to the different needs of the students. A self-study has even showed greater learning efficiency and satisfaction over traditional print materials.⁴ And studies involving a pretest/posttest provided strong evidence that e-learning resulted in knowledge gains in medical students.⁵ Most studies show that LMS/e-learning can be compared to traditional systems, but as of now, there is still no clear superior learning modality but a preference for e-learning due to flexible learning styles is seen although without improved didactic performance.⁶

LEARNING AVENUES ON LMS PLATFORMS

Learning management system are web-based systems for delivering and tracking online learning. They are being implemented worldwide especially in institutions for higher education to centralize and manage learning resources,

educational services, and institutional information.⁷ There are many eLMS present for colleges and institutions to implement. For example, Moodle, Canvas, Blackboard, and Osmosis are just the prominent ones. How these platforms help is by presenting the information to a learner in a well-organized manner. From manuscript reprints, textbooks, and curriculum outlines to administrative documents showing schedules and evaluations allow the students to be more efficient.⁸ Making the process of submitting assignments and their grading a less cumbersome event. The ability of LMS to provide the students with prerecorded video lectures along with their transcripts enables a learner to learn at his convenience. External video links help in understanding concepts further which deepens the understanding of the subject and develops an interest in the student. And with the help of attendance trackers and timetables, the student can be more prepared for each class. Learning management system even helps keep track of the scholastic performance of the learner. These resources provide significant advantages over institutions that haven't implemented LMS.

SHORTCOMINGS

There has been a vast implementation of e-learning and LMS in institutions, especially during the COVID-19 pandemic. And a widely asked question is whether or not it can be compared to traditional methods? The potential that LMS platforms offer has been discussed, now to shine a light on a few of its shortcomings including the lack of ability of these platforms to help in developing actual skills within the learners.⁹ Clinical reasoning skills and the ability to interpret clinical problems are right now a little out of reach through the LMS platforms.¹⁰ There is a tunneling effect of learning taking place; hence, the scope of open/wide-minded thinking may get reduced leading to untapped opportunities or undiagnosed cases in the future. Especially since discussion boards present on such platforms are hardly being used. And the impact that reduced face-to-face interaction can be seen in studies and the reason for which is that some students require that extra motivation and encouragement to learn.¹¹ Overall, for the whole of LMS to function seamlessly, there needs to be a proper well-established infrastructure in place to make the most out of e-learning.¹²

RECEPTIVITY OF TEACHERS AND STUDENTS

Students reported that they found e-learning enjoyable as it allowed them to be at home, in comfortable surroundings, have continuous access to online material, and be able to learn at their own pace. It was also found that students saw a lack of interactions with patients and technical difficulties as their main issues with this modality of learning.¹³ Teachers feel that through LMS less time goes into updating content and that they don't have to worry about variation in content delivery each time they have to repeat a class. But at the same time, teachers who are used to the traditional modalities of teaching find it a burden to move from their current ways.¹⁴

CONCLUSION

The LMS isn't perfect. And there are no proofs that claim e-learning is superior to the traditional methods or vice versa. What has been found out so far is that LMS can be used as a supplemental tool to

facilitate learning by making learning more convenient in terms of accessibility to material and in bettering time management. Further research and development need to be conducted to get proper infrastructures in place that help in the attainment of psychomotor skills and to allow comparison between traditional methods directly to e-learning methods.

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