

THE EFFECTIVENESS OF LEARNING MANAGEMENT SYSTEM (LMS) AS A DIGITAL TOOL FOR TESL UNDERGRADUATES AT HIGHER EDUCATION INSTITUTION IN MALAYSIA

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Abstract: The study aimed to examine the effectiveness of the Learning Management System (LMS) as a digital tool for TESL Undergraduates. A Learning Management System (LMS) is an application software that is used to help in the online learning process. Moodle is one of the most popular (LMS) applications and is very appropriate for online learning study. Besides, it has various features that can support student activities online. Some learning activities are supported by (LMS) such as videos, materials, assignments, and links, quizzes. The survey was conducted online and 30 students completed the survey voluntarily, and the data were subjected to content analysis through a quantitative approach. According to the results, implementing the course, especially with electronic activities had positive effects on students from a learning and evaluation perspective. Students stated that learning by utilizing the (LMS) environment supported them in participating in the course activities and indicated that following the content of the course, homework and projects online was interesting and useful.

Keywords: Learning Management System (LMS), learning, attitudes, behavioural, TESL

INTRODUCTION

This study discusses the Learning Management System (LMS), a free application designed to assist learners and educators in connecting, working together, organizing, and creating assignments. Learning Management Systems (LMS) are web-based platforms designed for the management, documentation, monitoring, reporting, and delivery of courses in both higher education and other educational systems (Kassim, 2018). They can assist in traditional classrooms, distance learning, or any combination of the two. LMS deliver and manage instructional content and typically handle student registration, online course administration, and tracking and assessment of student work (Hill, 2020). Therefore, as a digital tool, LMS is accessible only to users with Google Apps for Education (GAPE) (Dash, 2019). This is a free collaborative set of tools. Additionally, LMS is free of spatio-temporal constraints, requires no maintenance after setup, and allows easy development of course content through integration with Google's online services.

LMS have been extensively used in facilitating language teaching and learning. Educators can work together with their learners without meeting face to face. At educational institutions, each teacher or student is given a personal Gmail account after enrolling and provided access to the Adobe e-campus, which has supported teaching and learning activities since 2009 (Tsai, 2021). The e-campus provides paperless communication between teachers and student services. Each

course's main page contains class information, materials, scores, and tools. Teachers can publish news, upload lecture notes, files, and homework, view or grade homework, and announce scores. Students can download course materials, upload or download homework, and ask the teacher questions after class. The system can send e-mails to notify course members of messages, either automatically or manually. According to Jumadi (2018), most educational institutions use LMS as a teaching platform to provide students with a one-stop service, easily share learning materials, and ask questions without time constraints.

Albashtawi (2020) expressed that blended learning might be able to create a learning environment focused on students and supported by in-class and out-of-class activities. In simpler terms, a learning management system (LMS) provides flexibility in scheduling, eliminates travel expenses, and can reach out to anyone who has access to it. LMS encourages learning, makes it more interesting and effective, and offers significant benefits in recalling, thinking, and the growth of a learner.

Research Objectives

The following research objectives aim:

To identify the effectiveness of using LMS in the learning process among TESL undergraduate students.

LITERATURE REVIEW

Technology is an integral part of the young generation. The widespread use of technology has generated interest among many researchers to explore the ways learners can use technology to enhance the learning process. The popularity of Learning Management Systems (LMS) is increasing day by day. However, there are limited studies that have explored the effectiveness of this tool. The results of such studies can provide evidence to administrators, teachers, and educationists about the effectiveness of LMS.

According to Kierzkowsk (2018), the selection of a theory should depend on its appropriateness, ease of application, and explanatory power. Therefore, various information system (IS) theories have been developed to study the acceptance of new technology. One well-known theory is the Technology Acceptance Model (TAM), developed by Davis in 1989. TAM suggests that a student's behavioural intention to use LMS is determined by two main beliefs: perceived usefulness (PU) and perceived ease of use (PEOU). PEOU refers to the degree to which a student perceives how easy it is to use the technology, while PU refers to the extent to which a student believes the technology would be useful.

This study uses the Technology Acceptance Model (TAM), a well-known theory for explaining individuals' technology behaviours. According to Zhonggen (2019), TAM explores the predictors of a user's potential acceptance or rejection of new technology and reflects their willingness to use the technology. Understanding technology acceptance can lead to better predictions of the use of new information resources. This study shows that confidence in the use of technology can lead to increased personal control, flexibility, and competent use of information.

Several studies have demonstrated that LMS can positively impact student performance and engagement. For example, a study by Al-Fraihat, Joy, and Sinclair (2020) highlighted that LMS features such as immediate feedback, interactive content, and collaborative tools contribute significantly to student satisfaction and academic performance. The ability of LMS to facilitate diverse instructional strategies, including flipped classrooms and blended learning models, has been associated with improved learning outcomes. Equally important, comparative studies have been conducted to evaluate the effectiveness of LMS against traditional classroom settings. A meta-analysis by Bernard et al. (2009) concluded that blended learning environments, which typically incorporate LMS, generally produce better learning outcomes compared to purely face-to-face or purely online settings. This suggests that the hybrid approach facilitated by LMS leverages the strengths of both traditional and digital learning modalities.

Moreover, the Technology Acceptance Model (TAM) encompasses five components: perceived usefulness, perceived ease of use, attitude toward using, intention to use, and actual use (Hafid, 2021). Perceived usefulness denotes whether students believe technology can improve learning performance, and perceived ease of use refers to whether students believe technology can be used effortlessly. Behavioural intention to use refers to the students' level of intent to use the technology. Hence, building, implementing, and motivating students to use the learning platform are essential. Overall, the researcher adopted the Technology Acceptance Model (TAM) as the research framework to design educational materials and assess students' acceptance and use of LMS.

2.2.1: Technology Acceptance Model (TAM) Theory

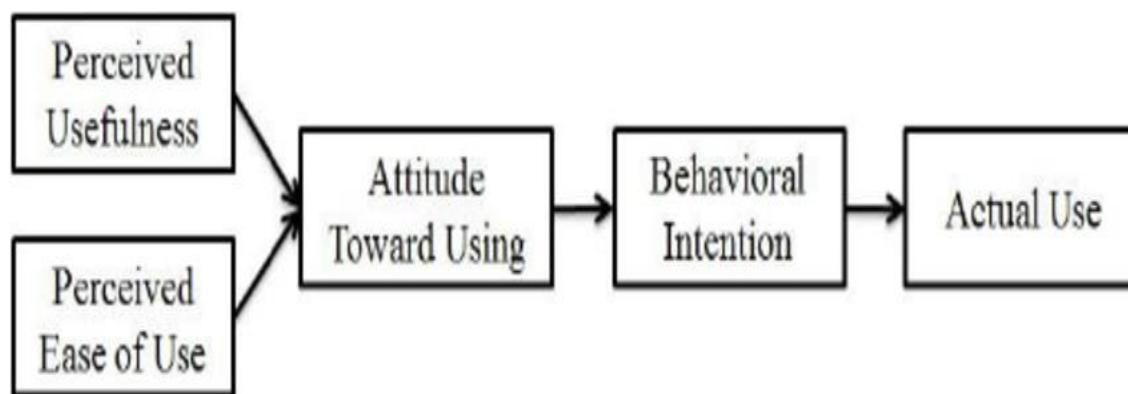


Figure 2.2: The theoretical framework of 'Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) (Davis, 1989) claims that Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are the two fundamental determinants of user acceptance of technology. PEOU is defined as “the degree to which a person believes that using a particular technology would be free from effort” (Davis, 1989, p. 320). PU is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). TAM claims that PU will be influenced by PEOU: when users find a technology “easy to use,” they perceive the technology as “useful.”

TAM offers the causal relationships of these two fundamental constructs (PEOU and PU) with three other constructs: “attitude toward using (ATT),” “behavioral intention to use (BI),” and “actual use (AU).” ATT is defined as “an individual's positive or negative feeling about performing the target behavior (e.g., using a system)” (Fishbein & Ajzen, 1975, p. 216). According to TAM, both PEOU and PU influence users' attitudes toward using a technology. It claims that

if users find a technology useful and easy to use, they develop a positive attitude toward this technology.

The fourth construct, “Behavioral Intention (BI),” is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior (Davis, 1989). Furthermore, TAM claims that PU and ATT directly influence BI. If users find a specific technology useful (PU), they develop a positive intention to use it. Similarly, users’ positive attitude toward a specific technology leads them to develop an intention to use this technology. TAM suggests that users’ behavioral intention (BI) shapes their actual use of the technology (AU). If users have the intention to use a specific technology, then they use it.

These theoretical models attempt to explain the relationship between user attitudes, perceptions, beliefs, and eventual system use.

The conceptual framework

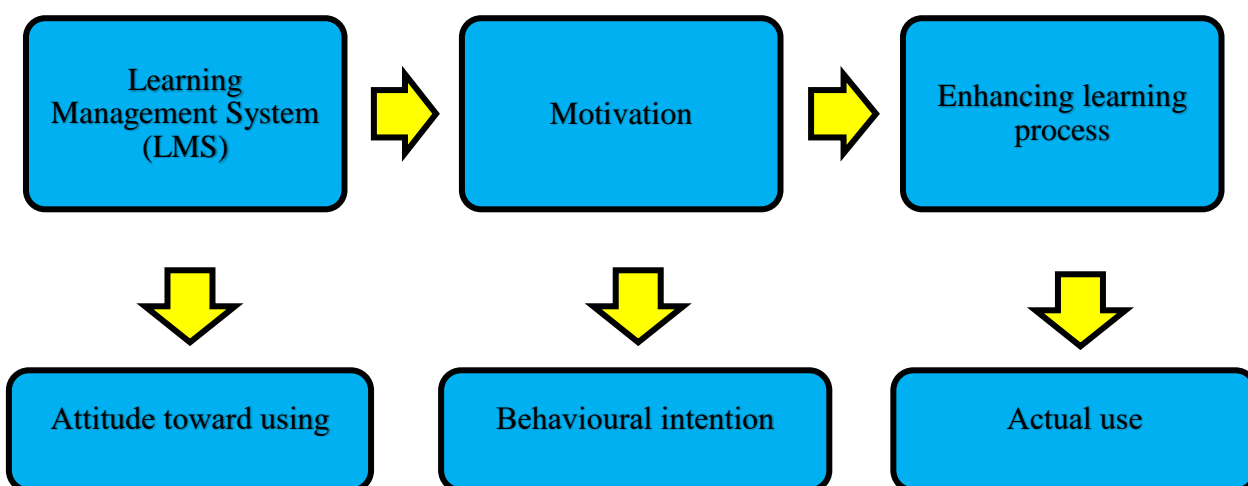


Figure 2.3: *The conceptual framework developed from Self-determination theory by (Deci & Ryan 2000).*

Equally important, motivation and the learning process have a deep connection. Motivation is the core of a human being’s aspirations and achievements. The learning process is an endless life long process. In order to continuously achieve high motivation is crucial. Motivation is the force that encourages students to face all tough and challenging circumstances (Tondeur, 2019).

This showed that integration of digital technologies into the university curriculum and educational process helps to increase the level of students’ motivation, develop their digital competence, enhance academic performance in basic subjects and collaborative work, achieve better text writing skills, learning outcomes, learning interest, creativity, and learning strategies (Froissard, 2019). Additionally, motivation a centralized system streamlines access to course materials, assignments, grades, and communication tools. This organization enhances efficiency for both students and educators.

Next, is enhanced student engagement, (motivation) by interactive features like quizzes, forums, and multimedia content can significantly boost student engagement and participation. In addition, learners need to increase their motivation

in personalized learning experiences by implementing adaptive learning modules and personalized feedback mechanisms within the (LMS). The teachers can use data analytics to monitor student progress and tailor support accordingly. (Hungwei, 2019) stated that within technology-enhanced learning students can derive motivation and effective support from other learners and find opportunities for language learning interaction in a meaningful context. To summarize, the use of (LMS) applications aimed at learning will be more easily realized and full of meaningfulness. By utilizing (LMS), learners can structure their learning environment where students can easily navigate through modules, track their progress, and manage deadlines. This organization reduces cognitive overload and enhances the overall learning experience. Not only that, these platforms often integrate with libraries, research databases, and third-party educational tools, providing students with additional learning materials and opportunities for deeper exploration of subjects.

METHODS

This is a quantitative study. The researcher aims to use a survey design method to conduct the research through a quantitative approach. Data collection and analysis will be conducted using questionnaires specifically designed for this study. The questionnaires are adapted for students to answer the research questions. According to Rahmiati (2019), quantitative research is based on the philosophy of positivism, which emphasizes objective phenomena that are studied quantitatively or using numbers, statistical processing, structure, and controlled experiments.

The main target samples for this research are BA TESL students from the Faculty of Social Sciences, specifically first, second, and third-year students at a private university in Ipoh, Perak, Malaysia. The Bachelor of Arts in English Language Studies focuses on both the theoretical aspects of the English language and practical applications, preparing students for effective English communication in various contexts and circumstances. The researcher chose these particular samples because these students will benefit from the study's findings in the future, aligning with the study's main aim.

The target population consists of 30 students: 9 males and 21 females. This sample size is limited to achieve a certain degree of accuracy in the study. The sampling method used is non-probability sampling, specifically convenience sampling. Non-probability sampling involves selecting samples based on particular criteria, allowing for easy data collection (Asenahabi, 2019).

Under non-probability sampling, convenience sampling is used, where the researcher collects data from the nearest and most convenient respondents. This method is suitable for quantitative data collection. The reason for using this method is to distribute the questionnaires to all TESL students in the Faculty of Social Sciences who are in their first, second, and third years, as these criteria fit the research requirements.

FINDINGS AND DISCUSSION

The quantitative findings of this research, gathered from the responses, were analyzed using the Statistical Package for Social Science (SPSS) application. A frequency analysis was applied, and all the data were correctly coded and entered. Descriptive statistics, including mean, standard deviations, percentages, and frequencies, were used.

The primary instrument used in this research is the questionnaire. According to Rahman (2020), a questionnaire is a method of gathering data from the main subject of a study through their responses. For this research, the questionnaires

included various types of questions (Alshorman, 2018). These questionnaires were adapted from valid and reliable sources to ensure accuracy and reliability in the findings.

Descriptive Statistic of Variables

Table 4.1: Descriptive Statistic for Effectiveness of (LMS) in the Learning Process

<i>Items</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Level</i>
1. The use of (LMS) increases the effectiveness of my learning.	3.43	0.568	Moderate
2. Documents uploaded by the course lecturer on (LMS) platform helps to improve my knowledge of the subject.	3.57	0.504	Moderate
3. I think the (LMS) is a user –friendly platform.	3.53	0.571	Moderate
4.The use of (LMS) helps me to improve my language skills.	3.30	0.750	Moderate
5. My interaction with (LMS) is clear and understandable.	3.50	0.630	Moderate

Table 4.1 demonstrates the analysis of Questions 1 to 5, specifically focusing on the effectiveness of LMS in the learning process. The table shows the mean and standard deviation to determine whether the level of effectiveness of LMS in the learning process is high, moderate, or low among TESL students. The overall data for this section evaluates the level of effectiveness of LMS using the mean scores attained.

Overall, the level of effectiveness of LMS in the learning process is at a moderate level among TESL students. Referring to Table 4.1, Question 4 has the lowest mean of 3.30 (SD = 0.750), and Question 2 has the highest mean of 3.57 (SD = 0.504). Question 4, which indicates that the use of LMS helps improve language skills, was not considered very beneficial by TESL learners as it holds the lowest mean. In simpler terms, this shows that overall, the effectiveness of LMS has benefited TESL students in their learning process, with the highest mean observed in Question 2.

Table 4.2: Descriptive Statistic for Effectiveness of (LMS) in the Learning Process.

<i>Items</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Level</i>
6. I am a productive user of e-learning.	3.20	0.761	Moderate
7.(LMS) provides me with an attractive learning environment compared to the classroom environment.	3.23	0.935	Moderate
8.I believe (LMS) platforms provide useful information to improve their vocabulary.	3.47	0.629	Moderate
9.In my opinion, (LMS) is an easy site to be used for learners.	3.47	0.629	Moderate
10. I deem (LMS) to be more slow-paced compared to face to face learning.	3.37	0.765	Moderate

Further, this section of the analysis focuses on Questions 6 to 10, which examine the effectiveness of LMS in the learning process. Table 4.2 indicates that Question 6 has the lowest mean of 3.20 (SD = 0.761), while Questions 8 and 9 share the highest mean score of 3.47 (SD = 0.629). According to Question 6, the results show that TESL learners are not productive users of e-learning. This indicates that TESL learners prefer face-to-face learning compared to e-learning, possibly due to fatigue from e-learning during the last three years of the pandemic.

In simpler terms, the table shows that LMS provides useful information to improve vocabulary and is an easy site to use for TESL learners. Additionally, by utilizing LMS, TESL learners have gained new skills in their learning process.

Equally important, the Technology Acceptance Model (TAM) theory is suitable for the learning process, as it offers learners the flexibility to utilize their learning styles by using LMS. Applying TAM theory in the learning process can also improve intelligence and motivation towards learning.

CONCLUSION

Based on the findings of this research, a few recommendations should be considered. The analysis of the questionnaires indicated that the effectiveness of LMS in the learning process among TESL undergraduate students revealed some gaps. However, the findings and results of this study were presented positively and are highly recommended.

As Jones (2019) suggested, teachers and learners should utilize LMS in the classroom to brighten the atmosphere and increase student engagement compared to traditional classrooms. This would create an enjoyable and relaxing learning environment, enhancing the overall educational experience. Further, Bakar (2021) indicates that teachers play a crucial role and need to innovate in learning by using appropriate models, methods, and media for learning management systems. The goal is to ensure that every student can learn and work efficiently and effectively. A learning management system aims to develop students' abilities in using learning tools, provide conditions conducive to learning, and help students achieve the desired outcomes. Moreover, the Technology Acceptance Model (TAM) theory is suitable for the learning process using LMS, as it offers students the flexibility to utilize LMS in their learning and motivates them to use the platform (Bhattacharyya, 2018). The LMS should be user-centered and designed for usability, with an intuitive and user-friendly interface to reduce cognitive load and improve the user experience. Conduct usability testing with real users to identify pain

points, and implement changes based on feedback and best practices in user experience design (Davis, 1989). Additionally, integrate adaptive learning technologies that adjust content delivery based on student performance and learning style, providing options for learners to choose their paths (Johnson et al., 2016). Thus, a learning management system should be interactive and engaging. Use videos, simulations, interactive quizzes, and gamification elements in LMS to encourage instructors to develop multimedia-rich materials (Zhang, Zhao, Zhou, & Nunamaker, 2004).

The purpose of this study was to identify the effectiveness of LMS in the learning process among TESL undergraduates. The findings and results of this study were presented positively. The data analysis revealed that the effectiveness of LMS in the learning process among TESL undergraduates is at a moderate level.

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