

Effectiveness Of Learning Management System In University Of Science And Technology Of Southern Philippines Cagayan De Oro And Villanueva Campuses: A Policy Recommendation

Maria Farina V. Roa¹, Esjohol Lester A. Gimeno², Christine B. Tenorio³ and Ajree D. Malawani^{4}*

¹University of Science and Technology of Southern Philippines Villanueva Campus, Villanueva, Misamis Oriental 9002, Philippines

²University of Science and Technology of Southern Philippines Villanueva Campus, Villanueva, Misamis Oriental 9002 Philippines

³Bukidnon State University, Malaybalay City, Bukidnon 8700, Philippines

⁴Mindanao State University – Iligan Institute of Technology, Andres Bonifacio Avenue, Iligan City, Lanao del Norte, 9200, Philippines

Abstract. Learning Management Systems (LMS) is gaining momentum in the Philippines as educational institutions and businesses seek to provide flexible, accessible, and cost-effective training solutions. The Commission on Higher Education mandates the adoption of LMS in higher education institutions. This is based on CHED Memorandum Order No. 04, Series of 2020, which outlines the policies, standards, and guidelines for the establishment and operation of e-learning programs in HEIs. The government's push towards digital education and the growing adoption of cloud-based solutions are driving the growth of LMS in the country. However, there are still several challenges that need to be addressed, particularly in terms of digital infrastructure and teacher training and support. This study examined e-learning in higher education and motivation as variables that affect student learning. The study involved one hundred fifty-seven (157) university students from the University of Science and Technology of Southern Philippines Cagayan de Oro and Villanueva campuses. Data collection was assisted by using a questionnaire with a five-point Likert scale that tested its validity and reliability. The study showed the importance of user-friendly LMS interfaces and technical support, and the crucial role of faculty members in supporting and enriching the learning experience through the LMS.

* Corresponding author: ajree.malawani@g.msuiit.edu.ph

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1. Introduction

e-Learning is the trend or the most widely applied learning model in higher education today, especially during the COVID-19 pandemic [1]–[3]. The development of technology in the 21st century has brought significant changes, especially for higher education which shares a closeness with technology[4]. e-Learning is a learning model that is integrated with media, methods, educational technology and information and communication technology (internet, digital platforms, computers and teleconferencing) in the learning process. Using e-learning, students and teachers can create a very effective and efficient learning climate, where access to important resources needed for theory and practice such as e-books, journals, video tutorials and systematic procedures, is very easy [5]–[7].

This is certainly very helpful in achieving the goal of competence to the fullest. Several relevant studies have identified e-learning as having complete features that create opportunities for students to experience innovative, communicative, collaborative and literary learning climates [8], [9]. Likewise, lecturers' teaching assignments have also changed significantly as they become more flexible in managing virtual classes without being present in physical classes [10].

The widespread reliance on computers in daily life, as well as major technological transformations, have resulted in several changes in a variety of domains, including education [11]. Technology has improved a variety of e-learning systems within higher education institutions; this approach has improved learning and teaching activities. The Learning Management System (LMS), a relatively new technology that is widely used in higher education, is considered to be one of the Informational and communication Technology tools used in the educational industry.

LMS is gaining momentum in the Philippines as educational institutions and businesses seek to provide flexible, accessible, and cost-effective training solutions. The government's push towards digital education and the growing adoption of cloud-based solutions are driving the growth of LMS in the country. LMS is a web-based application capable of transforming face-to-face sessions by offering students a space for online learning [12].

There are quite a number of perceived benefits of using LMSs. However, many faculty members are hesitant to adopt them as a teaching tool. Moreover, teachers tend to underutilize this educational technology despite its widespread availability in higher education settings [13], [14].

The COVID-19 pandemic prompted higher education institutions to explore effective modes of learning, particularly LMS. Another driver of LMS adoption in higher education institutions (HEI) is the need to comply with the Commission on Higher Education (CHED) in terms of their policies and standards for quality assurance. In 2020, the Commission on Higher Education (CHED) issued CHED Memorandum Order (CMO) No. 4 on the Guidelines for Implementing Flexible Learning. The memorandum contains “general guidelines in implementing flexible learning and teaching options, strategies, systems, pedagogies, and modalities in the higher education programs, both undergraduate and graduate, including those under permit status, by all public and private HEIs in the country” (p. 2). Further, it indicates the adoption of flexible learning as the mode of instructional delivery starting the Academic Year 2020–2021 until further notice [15].

In this regard, all HEIs in the country migrated from traditional face-to-face classes to flexible learning set-ups. One of the requirements to implement the latter, which CHED defines as a “pedagogical approach,” is the adoption of LMS. Hence, reports have surfaced concerning the implemented LMSs by different colleges and universities. While some LMSs

were adopted as response to the restrictions of face-to-face classes, some were already implemented before the pandemic.

In addition, the CMO requires HEIs to provide an LMS as part of their e-learning programs in order to support the delivery of online courses and other e-learning activities. However, there are still several challenges that need to be addressed, particularly in terms of digital infrastructure and teacher training and support.

In the University of Science and Technology of Southern Philippines (USTP), plans for digitalization commenced in 2016. However, it was in the school year 2020-2021 when LMS through e-Learning was implemented, at the onset of the pandemic. In the past three years, faculty and students of USTP have been using the University of Science and Technology e-learning Portal (USTEP) in the delivery of classes.

The focus of this research is to determine whether the use of Learning Management System is effective in the University of Science and Technology of Southern Philippines Cagayan de Oro and Villanueva Campuses using the Technology Acceptance Model (TAM) as a framework. These variables include Perceived Usefulness, Ease of Use, Course Content, Student Motivation, and Faculty Capacity.

1.2. Conceptual Framework:

The research model in this study was based on the Technology Acceptance Model (TAM) developed by Davis in 1985 which is a theoretical framework for predicting the early adoption of new computer technologies that can be used in various situations and in different contexts [16]. Davis devised three factors impacting user acceptance of a new computer technology which this research focused on. The first factor was Perceived Usefulness (PU); the second was Perceived Ease of Use (PEOU); and lastly the Attitudes toward Usage (ATU) of a new system [16].

The Technology Acceptance Model is one of the most widely used frameworks for determining the acceptability of technology, and it's been statistically validated even in various higher education institutions. The issues of technology acceptance have taken center in the virtual and augmented reality literature. This seems to be attributable to another huge passion in integrating technologies into education institutions in order to enhance students' learning and critical problem-solving skills and talents. Figure 1 shows the TAM by Davis.

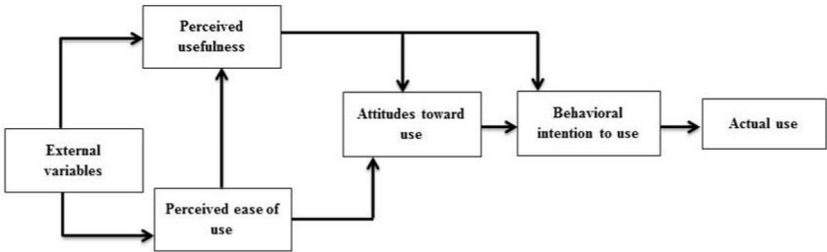


Fig. 1. Technology Acceptance model by Davis (1989).

2. Literature Review

2.1. Learning Management System (LMS)

The Learning Management System is a web-based application that integrates and organizes all teaching and learning initiatives. LMS use significantly lowers the costs and complexity of knowledge transfer within an organization [17]. Many higher-educational institutes (HEIs) currently use the LMS as an essential element for their course delivery [18], and it has become an indispensable tool in higher education for the interactive teaching and learning process [17], [19]. One of the most widely used web-based applications is the LMS. The LMS includes several integrated technologies and there are two types of LMSs available: open source (e.g. Moodle, Forma LMS, Open edX, etc.) and commercial (e.g. Google Classroom, Blackboard, Docebo LMS, etc.). Most LMSs are adaptable, simple to use, accessible and user-friendly [19], [20].

Learning Management Systems (LMS) provide teachers and students with an online classroom that reinforces learning processes. In online classroom environments, LMS reinforce teachers and students in the learning process. A standard LMS supports an inclusive learning environment for academic progress with interceding structures that promote online collaborative-groupings, professional training, discussions, and communication among other LMS users [21], [22]. Educators use the LMS to develop online course content and then monitor it to improve critical reasoning skills and encourage students to work together on activities [23]. The LMS comprises many features, including video conferencing, online group chats, live comments, lecture resources and the interaction between the teacher and the student. Learning modules, course evaluations and grading are available in the LMS, and all of them may be customized to meet teaching and learning needs [24]. Non-traditional modes of teaching and learning assisted by online approaches to education have a favorable impact on both educators and students [25]. Educators use the LMS to share course content and teaching materials with students, as well as to promote collaboration and participation among students via the use of virtual forums. The Moodle is an open-source, free LMS online platform extensively used by several HEIs to engage students and develop more comprehensive and interactive course materials [26], [27]. Moodle LMS is widely used in almost all HEIs in Sri Lanka [28], [29].

One of the main drivers of the adoption of LMS in the Philippines is the government's push towards digital education. In 2019, the Department of Education (DepEd) launched the Learning Resource Management and Development System (LRMDS), an online platform that provides access to learning resources, curriculum guides, and other educational materials for teachers and students across the country. The LRMDS is built on an open-source LMS called Moodle, which is widely used in the Philippines and has been adopted by several universities and colleges, including the University of the Philippines Open University (UPOU) and De La Salle University (DLSU) [30].

Another trend in the use of LMS in the Philippines is the growing adoption of cloud-based solutions. Cloud-based LMS offers several advantages over traditional on-premise LMS, such as scalability, accessibility, and cost-effectiveness. In the Philippines, LMSs were already adopted in the pre-pandemic period to facilitate teaching and learning in the HEIs, as evidenced by several studies [31], [32]. Their importance has become even more visible at the height of the health crisis that affected the education system in the country. [33] introduced the customized names of the learning management platforms of several universities in the National Capital Region (NCR) and their satellite campuses all over the country. The De La Salle University has its AnimoSpace, where all online academic tools and materials are organized. The Ateneo de Manila University has its AteneoBlueCloud, an online platform branded as the University's virtual campus that hosts curricula materials. The University of Santo Tomas has its UST Cloud Campus. The University of the Philippines

System has its platforms, namely the University Virtual Learning Environment and UP Open University. Second, [34] specified that the University of the East adopts Canvas as their LMS. Third, the National University presented a list of the learning management platforms adopted. These include Blackboard, Canvas, Edmodo, Facebook, Google Classroom, Moodle, MS Teams, Schoology, and Zoom, which are classified as primary and secondary platforms. The primary platforms are those formally adopted in a structured academic context, while the secondary platforms are used for informal learning and to supplement instructional events. The MS Teams is the official LMS of the University [35], [36]. Finally, the De La Salle - College of Saint Benilde in Manila reported the adoption of Brightspace, a commercial LMS developed by the Desire2Learn Corporation [37].

Meanwhile, state universities outside NCR, such as a state research university in Cebu City, which CHED designates as the Center of Excellence in Nursing Education and Teacher Education, has been utilizing Google Classroom as its LMS and Zoom for online meetings and conferences [38]. Likewise, [39] from a state university in Catanduanes reported using Google Classroom in their institution.

2.1. Technology Acceptance Model (TAM)

TAM is typically believed to be a very influential and commonly acceptable model towards individuals' acceptance of technology whenever any theoretical model involving adoption of a new technology is addressed [40]. Different models and theories have been used to study the topic of technology adoption [41]. TAM model is undoubtedly one of the most extensively used in the subject of technology adoption. It has gained a lot of empirical support throughout the years[42]. TAM has been employed in numerous research alone in the field of technology adoption, as opposed to hybrid models and other theories in the literature, based on the prevalence of technology adoption theories [43]. TAM2, TAM3, UTAUT, TRA, and deconstructed TPB were the least validated theories in the literature. Academics have employed various recognized theoretical models to explain behavior [44]. TRA, TPB, and TAM are three of the most popular models in the context of technology adoption.

3. Methodology

3.1. Technology Acceptance Model (TAM)

During the first stage of this study, the researchers conducted a literature review with studies related to LMS, and other related literature. Stage 2 involves the adoption of the conceptual framework of Technology Acceptance Model (TAM) by Davis et al. The study uses a mixed approach, with all of data translated to items in a questionnaire. Descriptive analysis is used in analyzing the demographics of the respondents, while the TAM is used to validate the literature review, including CHED Memorandum Order (CMO) No. 04, Series of 2020, and CHED Memorandum Order (CMO) No. 46, Series of 2012.

The Technology Acceptance Model [16] was used to analyze the inter-relationships among constructions with numerous indicators. It implies that perceived usefulness and perceived ease of use have a direct affect with behavioral intention. This study uses TAM to measure the effectiveness of the University of Science and Technology e-Learning Portal (USTeP), the LMS that is being used in the USTP System.

3.2. Technology Acceptance Model (TAM)

The questionnaire was designed using Google Form, and then the questionnaire link was distributed to university undergraduate students of two USTP campuses, particularly in Cagayan de Oro and Villanueva campuses taking up the three (3) courses available to both campuses: Bachelor of Science in Electro-Mechanical Technology (EMT), Bachelor of Science in Information Technology (IT), and Bachelor of Science in Technology Communication Management (TCM).

All primary data for this study was collected using a survey method. A questionnaire was developed and was divided into five sections. The first part contained the demographics of the participant questions. The questions in the second part were about ease of use. Third was about perceived usefulness. Fourth part of the questionnaire was about attitude. Finally, the last part of the questionnaire contained the behavioral intention question. These questionnaires were officially launched in the 2nd semester year 2022-2023, and were distributed online through Google forms.

3.3. Technology Acceptance Model (TAM)

The study involved university student respondents in the University of Science and Technology of Southern Philippines Cagayan de Oro and Villanueva Campuses who had adopted e-learning during the COVID19 pandemic. The study used a quantitative data approach with the collected data analyzed using a five-point Likert scale to measure the effects of the learning management system that is being used in the University of Science and Technology of Southern Philippines Cagayan de Oro and Villanueva Campuses. Data on all variables were collected through a questionnaire distributed online Google Forms. Data gathering was conducted on March 2023.

This study employed mixed methods of research: Quantitative Descriptive. The researchers used the Snowball statistical of two USTP campuses, 3 courses (EMT, IT, and TCM) - CDO and Villanueva campuses, with a total of one hundred fifty-seven (157) university students who were able to complete the questionnaire. 16.6% were answered by students from EMT, 23.6% for IT, and 59.9% are currently enrolled in TCM. Out of the 157, 103 Villanueva, 54 from Cagayan de Oro. In terms of gender, 63.1% are female, while 36.9% are male respondents.

4. Discussion

The result of this study indicates the perceptions of learners regarding various aspects of the Learning Management System (LMS) and its impact on their learning experience. The average ratings suggest a positive reception of the LMS. Learners expressed satisfaction with the LMS's ability to facilitate knowledge acquisition, critical thinking, and individual learning improvement. Participants also appreciated the opportunities for interactive learning and found the content to be relevant, comprehensive, and innovative. However, there were slight concerns regarding the ease of understanding and accessing class materials, as well as technical difficulties in submitting assignments. On the other hand, learners demonstrated a high level of self-discipline, effective time management, and motivation to learn. Participants

highly valued faculty members' abilities to explain lessons, their availability for consultation, and their utilization of LMS features. These findings highlight the importance of user-friendly LMS interfaces and technical support, while also emphasizing the crucial role of faculty members in supporting and enriching the learning experience through the LMS.

Table 1. Summary of Findings

Statement	Average Rating
The Learning Management System (LMS) helps me acquire knowledge.	3.61
The LMS helps me improve my critical thinking.	3.66
I am able to improve my individual learning through the use of LMS.	3.74
The LMS provides opportunities for interactive learning.	3.79
I am able to understand concepts easily through the use of the LMS.	3.47
Relevance to module/syllabus	3.82
Innovative and updated content	3.85
Comprehensive content	3.88
Technical difficulty in submitting assignments	2.71
Ease of learning to operate the LMS	3.46
Ease of accessing class materials	3.56
Ease of use and understanding of the LMS	3.62
Self-responsibility	3.75
Self-discipline	3.94
Effective time management	3.64
Maintaining motivation and enthusiasm	3.70
Faculty members' ability to explain lessons	4.13
Availability of faculty members for consultation	4.04
Use of LMS features by faculty members	4.04
Faculty members' ability to form and combine ideas and practices	3.84

4.1. Implications of the study results

The results of the data have several implications for both the Learning Management System (LMS) and the educational institution implementing it. Here are some implications based on the findings:

1. Enhancing user experience: The lower ratings for statements related to technical difficulties, ease of learning to operate the LMS, and ease of accessing class materials indicate that there is a need to improve the user experience. Addressing these issues, such as providing better technical support, improving the user interface, and streamlining access to materials, can lead to increased satisfaction and engagement with the LMS.
2. Improving concept understanding: The slightly lower rating for understanding concepts through the LMS suggests that there may be room for improvement in instructional design and content delivery. Implementing effective strategies, such as multimedia presentations, clear explanations, and interactive learning activities, can help users better grasp and comprehend the concepts presented through the LMS.
3. Addressing technical challenges: The low rating for technical difficulty in submitting assignments indicates that there might be technical issues hindering the submission process. It is crucial to investigate and resolve these challenges promptly to ensure smooth assignment submission, thereby reducing user frustration and ensuring timely assessment and feedback.
4. Enhancing faculty support: The positive ratings for faculty members' ability to explain lessons, availability for consultation, and use of LMS features suggest that the faculty is

already playing a valuable role in utilizing the LMS effectively. However, continuous support and training can further empower faculty members to maximize the LMS's potential, creating a more enriching learning environment.

5. Promoting self-discipline and time management: The positive ratings for self-discipline, effective time management, and maintaining motivation and enthusiasm indicate that the LMS is perceived as a tool that supports these important aspects of learning. Reinforcing the LMS's features and resources that aid in self-discipline, time management, and motivation can help students develop these skills further.
6. Enhancing content relevance and comprehensiveness: The positive ratings for the relevance to module/syllabus and comprehensive content imply that the LMS is meeting the expectations in terms of content alignment and coverage. However, continuous efforts should be made to keep the content updated, engaging, and aligned with the latest developments in the field to ensure the LMS remains a valuable resource for learners.
7. Collecting feedback and iterating: The findings emphasize the importance of regularly collecting feedback from users to identify areas for improvement. This feedback can inform iterative updates and enhancements to the LMS, ensuring it evolves based on user needs and preferences.

The implications of these results underscore the importance of user-centric design, faculty support and training, content relevance, and continuous improvement in optimizing the effectiveness and user experience of the LMS. By addressing the identified areas for improvement and building upon the positive aspects, the educational institution can foster a more engaging and effective online learning environment.

4.2. Suggestions for future research

Based on the findings discussed earlier, here are some suggestions for future research related to the Learning Management System (LMS) and its impact on learning outcomes:

1. User Experience and Satisfaction: Conduct a detailed study focusing on the factors that contribute to user satisfaction with the LMS. Explore the specific aspects of the LMS interface, features, and functionality that users find most useful and engaging. Additionally, investigate the relationship between user satisfaction and academic performance to determine the impact of a positive user experience on learning outcomes.
2. Pedagogical Approaches: Investigate the effectiveness of different pedagogical approaches within the LMS. Compare the outcomes of traditional didactic instruction with more interactive and collaborative learning methods facilitated by the LMS. Examine how various instructional strategies, such as gamification, multimedia presentations, and social learning, impact student engagement, motivation, and knowledge acquisition.
3. Personalization and Adaptive Learning: Explore the potential of personalization and adaptive learning within the LMS. Investigate how tailoring the learning experience to individual students' needs, preferences, and learning styles affects their engagement and learning outcomes. Assess the effectiveness of adaptive learning algorithms and tools integrated into the LMS in improving personalized instruction and learner performance.
4. Social Presence and Collaboration: Examine the role of social presence and collaboration features in the LMS. Investigate the impact of discussion forums, group projects, and collaborative learning activities on student engagement, critical thinking, and knowledge construction. Assess the effectiveness of different communication tools and features for fostering a sense of community and interaction among learners.
5. LMS Training and Faculty Support: Conduct research on the effectiveness of faculty training programs focused on LMS usage and instructional design. Evaluate the impact of faculty support and professional development initiatives on their ability to utilize the

LMS effectively and enhance student learning outcomes. Investigate the factors that contribute to faculty members' adoption and utilization of LMS features and best practices.

6. **Mobile Learning and Accessibility:** Investigate the integration of mobile learning into the LMS and its impact on accessibility and engagement. Explore how mobile-friendly interfaces, responsive design, and mobile learning apps can enhance the learning experience for students accessing the LMS from various devices. Examine the challenges and benefits of mobile learning in different educational contexts.
7. **Long-term Impact:** Conduct longitudinal studies to examine the long-term impact of LMS usage on students' learning outcomes, retention, and transfer of knowledge. Explore how sustained use of the LMS throughout a course or program affects students' academic and professional development. Additionally, investigate the impact of LMS usage on students' lifelong learning skills and attitudes.

By exploring these areas in future research, we can gain a deeper understanding of the potential of LMS in improving learning outcomes and inform the development of effective practices and strategies for utilizing the LMS in educational settings.

4.3. Policy Recommendations to promote effective e-Learning implementation

To promote effective e-learning implementation, policymakers should consider the following recommendations. First, they should invest in robust internet connectivity and provide necessary hardware and software resources to students and teachers, particularly in remote and underserved areas. Second, comprehensive digital literacy training programs should be implemented to equip students, teachers, and administrators with essential digital skills and knowledge. Accessibility and inclusion should be prioritized by ensuring that e-learning platforms and content are accessible to students with disabilities and by promoting diversity and inclusivity in e-learning materials. Establishing quality assurance mechanisms and standards for e-learning, offering teacher training and support, and promoting the development of high-quality digital content is also crucial. Clear policies and guidelines should be in place for assessment and feedback, and efforts should be made to protect student data privacy and ensure data security. Collaboration and partnerships among educational institutions, government agencies, industry stakeholders, and community organizations should be fostered, along with promoting research and evaluation of e-learning initiatives to inform evidence-based decision-making. By implementing these policy recommendations, policymakers can create an environment conducive to effective e-learning implementation, ensuring equitable access to quality education and enhancing learning outcomes for all learners.

Participants were asked to describe the issues they encountered when using LMS. The set of answers provided highlights various issues encountered when using Learning Management Systems (LMS) such as USTeP and Google Classroom. Here are the overall meanings and implications:

1. The issues mentioned range from technical difficulties, such as server errors, slow loading times, or system crashes, to poor internet connectivity and limited access to resources and support. These technical issues can disrupt the user experience and hinder the smooth functioning of online classes.
2. Some users mentioned compatibility problems with devices or operating systems, making it challenging to access or use certain LMS platforms effectively. This indicates the need for optimizing LMS compatibility across different devices and operating systems to ensure broader accessibility.

3. Several respondents reported difficulties in logging into their USTeP accounts or experiencing confusion with the interface, suggesting that there may be usability issues and a need for improvements in user-friendliness and clarity of instructions.
4. Internet connectivity emerged as a recurring concern, with slow or unreliable internet connections affecting the seamless usage of LMS platforms. This highlights the importance of stable and accessible internet connections for effective e-learning implementation.
5. Some users expressed frustration over missing files, failed submissions, or activities disappearing from the system. These issues can impact the reliability and trustworthiness of LMS platforms, emphasizing the need for robust data management and file storage systems within the LMS.
6. On the positive side, many users found Google Classroom to be accessible, easy to use, and convenient for submitting activities. This indicates the importance of user-friendly interfaces and streamlined workflows to enhance the overall user experience.

Based on the feedback provided, here are some recommendations to improve the USTeP LMS at the University of Science and Technology of Southern Philippines:

1. Simplify the user interface: Make the interface more intuitive and user-friendly, ensuring that students, faculty, and staff can easily navigate and access the necessary features without confusion.
2. Improve accessibility: Ensure that the USTeP LMS is easily accessible, especially for students with limited internet connectivity. Optimize the system to consume less bandwidth and load faster, making it more accessible to all users.
3. Enhance course organization: Organize the course content in a clear and structured manner, making it easier for students to find their subjects and activities. Avoid mixing subjects from different campuses to prevent confusion, particularly for beginners.
4. Implement notifications: Set up notifications or alerts within the USTeP LMS to inform students about new instructions, announcements, or upcoming activities related to their courses. Ensure that these notifications are sent to students' registered email addresses for better communication.
5. Mobile-friendly design: Optimize the USTeP LMS to be mobile-responsive, allowing students to access course materials and participate in activities through smartphones and tablets. This flexibility will provide students with convenience and the ability to learn on the go.
6. Offer user training and support: Provide workshops, tutorials, and documentation to help users, especially new students, understand the features and functionalities of the USTeP LMS effectively. This will ensure that everyone can maximize the benefits of the system.
7. Conduct user testing: Regularly conduct user testing and gather feedback from students, faculty, and staff to identify areas for improvement. Act on the feedback received to address any usability issues, enhance functionality, and refine the user experience.
8. Customization options: Give users the ability to customize their LMS experience. Provide options to customize notification settings, select preferred themes, and rearrange course modules according to their preferences.
9. Reliable and stable system: Address technical issues promptly to ensure a stable and reliable USTeP LMS. Regularly update and maintain the system to minimize errors, crashes, and other disruptions.
10. Integration with external tools: Consider integrating the USTeP LMS with popular educational tools like Google Classroom, providing a familiar and user-friendly environment for students and instructors.

5. Conclusion

The study findings reveal a mixed response to the USTeP Learning Management System (LMS). While some users find it effective and responsive, others express concerns regarding usability and technical issues. Several students prefer Google Classroom over USTeP due to its user-friendly interface and ease of access. Users report difficulties in navigating the system, finding specific courses, and identifying subjects. They recommend simplifying the interface, improving organization, and providing clear instructions. Technical issues, such as errors and slow loading times, need to be addressed to enhance system stability and performance. Users also suggest optimizing the USTeP LMS for mobile devices to improve accessibility. Furthermore, the study emphasizes the importance of providing user support, training resources, and workshops to help users effectively utilize the features of the LMS. Integration with external tools like Google Classroom and timely communication through notifications are also desired. Hence, the study findings provide valuable insights for enhancing the USTeP LMS, focusing on improving user experience, addressing technical issues, and optimizing accessibility and usability.

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