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Analysis of Learning Management System Needs in Madrasah Ibtidaiyah Teacher Education Study Program

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Abstract

The study aimed to evaluate the use of the Learning Management System (LMS) in the Madrasah Ibtidaiyah Teacher Education Study Program. The type of research used is quantitative data collection techniques using questionnaires and interviews. The study's respondents were lecturers and students of the Madrasah Ibtidaiyah Teacher Education Study Program. This research was conducted in the academic year 2023/2024. The results showed that the SIBEDDU LMS was no longer used. The college's LMS uses the Virtual Classroom developed by IAIN Palopo as a replacement. 80% of lecturers are aware of the existence of LMS, but 100% do not use it. Lecturers prefer external LMSs such as Zoom and Google Classroom. Students use the LMS to access materials, submit assignments, participate in discussion forums, and take online exams. The suggestions were the need for improvements to the VCLASS LMS, such as simplifying navigation and paying attention to access speed constraints as well as adequate servers and the preparation of special training for lecturers and students so that they can make good use of the LMS. In addition, developing new features that suit the needs of lecturers and students, such as focusing on developing interactive features such as live discussion forums and integration with digital libraries, as well as further research, can explore the development of LMS-specific features that increase interactivity and user engagement

Keywords: *learning management system, analysis, education*

Introduction

Education has undergone a significant transformation along with technological advancements. Innovations have enriched the learning process and changed the traditional paradigm of education. Internet and Learning Management System (LMS) technology has revolutionized distance education, allowing educational institutions to engage students from multiple locations efficiently and effectively. LMS, defined as a web-based learning management system, not only stores information but also provides an interactive platform for teaching, monitors student progress and manages overall learning activities. Features like chat rooms, video conferencing, discussion forums, and learning assessments enrich students' learning experiences (Agustin et al., 2020; Belawati, 2019; Febiharsa & Kustono, 2021).

At Palopo State Islamic Institute, using LMS has become part of the learning process with various platforms such as VClass, moodle, and Google Classroom. However, implementing LMS within the scope of the Madrasah Ibtidaiyah Teacher Education Study Program still faces challenges. Existing LMSs have limitations, especially regarding the scope of functions, such as chat rooms, attendance, and video conferencing. It is important to recognize that an LMS that is effective and responsive to the needs of students and faculty has a significant impact on the quality of education. Therefore, this study aims to analyze the special needs of the Madrasah Ibtidaiyah Teacher Education Study Program in optimizing the use of the Learning Management System.

The importance of this research is not only in line with technological developments but also with international standards in education. To achieve these standards, educational institutions must ensure that the learning systems they use meet students' needs and support their academic and professional development. Therefore, this study not only evaluates the implementation of technology but also formulates concrete solutions to improve the quality of learning. As such, this research becomes relevant and important in the ever-evolving context of modern higher education.

Almost all universities have used and developed LMS to support learning. One of the universities in Indonesia whose entire management system uses LMS is an open university. From several studies summarized, the use of LMS in overall learning illustrates that the use of LMS has a positive effect on students' learning attitudes and behaviors (Adzharuddin, 2013; Mohd Kasim & Khalid, 2016; Rabiman et al., 2020; Simanullang & Rajagukguk, 2020). This is because using LMS is considered more effective and easy to share and find learning information.

This research aims to design an LMS. The LMS design must meet the needs of students and lecturers. This LMS needs to be developed because it is one of the requirements for educational institutions to achieve international standards (Tubagus, 2021). In addition, with the LMS, the learning interaction process is more effective and stored so that obstacles in the learning process can be easily analyzed to find solutions.

Method

This research uses a quantitative approach with a case study design. Quantitative approaches are used to collect statistically measurable empirical data. At the same time, case studies provide an in-depth framework for understanding the context and challenges the Madrasah Ibtidaiyah Teacher Education Study Program faces in using the Learning Management System (LMS).

The population of this study is students and lecturers registered in the Madrasah Ibtidaiyah Teacher Education Study Program. Sampling was purposive, selecting students and lecturers who actively used the LMS during the research period. The sample should include variations in terms of use and experience with the LMS.

The instruments used in this study were questionnaires and interviews. Questionnaires collect quantitative data about user experience, feature preferences, and LMS barriers. In-depth interviews will be conducted with faculty and students to understand their experiences and views regarding using LMS.

The questionnaire will be distributed to a sample of students and lecturers through an online platform integrated with LMS. Filling out the questionnaire will be carried out independently by respondents. Depending on respondents ' preferences, interviews with lecturers and students will be scheduled separately via video conferencing or face-to-face platforms.

Quantitative data obtained through questionnaires will be analyzed using statistical techniques, such as descriptive analysis to describe user-profiles and inferential analysis to identify patterns and relationships between variables. Qualitative data from interviews will be analyzed thematically to identify respondents' key patterns, challenges, and recommendations.

The analysis results will be evaluated thoroughly to gain a comprehensive understanding of the use of LMS in the Madrasah Ibtidaiyah Teacher Education Study Program. The findings will be interpreted in the context of the relevant literature. They will be used to formulate recommendations and concrete solutions to improve implementation and optimize the LMS within the scope of the case study.

Results

Two LMS are available for lecturers and students in the Madrasah Ibtidaiyah Teacher Education Study Program: SIBEDDU and VCLASS. SIBEDDU was developed by the Faculty of Tarbiyah and Teacher Training, while the institute developed VCLASS to support online learning. SIBEDDU stands for integrated learning information system. SIBEDDU E-Learning is a learning process with an integrated learning information system that uses internet devices as virtual classes. SIBEDDU was developed by the Faculty of Tarbiyah and Teacher Training at the Palopo State Islamic Institute.

In this study, it has been found that when the research was conducted, SIBEDDU's Learning Management System (LMS) could no longer be used. This finding shows a change in technological infrastructure or learning system management policies within the Madrasah Ibtidaiyah Teacher Education Study Program (PGMI). Discontinuation of the use of SIBEDDU LMS has affected the learning process and made its users change to other LMS developed by outsiders.

The results of this study reflect the importance of sustainability and maintenance of online learning systems. Changes in technology infrastructure or internal policies can affect the accessibility, availability, and ease of use of learning platforms. Stopped LMS can hinder lecturer-student interaction, make it difficult to manage learning materials, and affect the student evaluation and assessment process.

In addition, this study also highlights the need for sustainable information technology management strategies in educational institutions. Regular evaluation of technology infrastructure and policies for using online learning systems must be carried out to ensure a smooth learning process. The shift towards a more efficient, responsive, and accessible learning platform must be balanced with training and technical support to lecturers and students to maximize the potential of online learning.

The findings also raise questions about the integration of technology in education and the need for long-term planning to maintain the sustainability of the use of learning technology. This study provides important insights for education policymakers and technology developers to understand the challenges and opportunities in managing effective and sustainable online learning systems.

With the COVID-19 pandemic forcing educational institutions to switch to online learning, VCLASS has become the backbone for the smooth learning process. This platform allows Lecturers to manage materials, assign assignments, and interact with students. The safety and comfort of students and lecturers in participating in online learning is a priority, and VCLASS provides a safe and structured environment.

VCLASS allows lecturers to create interactive virtual classrooms. Lecturers can conduct online classes in real time, give lectures, answer questions, and facilitate discussions, creating a learning experience similar to face-to-face learning. This flexibility allows students to access materials anytime, allowing for independent and targeted learning.

Data on LMS used by lecturers in the PGMI Study Program was obtained from interviews involving nine respondents. The interview results showed that 80% of respondents knew about the existence of the LMS PGMI Study Program. However, 100% of lecturers do not use the LMS of the PGMI Study Program and prefer other LMS such as Zoom, Google Classroom, and Meet Google.

As many as 60% of lecturers use LMS available outside the institute, such as Google Classroom Zoom, combining it with Google Classroom and Vclass. 40% of respondents

explained that inadequate access speeds and servers led them to use an LMS outside the institute.

Most lecturers revealed that the available LMS has not helped them much in learning. Some respondents stated that server constraints and the availability of friendly (easy-to-use) features were the main obstacles to using LMS developed by institutes and faculties.

Lecturers want an LMS integrated with other IAIN Palopo systems such as the Lecturer BKD System and the Thesis Guidance System. In addition, online quiz features, attendance, discussion forums, announcements, Single Sign-On (SSO), and interface are expected to also be available inside the LMS. Based on these data, it can be concluded that lecturers need a complete LMS and can make learning take place as it happens in the classroom environment directly (offline).

The following are some suggestions given by lecturers regarding the development of LMS that will be carried out in the Madrasah Ibtidaiyah Teacher Education Study Program, namely (a) evaluation and improvement of LMS PGMI Study Program need to pay attention to access speed constraints and adequate servers; (b) Integration with other systems and the presence of friendly and accessible features are key in designing an LMS that suits the needs of lecturers and students; (c) special training is needed to ensure lecturers who are not yet familiar with the LMS can use the platform efficiently and effectively; (d) The availability of a mobile version of the LMS is essential to facilitate access to learning anywhere and anytime.

Data sourced from lecturers provides a strong foundation to design and develop a PGMI Study Program LMS that is more responsive and efficient, meets user needs, and improves the overall learning experience. Data collection for students is carried out using questionnaires. The data collected shows that most respondents access the Learning Management System (LMS) 1-2 times a week (46.4%) and know that the PGMI Study Program has an LMS (36.9%).

Most students use LMS to access course materials (69.5%), submit assignments online (79.3%), participate in discussion forums (40.2%), take online exams (29.3%), and see grades and feedback from lecturers (42.7%). Most students find LMS helpful to their learning (45.1% helpful, 56.1% helpful). Obstacles experienced by students include slow access to the platform (31.3%), difficulty in uploading assignments (43.4%), and difficulty communicating with lecturers or fellow students (28.9%). Students provided several improvement proposals, including better training for faculty and students, increased LMS interactivity, and explanatory videos.

Students want the integration of the LMS with the digital library system to facilitate access to supporting resources. Some students stated that the involvement of lecturers in providing materials and assignments in the LMS is important to improve the user experience. Based on the data analysis that has been carried out, this study produced significant findings related to the use of the Learning Management System (LMS) in the Madrasah Ibtidaiyah Teacher Education Study Program. From the samples taken, LMS user profiles are drawn that cover various user backgrounds, including the level of experience in using technology. Most students are more familiar with the LMS interface than lecturers, but most respondents, both students and lecturers, face challenges in using the LMS's interactive features.

Respondents rated features such as chat rooms, discussion forums, and video conferencing as important in supporting distance learning. However, there is a tendency that most of these features have not been fully utilized. Chat rooms and discussion forums are rarely used, while video conferencing is used more frequently but still requires improvement in terms of quality and availability.

The main challenge faced by LMS users is limited accessibility, especially for students with unstable internet connections. In addition, lack of formal training in the use of LMS features, as

well as confusion in interface navigation, are also major obstacles. Users give positive ratings to LMS regarding platform reliability and ease of access to learning materials. However, LMS performance evaluations show that improvements in interactivity, use of collaborative features, and clearer user guidance are needed.

Based on these findings, the study recommends regular training for students and lecturers on using existing LMS features. Development of a comprehensive user guide module is also recommended, including video tutorials and written documentation. In addition, it is necessary to improve the network infrastructure and accessibility of the LMS to ensure that all users can access the platform smoothly.

Discussion

The results of this study provide deep insight into the use of the Learning Management System (LMS) in the Madrasah Ibtidaiyah Teacher Education Study Program, especially in the context of distance learning. The results showed that the lack of interactive features such as chat rooms and discussion forums is in line with previous studies showing that interaction between participants in an LMS environment is often limited (Akhmadi, 2021). This suggests that, despite interactive features, the challenge of enabling participation remains a critical issue.

Previous studies that discuss learning methods have proven that interactive learning approaches, such as the treasure hunt method, are effective in increasing student understanding (Munawir, 2020). These findings reinforce the urgency to integrate similar interactive elements, such as chat rooms, discussion forums, and video conferencing, in Learning Management System (LMS) platforms. Furthermore, the research highlights the importance of training and technical support for teachers in applying innovative methods in teaching. Therefore, in developing an LMS for the Madrasah Ibtidaiyah Teacher Education Study Program, deep attention to interactive elements and adequate training for teachers is essential. By building an LMS that incorporates the principles of interactivity and provides adequate training, online learning programs can be more effective, provide an immersive learning experience, and support teachers in improving the quality of distance learning.

The findings that accessibility limitations and lack of formal training reinforce the results of previous research highlighting the role of training and technical support in increasing the use of LMS (Broadbent & Poon, 2015). The lack of training also reflects findings from previous research that adequate training can reduce uncertainty and increase user confidence in technology (Al-Azawei et al., 2016).

The assessment is positive of LMS reliability, but the need for improvement in collaborative features mirrors previous research emphasizing the importance of technology reliability and usability in improving user satisfaction. In addition, this evaluation aligns with the theory of Diffusion of Innovation (Rogers, 2008), where innovations that are well adopted by users provide real advantages and are easy to use.

In overcoming the decline in the ability to think critically, innovatively, and creatively amid various educational challenges, previous research proposed applying a learning model that relates students' daily experiences to learning materials (Padallingan et al., n.d.) Integrating these models with interactive methods in the Learning Management System (LMS) platform is important. Combining innovative elements in the LMS and providing adequate training will create an effective online learning environment, support the development of students' critical thinking skills, and significantly improve the quality of education in Indonesia.

Recommendations for regular training and development of user guide modules support previous research highlighting the importance of continuous support and clear guidance in

improving technology acceptance (Gikas & Grant, 2013). These recommendations align with the Theory of Educational Technology (Ely, 1990), emphasizing the need for ongoing support to address resistance to technological change. In addition, it is also important to pay attention to the values of local wisdom in learning to maintain and preserve cultural heritage as an asset of the nation (Munawir et al., 2023).

Overall, these findings contribute to our understanding of the factors that influence the use of LMS in distance education. By linking these findings with past theories, this research provides a solid theoretical foundation for developing training strategies, platform development, and education policies that can increase the use of LMS and improve the experience in distance learning.

Conclusion

Using the Learning Management System (LMS) in the Madrasah Ibtidaiyah Teacher Education Study Program still faces several obstacles. Research findings show that the LMS previously used, namely SIBEDDU, has been replaced by Virtual Classroom (VCLASS) within the scope of the Madrasah Ibtidaiyah Teacher Education Study Program. Most lecturers still use external LMSs such as Zoom and Google Classroom, which indicates that internal LMSs have not met the needs of lecturers. LMS managers should pay attention to unnecessary menus, and simplifying navigation will significantly improve the user experience. Pay attention to access speed constraints and guarantee adequate servers. Slow access speeds can reduce efficiency and user satisfaction.

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