
STUDENTS' ATTITUDES TOWARD LEARNING MANAGEMENT SYSTEM (LMS) DURING COVID-19 PANDEMIC: A CASE STUDY

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Abstract:

This study aimed to know the students' attitudes and influenced factors in learning Islamic education using Learning Management System (LMS). This study used a qualitative approach based on the social cognitive theory. The subjects of this research were 18 students and 3 teachers who taught Islamic education online in SMA 1 Jember. Data were collected through observation, interviews, and documentation. The data were analyzed using Miles' and Hubermann's interactive technique, consisting of three stages: data condensation, presentation, and conclusion. The result of this research indicated that the students' attitudes in the implementation of LMS during learning Islamic education were positive because they could easily reach learning material and other sources. In addition, the students' attitudes on LMS were influenced by three factors: individual (e-learning self-efficacy), social (subjective norm), and organizational (accessibility system) factors.

Abstrak:

Penelitian ini bertujuan untuk mengetahui sikap siswa dan faktor-faktor yang mempengaruhinya dalam pembelajaran pendidikan Agama Islam menggunakan *Learning Management System (LMS)*. Penelitian ini menggunakan pendekatan kualitatif berdasarkan *Social Cognitive Theory*. Subjek penelitian ini adalah 18 siswa dan 3 guru yang mengajar Pendidikan Agama Islam secara online di SMA Negeri 1 Jember. Pengumpulan data dilakukan melalui observasi, wawancara, dan dokumentasi. Analisis data menggunakan teknik interaktif Miles dan Hubermann, yang terdiri dari tiga tahap: kondensasi data, penyajian, dan penarikan kesimpulan. Hasil penelitian ini menunjukkan bahwa sikap siswa selama pembelajaran Pendidikan Agama Islam menggunakan LMS adalah positif karena mereka dapat dengan mudah menjangkau materi pembelajaran dan sumber lainnya. Selain itu, sikap siswa terhadap LMS dipengaruhi oleh tiga faktor: faktor individu (*e-learning self-efficacy*), sosial (*subjective norm*), dan faktor organisasi (*accessibility system*).

Keywords:

Learning Management System, Students' Attitudes

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INTRODUCTION

The systematics of a research article are the title, the author's name, the name and address of the affiliation institution, email address, contact person number (especially numbers that can communicate via WA). The introduction contains the background,

literature review, and research objectives which are narrated clearly. The next sections are research methods, research results, discussion, conclusions and research suggestions, and a bibliography.

E-learning has become a solution design system for education during the COVID-19 pandemic situation nowadays (Ariatama, Adha, Rohman, Hartino, Prawisudawati, & Ulpa, 2021; Herlina, Lagandesa, Azizah, & Asriani, 2021; Mabruuri & Hamzah, 2020; Saxena, Baber, & Kumar, 2021). The implementation of education through e-learning is based on the use of Information and Computer Technology (ICT) media (Das, 2021; Wen, Gwendoline, & Lau, 2021), which is implemented with the Learning Management System (LMS) at various levels of education (Turnbull, Chugh, & Luck, 2021). Several studies indicate that LMS is an important information technology-based learning media platform in bridging the delivery of online learning messages to students (Araka, Maina, Gitonga, Oboko, & Kihoro, 2021; Cavus, Mohammed, & Yakubu, 2021; Raza, Qazi, Khan, & Salam, 2021) so that it leads to increase the effectiveness of education (Butnaru, Nita, Anichiti, & Brinza, 2021). However, Mohammadi, Mohibbi, and Hedayati (2021) put a different thesis, which stated that the technical implementation of learning through LMS is not the main solution for implementing effective digital learning.

A study from another perspective is needed to understand LMS as an information technology-based learning medium in educational institutions to fill the gap among those research results. One of the perspectives that scholars can use to analyze is students' attitude in responding to the presence of LMS as a supporting element of their new learning environment. In this context, Walker (2021) concludes that students' worldviews affect their attitudes to learning technologies in LMS. On the other hand, Fuady, Sutarjo, and Ernawati (2021); Narendra (2021) state that LMS has the lowest acceptance rate for students compared to other learning platforms such as Zoom, Google Meet, and Google Classroom. In this context, it can be inferred that the preferences of e-learning media such as LMS have various scopes and scientific study perspectives.

The application of LMS in education has become a solution that can improve students' performance in evaluating the learning outcomes (Oguguo, Nannim, Agah, Ugwuanyi, Ene, & Nzeadibe, 2021). On the other hand, evaluating student learning outcomes can also be used as *feedback* for improving the LMS system used by educational institutions (Kant, Prasad, & Anjali, 2021). Ustun, Karaoglan Yilmaz, and Yilmaz (2021) state that the students' acceptance of LMS relates to the comfort of the learning environment. The synergy of the reciprocal relationship between students and LMS systems continuously increases the quality of a learning process. This condition was growing the role of LMS in empirically proven to have implications for increasing students' argumentation skills (Gunawan, Purwoko, Ramdani, & Yustiqvar, 2021), improving the quality of a learning process through empowering the learning environment (Bradley, 2020), and developing the effectiveness of educational design (Sim, 2020).

The benefits of LMS in education can facilitate the achievement of learning objectives based on targets. Moreover, in today's virtual learning environment,

understanding and interactive learning facilities are the primary keys to the sustainability of online learning (Chang & Kuo, 2021). The potential use of LMS in education is examined through its relationship to students' behavior as the subject of education itself. This relationship becomes a separate discourse for academics. It is studied from the students' psychological perspectives. One of them is through the behavior displayed by students in undergoing LMS-based learning (Bessadok, Abouzinadah, & Rabie, 2021)

Several educational institutions have taken adaptive steps in dealing with the current pandemic shocks through e-learning learning systems by maximizing the role of information technology (ICT). One of them is SMA Negeri 1 Jember (State Senior High School 1 of Jember) – starting now is written SMA 1 Jember. The fundamental change experienced by this school is the learning model, which was originally conventional through face-to-face to e-learning that utilizes computer technology as the main device. ICT has brought changes and revolutionized the implementation of learning, including in SMA 1 Jember, which has been indicated in several pieces of research (Bassey, Umoren, Akuegwu, Udida, Ntukidem, & Ekabua, 2007; Mohapi, Agboola, & Kang'ethe, 2021; Prabowo, Rahmawati, Meliarta, Astuti, Ahmarezza, & Adhania, 2021). E-learning and its significant impact have enabled access to up-to-date and accurate information and learning flexibility that can be done anywhere and anytime without being confined by space between teachers and students (Islahulben & Widayati, 2021).

In this context, the role of ICT in the e-learning format can raise perceptions of self-acceptance from students through patient and self-discipline behavior, ease of understanding learning materials, and accessibility in conducting independent online learning evaluations (Suryani & Murniyasih, 2021). On the other hand, poor e-learning perceptions may also arise due to a lack of communication, understanding, or perception of acceptance from students themselves (Sakkir, Dollah, & Ahmad, 2021). Therefore, attitudes that arise from students' perceptions need to be fostered and developed simultaneously so that the role of ICT in implementing e-learning in educational institutions can take place optimally.

Uniquely, e-learning in SMA 1 Jember has been implemented through a professionally managed Learning Management System (LMS) that has led this educational institution to achieve achievements as an international standard school or called SBI in Jember, East Java. Through its LMS, SMA 1 Jember is one of the educational institutions that adapts web-based learning systems with the application of web pages, video conference systems, or CD-ROMs in teaching and learning activities, especially in the current COVID-19 pandemic situation. Behind the adaptation process, the success of the LMS implementation in SMA 1 Jember lies in the ability of the students to adopt the technical, operational understanding of the e-learning process in the LMS in SMA 1 Jember. The adaptive attitude of these students is one of the determining factors for the success of e-learning implementation (Bertea, 2009) that e-learning has a strategic position in improving the quality of education if the sportsmanship of the students supports it. Then, it is reasonable that an analysis of students' attitudes towards the

presence of learning technology is alleged to have a strong relationship with the sustainability of the learning system organized by educational institutions (Honorata, 2021; Jula, 2021). In a partial scope, it is even stated that attitude becomes a determining factor that dominates certain habituation patterns in a person (Imtihanudin & Mariana, 2021).

Based on this description, the focus of this research lies in the process of interpreting students' attitudes towards the implementation of e-learning based on the Learning Management System (LMS) in SMA 1 in Jember, East Java, Indonesia. This LMS-based e-learning has become an education system that SMA 1 Jember has massively implemented during the current COVID-19 pandemic, even though this educational institution has indeed facilitated an ICT-based learning system through its school website even before the COVID-19 pandemic. Through the LMS-based e-learning system, teaching and learning activities are carried out optimally, starting from planning to evaluating the learning stages. Reasonably, the optimization of learning technology and ICT is always pursued by SMA 1 Jember to adapt higher-quality online learning designs through the implementation of LMS. Therefore, this research aimed to know the students' attitudes and the influenced factors during learning Islamic education, commonly called PAI, using Learning Management System (LMS) at SMA 1 in Jember. Through this study, the gap in implementing LMS-based e-learning might be found then educational institutions could develop a strategy to solve it during the COVID-19 pandemic.

RESEARCH METHOD

This research used a qualitative approach to more critically understand the reality of LMS-based e-learning during the COVID-19 pandemic and examine students' attitudes during the learning process. The attitudes referred to the participation shown by students during studying Islamic education through LMS in SMA 1 Jember, which was integrated into Online learning. The theoretical basis of this study was based on the social cognitive theory initiated by Bandura, who stated that a person's behavior is influenced by the process of vulnerability, resilience, and adaptability to new situations (Bandura, 1977; Kursan-Milakovic, 2021; Schunk, 1989). LMS-based e-learning has created success in positioning SMA 1 Jember as an International Standard School with competence in learning technology in Jember. Thus, this research investigated the argumentative framework of students' attitudes comprehensively during the implementation of LMS-based e-learning with learning technology as the basis for its support through the design and implementation of activities.

Data was collected through the virtual interview technique to 18 students and three teachers who teach Islamic education online of SMA 1 Jember. In addition, non-participant observations and documentation data were also carried out in collecting research data. Furthermore, the data were analyzed using Miles and Hubermann's interactive technique, consisting of three stages: data condensation, presentation, and conclusion.

RESULTS AND DISCUSSION

Learning Management System (LMS) in Education

Learning Management System (LMS) has become a popular trend in obtaining ICT-based information that has been widely used in the world of education today (Rabiman, Nurtanto, & Kholifah, 2020). Significant changes due to the presence of e-learning, especially during the COVID-19 pandemic, caused LMS to become one of the priority learning systems developed by institutions at every level of education. In developing the LMS, 'classroom' is defined as the physical meeting between teachers and students in one room. It undergoes a drastic change towards its definition as a virtual learning environment consisting of various components. Some education experts thought this phenomenon inevitably changed the Industrial Revolution to the Information Age (Digital Age) in the 21st century (Kehrwald & Parker, 2019; Reigeluth & Garfinkle, 1994). In this context, communication in the LMS can be considered one of the infrastructures that includes a collaborative-cooperative component between humans and the digital world to create affordability of the educational process. Furthermore, the flexibility and affordability of the online learning system is a driving force for increasing students' cognitive understanding, especially in the midst of the challenges of the COVID-19 pandemic today (Hu & Spiro, 2021).

On a broader level, the COVID-19 pandemic has triggered an increase in LMS use with various feature compositions. In this case, there are several criteria for educational institutions in choosing an LMS with the right features and design following their respective learning objectives. LMS is identified into several categories: communication, productivity, and learning skill tools (Kraleva, Kraleov, & Kostadinova, 2019). Communication tools focus on the LMS function in bridging interactions between teachers and students through chat, discussion forums, and email. The second category, namely productivity tools, is the functionalization of software provided by the LMS system, such as the function of download/upload data, both by teachers and learners, evaluation platform for student learning achievement, and protection facilities for LMS user data security. The last is learning skill tools within the LMS dominate virtual teaching and learning activities, such as task columns, video presentations, links to upload teaching materials, and quizzes columns.

These criteria include LMS variants such as Sakai, Blackboard, Moodle, SumTotal, and A Tutor. Three types of LMS, namely Moodle, ATutor, and Sakai, are LMS open-source licenses platforms. This term means that teachers and students can use the features contained in the LMS to carry out learning activities without having to pay fees to the license of the copyright holder of the platform. As used by SMA 1 Jember, Moodle is an LMS that is not based cloud but can integrate with other systems. In its use, Moodle can be an asynchronous or asynchronous learning system (Khan, Johnston, & Ophoff, 2019). Thus, both teachers and students can access Moodle and carry out learning simultaneously, or they can communicate at certain times with a duration adjusted to their needs.

SMA 1 Jember applies Moodle of LMS learning system via web address lms.sman1jember.sch.id/on/. Through the LMS, teaching and learning activities of Islamic education subject is carried out in two platforms, namely synchronous and asynchronous. In implementing synchronous learning, the LMS of SMA 1 Jember facilitates the delivery of Islamic education material through video conferencing, live chat, and online discussions to allow virtual interactions between teachers and students. While in asynchronous learning, LMS SMA 1 Jember provides a feature for sending learning materials uploaded by teachers and can be explored independently by each student. One of the Islamic education teachers said:

The LMS feature, which accommodates the learning process online at our school, has been a form of learning technology innovation that supports the implementation of the educational process, especially during a pandemic like nowadays. Through the LMS, PAI teachers can teach in guiding the learning course. For example, in the practice of prayer, students have the flexibility to collect prayer practice videos whenever they can, so they can manage outside of school hours. We do this with an asynchronous strategy. However, on the other hand, we deliberately set some learning meetings using asynchronous format so that the delivery of PAI learning messages can run optimally through video conference or live chat. Through this synchronous forum, we want to teach critical thinking skills to our students.

However, the Moodle of LMS *open-source* in SMA 1 Jember prioritizes learning targets to increase the cognitive aspects of Islamic religious understanding and students' psychomotor aspects through their worship practices. Researchers analyzed this based on the evaluation of learning conducted by Islamic education teachers at the school. The application of learning technology through Moodle of LMS does not necessarily leave the primary goal of Islamic education: to emerge purity of human beings who have good morals and character comprehensively among cognitive, affective, and psychomotor aspects. One of the leaders of SMA 1 stated:

The implementation of PAI learning that we held at SMA 1 Jember wholly followed the current curriculum reference. On the other hand, the pandemic situation that requires learning to carry out in an e-learning format makes us have to take adaptive steps related to learning technology and learning media suitable for online conditions. However, we still have to maintain the achievement of the affective element in the PAI subject. Therefore, in addition to learning, we do this through LMS. We also have students' affective assessment form, which we call a mutaba'ah sheet.

In the evaluation context, the mutaba'ah sheet monitors the development of worship practices carried out by students at home during e-learning. Islamic education (PAI) teachers have a format for assessing their students' attitudes through the assessment sheet. The attitude assessment in Islamic education learning is also a supportive teaching tool owned by teachers in SMA 1 Jember during e-learning. The tools are e-books and e-modules of PAI subjects. At the same time, SMA 1 Jember accommodates every subject, including PAI, under the national and internal curriculum

reference at the organizational policy level. The national curriculum provides technical-formal access in learning plans which is the obligation of teachers. In contrast, the internal curriculum of SMA 1 Jember oversees the application of learning in an online format through LMS. The integration of the two types of the curriculum, in reality, can support educational goals.

Implementing PAI learning through LMS has its challenges for teachers, particularly in the pedagogical and managerial adaptation of grouping learning materials. Moreover, the change in offline education patterns towards virtual learning requires teachers to transform their teaching mechanisms. Hickling, Bhatti, Arena, Kite, Denny, and Spencer (2021) stated that it is common to provide a solution for teachers to improve their ICT-based teaching tools. Hence, learning is expected to occur effectively (Mardiana & Supriyatno, 2021). However, behind these challenges, the LMS of SMA 1 Jember provides natural support for the sustainability of virtual learning in providing learning resources, providing teaching materials, and evaluating learning outcomes digitally. The institution's support measures seem to strengthen that maximum student achievement through online learning platforms (Watson & Watson, 2012).

On the other hand, the implementation of LMS in SMA 1 Jember also led to an adaptive response of students in their acceptance of the latest e-learning situation. They respond to PAI learning based on LMS by adapting the learning system, from passive (receiving material in offline classes) to learning activities that actively access learning material in LMS. The pattern of adaptation carried out by these students can be emphasized as a form of acceptance of attitudes that show self-restraint amid new situations. This condition is one of the characteristics of an individual's social cognitive abilities (Bandura, 1977; Kursan-Milakovic, 2021; Schunk, 1989). One of the students stated as follows:

I am a 12th-grade student currently following the learning system online at my school. At the pandemic's beginning, I felt a tremendous surge of change in my learning patterns. Previously, I could comfortably observe PAI material in class physically, but it turned into virtual teaching during the pandemic. When this occurred, I took the initiative to access the LMS actively so that I did not miss out on lessons. Furthermore, Alhamdulillah, now I can follow the learning pattern online well.

Students also showed another response. One of them increased learning resources, especially PAI subjects requiring them to understand and practice some of the material in real terms, so good psychomotor competence is needed. For example, the practice of prayer that they must regularly report through the *mutaba'ah* sheet. One of the students stated:

E-learning for Islamic Education subject at our school has a form of worship practice assessment that we must fill out regularly and report to our teacher. The sheet became a boost for me, in particular, to learn a lot from various media, so I did not just rely on teacher's explanation. I often study through YouTube to see tutorials on proper prayer practices. With the help of this video, the material I read in the e-module can finally understand well.

Researchers have arguments regarding LMS implementation in PAI subjects in SMA 1 Jember. As an educational system that utilizes information technology in the learning process, LMS in SMA 1 Jember combines real collaboration between the needs of today's education world and information technology readiness through LMS. It can trigger the students' acceptance towards the application of LMS. Meanwhile, from the teacher's perspective, LMS in SMA 1 provides options for teachers to be creative with discussion models. They can also facilitate students with various learning resources, plan online-based learning, and guide students to overcome learning difficulties that arise during the education process.

The students' attitudes toward LMS: Individual, Social, and Organizational Factors

One of the common obstacles encountered in the implementation of education amid the current COVID-19 pandemic situation lies in the lack of enthusiasm and interest of students in new adaptation patterns in online learning, as indicated in several studies (Alshurafat, Beattie, Jones, & Sands 2020; Mese, Sevilen, & Info, 2021). In this condition, learning technology through e-learning, application-based media, and online platforms is an urgent factor that must be available to create profits in the form of improving the quality of education (Aminatun & Oktaviani, 2019). Besides that, training on the use of LMS for teachers can be a source of motivation for students so that they want to be actively involved in e-learning (Islam, 2016).

LMS-based e-learning used by SMA 1 Jember created varied behavioral responses from students. Several of them had the motivation to learn more and enthusiasm to download Islamic education materials. Aside from lessons prepared by their teachers, the students also had access to other learning sources using LMS features. However, not all students could easily adapt to using LMS during learning Islamic education. Thus, the students' attitudes toward LMS were influenced by several factors such as individual, social, and organizational factors.

The first is the individual factors (e-learning self-efficacy). Students' accepting attitudes were related to their cognitive and affective abilities. The determining factor that connects the two abilities lies in the interest factor of individual students to take part in PAI learning through LMS. This interest ultimately triggers one's cognitive competence and creates an effective online learning process (Garad, Al-Ansi, & Qamari, 2021). Some consider that motivation (Putra, 2021), perception (Araka, Maina, Gitonga, Oboko, & Kihoro, 2021), and problem-solving in students are important factors in learning activities (Ayu, 2020). In this context, the students' cognitive and affective competencies of SMA 1 that participate in PAI e-learning are shown by their ability to access teaching materials (e-books and PAI e-modules) in LMS. The students also have proactive attitudes in participating in every meeting both synchronously and asynchronously.

The Second is the social factors (subjective norm). Referring to Bandura's theory of social cognition, it is said that a person's cognitive domain (perception, interpretation, and information processing) is a supporting element for the learning process that occurs in the social environment (Bandura, 1977, 1986; Schunk, 1989). It means that the accentuation of external factors in the form of impact and social support determines the

behavior taken by a person and the reasons for individual participation behind the behavior. In addition, Alzahrani and Seth (2021) state that the social environment contributes to creating learning conditions that support the development of student acceptance of e-learning in the learning system. The researchers also observed the support of the social environment for the sustainability of e-learning in SMA 1 Jember. The support of the social environment in the educational institution determines students' behavior and accepting attitudes towards the new educational pattern that they inevitably have to follow.

The third is the organizational factors (system accessibility). It is related to the institutional aspects that overshadow the e-learning system in educational institutions. In this case, the institution has the authority to determine the learning design that is applied to their students. This design ultimately raises the students' motivation to participate in learning, or vice versa (Mese, Sevilen, & Info, 2021). Therefore, educational institutions need to encourage teachers to improve their pedagogical quality (Sim, Chan, Chong, Chua, & Soon, 2020). The readiness of teachers and students is a top priority in SMA 1 in implementing online learning. The researchers indicated that LMS accessibility was the dominant factor that led to the successful implementation of LMS-based e-learning at the institution. In line with this research, Bacow, Bowen, Guthrie, Lack, and Long (2012) confirmed the urgency of academic integrity in implementing online-based learning is through the integrity of the institution's productivity from the technical-implementation side of the learning technology system used (Bacow, Bowen, Guthrie, Lack, & Long, 2012).

The argumentative framework for students' accepting attitudes in SMA 1 towards the implementation of LMS-based e-learning is based on four aspects. In this study, the researchers interpreted that the argumentative framework for students' accepting attitudes in SMA 1 Jember towards implementing LMS-based e-learning is based on four aspects: students' willingness, knowledge, learning objects, and e-learning activities. These four aspects raised an attitude of acceptance in students who participated in the learning process in SMA 1 Jember. Students' willingness and knowledge encourage them to look for internal factors that motivate them to accept LMS-based e-learning at school. The object of material and learning activities is an external factor that complements the adaptive response of students in undergoing learning in the current pandemic era. Reasonably, the theory put forward by Bandura (1977) is about a person's cognitive potential in responding to the social environment, supported by Wadsworth (2021), who concluded that the integration of knowledge, attitudes, and skills as a determinant of professionalism of the academic community. In addition, Saputra & Susiana (2021) also indicated that students' perceptions of LMS could be analyzed based on three main factors: the device, the influence of location, and the level of students' satisfaction.

CONCLUSION

Learning Management System (LMS) at SMA 1 Jember is an important medium during the COVID-19 pandemic. It accommodates every subject learning process,

including Islamic education (PAI). The students' attitudes toward LMS in learning Islamic education were positive because they could easily reach learning material and other sources. The argumentative framework for students' attitudes towards implementing LMS-based e-learning is based on four aspects: students' willingness, knowledge, learning objects, and e-learning activities. In addition, the students' attitudes on LMS were influenced by three factors: individual (e-learning self-efficacy), social (subjective norm), and organizational (accessibility system) factors. The implication of this research lies in the efforts of educational institutions to continuously provide e-learning systems while still prioritizing aspects of students' acceptance of the designed system. Thus, the learning target in terms of improving the quality of students can be achieved optimally.

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