

Investigating Students' Perspectives on the Use of E-learning MOODLE

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ABSTRACT

E-Learning has developed rapidly, with many Learning Management Systems (LMS) being used to support learning. The COVID-19 pandemic has provided great opportunities for these developments, one of which is MOODLE LMS which lecturers and students can use to support teaching-learning activities. This study aims to investigate the perspectives of students of the Primary School Teacher Education Study Program, Faculty of Teacher Training and Education, in a state university of West Kalimantan, on the use of the institutional e-learning facilities, namely MOODLE LMS in terms of ease of use and usefulness in the distance learning process amid the Covid-19 pandemic. This study was conducted with qualitative research methods and data collection in the form of semi-structured interviews. This study found that 8 (eight) of the interviewed respondents reported that the MOODLE LMS was very easy to use, especially when logging in, accessing materials, receiving and submitting assignments, and learning about the instructional system when navigating it. MOODLE LMS also allows for quick and on-time assignment submission, provides the convenience of interacting with lecturers, makes learning more interesting and fun, and increases learning motivation. This study is expected to encourage more educators, especially lecturers, to use MOODLE LMS to engage their students in more meaningful learning and complete quality face-to-face interaction in post-pandemic.

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1. INTRODUCTION

Although the Covid-19 pandemic has passed its critical years, online learning as one of the most beneficial impacts in education during this frightening period has still been trending to the current

time. The use of multimedia mentions computers, laptops, smartphones and other gadgets as the main tool for online learning, which needs to be implemented in remote or online teaching and face-to-face learning interaction (Ginting et al., 2022). During its use, online learning, including e-Learning, depends on the available technology that serves as a media to support learning, such as hardware, software, and networks which focuses on digitizing and integrating physical resources and their supporting features (Piotrowski, 2010; Mital' et al., 2021). The application of this advanced learning is especially supported by the tendency of generations living in the 21st era who are familiar with today's developments in information and technology (Raja & Nagasubramani, 2018), which provides broad access to information in support of learning process (Oludare Jethro et al., 2012). Several e-learning media are recommended for helping educators, including the Moodle Learning Management System (LMS) application (Circular of the Ministry of Education and Culture of the Republic of Indonesia No. 15, 2020)

In Indonesia, including West Kalimantan, Moodle as a learning media is not as widely used as it is in other countries (Gamage et al., 2022; Folden, 2011). Most learnings in many areas in this country, especially in West Kalimantan, use Google Classroom, which was found to be easier and more practical than other learning webs or apps (Suparjan & Ismiyani, 2022). Several instances of the use of MOODLE were reported at SMA Muhammadiyah 2 Yogyakarta (Rahmani, 2021), which revealed that MOODLE encourage students' interest in learning and greatly contribute to improving students' competence in the use of technology and pedagogy in learning English. Other countries had also not used MOODLE LMS until Covid-19 Pandemic attacked (Quansah, 2021; Rajan & Manyala, 2021)

LMS was used as a supporting application for e-learning, which was recorded to be widespread in the United States in 2002. The use of e-learning increased in all countries when the COVID-19 pandemic spread throughout the world (Dhawan, 2020). LMS is a web-based, multi-user software application which is commonly used to help manage training, courses, and mixed-learning programs. LMS provides automation in order to replace rigid, expensive, and time-inefficient manual learning with time and space efficiency with great possibilities for managing content, data, and learners (Foreman, 2018). Some of the registered LMS are among others Moodle LMS, Sakai, Blackboard, Desire2Learn, Angel, and eCollege (Dabbagh & Bannan-Ritland in Piña, 2010). In the context of a pandemic situation, e-learning with LMS bridges learning during restrictions on direct contact between students and students, or between students and teachers, one of which is made possible by the Moodle application.

Modular Object-Oriented Dynamic Learning Environment (MOODLE) is a web-based application as an online learning system that can be used for free (Rice, 2015). In addition to being free to use, Moodle LMS is also built on an appropriate educational philosophy when used in education. Moodle is also widely used by people around the world, so it is superior to other LMS platforms (Jason Cole and Helen Foster, 2007). There are several plugins in the Moodle application, such as authentication, registration, themes, custom formats, etc. It is also easier for the Administrator to authenticate users to log in (Henrick & Holland, 2015).

In West Kalimantan, this researched state university is one of the users of MOODLE. The administrators of the MOODLE e-learning system at this state university have introduced this LMS to academics to facilitate their activities in giving lectures and its use increased during the Covid-19 pandemic. The use of this platform certainly needs to be explored further to see the extent of the ease, and usefulness of the implementation of e-learning with MOODLE LMS at This state university in the hope of providing reference materials that can be used by educators in West Kalimantan.

MOODLE as learning media, as reported by Gamage et al., 2022, is widely used in international universities. This literature-based study using quantitative research has found that MOODLE is very effective in terms of improving student performance, satisfaction and involvement in the learning process as an adaptable application and can be used with a collaborative learning model. MOODLE has proven to be able to overcome academic integrity, ethics, and security by increasing navigation speed and incorporating artificial intelligence. The study by Gamage et al., 2022 found an empty space,

namely research on the use of MOODLE with the help of qualitative research to reveal the descriptive side of the reality of using applications as this study did.

Research technically conducted on e-learning has indicated that the system in MOODLE functions well in the learning process, is acceptable to users, and can meet user needs in the learning process (Santoso & Efendy, 2020). However, the research has yet to thoroughly cover the aspects of ease of use and usefulness of use as this study seeks to do. Other studies on the usefulness of MOODLE in language learning have shown that MOODLE is not built for specific learning purposes such as language learning (Prasetya, 2021). The research focuses on language learning, which this study has not discussed. Compared to several studies described above, this research is different in terms of the methodological standpoint, object of research, and its focus on viewing the Technology Acceptance Model as an indicator of student satisfaction.

There has not been any investigation on MOODLE LMS conducted in the research department of this state university. Therefore this research was also initiated to fill the gap and to encourage the lecturers of either this department or other departments within or outside the university to apply MOODLE LMS and to carry out research projects on the subject. This study discovered the perspectives of the students, especially those of the Primary School Teacher Education Study Program (PGSD) at the Faculty of Teacher Training and Education of the researched state university on the use of MOODLE as an e-learning application, which is determined by looking at the usability aspect based on the theory of Technology Acceptance Model (Davis, 1989) dividing the technology acceptance model in learning into two parts, namely ease of use, and usefulness.

2. METHODS

2.1 Participants and Characteristics of Respondents

This study used a qualitative descriptive research method, using the technique of semi-structural interview with 8 (eight) respondents who used the Moodle platform during the instruction they received at the Elementary School Teacher Education Study Program, Faculty of Teacher Training and Education of this researched state university, Pontianak for the 2021-2022 Academic Year. The eight respondents were selected based on gender and semester classification. The respondents' data is shown in Table 1 below:

Table 1 Respondent Biodata

No	Gender	Semester
R1	Female	6
R2	Female	6
R3	Female	2
R4	Female	2
R5	Male	6
R6	Male	6
R7	Male	2
R8	Male	2

2.2 Research Instrument

This study used question sheets during interviews with the respondents. The questions asked to the respondents were divided into two parts. The first part consisted of general questions, such as the respondent's name, gender, and the respondent's semester classification in the courses they were taking. The second part consisted of questions that generally describe the students' perspectives based on the formulation of the problems in this study. The questions are as follows:

1. What is your perspective on using MOODLE in learning activities in terms of ease of access, namely ease of login, ease of accessing materials, ease of receiving assignments, ease of submitting assignments, ease of learning about features and steps to use MOODLE?
2. What is your perspective on using MOODLE in learning activities in terms of usefulness, namely assignment submission, interaction with lecturers, convenience in learning and increasing learning motivation?

The questions above were presented orally to the respondents and they answered them orally as well, while we acted as recorders and note-takers to make it easier to transcribe it into written form later.

2.3 Data Analysis Method

This study was divided into three stages, namely, planning, implementation, and publication. At the planning stage, preparations were made, such as collecting references on the use of MOODLE in e-learning, selecting sources, formulating problems, and writing the research proposal. The implementation activities included data collection using the semi-structured interview with predetermined respondents, data transcription from voice recording to written form, data analysis, and conclusions drawing. The analyzed data would be written in the form of research articles for publication.

The data in this study were analyzed using the thematic data analysis technique with two questions. The thematic data analysis technique aims to find themes obtained at the research site regarding the obstacles in using MOODLE LMS as learning media during the Covid-19 pandemic (Braun & Clark in Heriyanto, 2018). The thematic data analysis technique is considered appropriate to explore in-depth and rigorously the problems found at the research site (Alhojailan in Purwanto et al., 2020).

3. FINDINGS AND DISCUSSION

In this section, a graph is used to show the opinions of all respondents from the interviews. The different answers from one respondent to the next will be used to come to conclusions. The results of the interviews with 8 (eight) people are shown in the graph below.

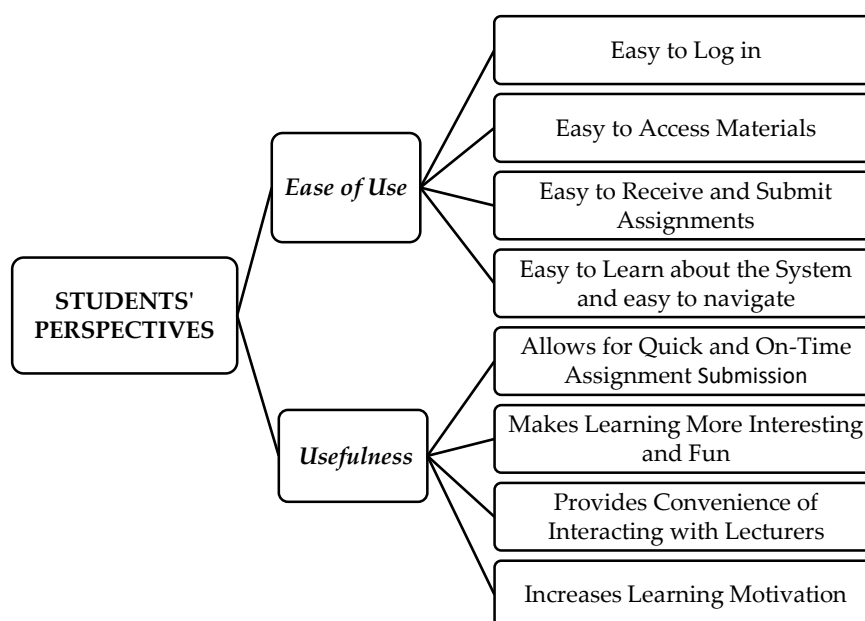


Figure 1 results of interviews with respondents

3.1 Ease of Use

Based on the results of the interviews regarding the aspect of *ease of use*, in general, responses from the eight respondents show that the Moodle LMS is easy to use. However, it all depends on the network and server conditions, which often run into errors when logging in to either *e-learning* or Moodle LMS. The following are several indicators that describe the *ease of use* of the Moodle LMS which consists of: easy to log in, easy to access the material, easy to receive and submit assignments, easy to learn about the course system, and easy to navigate.

Easy to Log in

The following are several indicators that describe the *ease of use* of the Moodle LMS which consists of 'easy to log in' and the results of the interviews with informants, which are shown as follows.

Easy (when logging in to Moodle). But sometimes it's hard to log in because of an error. Sometimes the internet doesn't support heavy Moodle applications. (R1)

For me, logging in to e-learning and to Moodle is easy. No difference from other applications. The problem is sometimes it can't be accessed because the signal is weak. (R2)

At first, it was difficult to log in. But [as I'm] in a higher semester, [I have] more experience. (R3)

My position is in the village. The signal here [is so weak that I] can't even log in to e-learning. Even when accessing materials, [there are] often errors. (R8)

Based on the results of the interviews as indicated above (R1) and (R2), the process of logging into Moodle is considered very easy because it is directly connected to students' emails and this institutional e-learning platform. However, you need a stable and strong internet network for easy login. This is because the initial interface of the Moodle LMS requires a lot of data. Cases of error and difficulty logging in occur on networks with small data packages and areas that still do not have an established network infrastructure, as experienced by (R8) who could not log in to Untan e-learning account during the day so he could not access learning materials and nor could he submit assignments on time. The level of student experience also determines the ease of logging in to Moodle as experienced by (R3), who at the beginning of the semester reported that it was a bit difficult to log in to Moodle because he had to first log in to the Untan e-learning account. There is no significant difference in terms of gender and semester classification. Male and female students or students with high or low semester classifications found it easy to log in to the Moodle LMS or Untan e-Learning account.

The ease of logging in to the Moodle LMS is an initial impression that provides convenience for users to continue using it until the end of the learning activities. With the ease of logging in, the time spent in the learning process can be effective. The effectiveness of the Moodle LMS is certainly in line with the function of the creation of the LMS as a substitute for a learning process that is less efficient in the use of time (Foreman, 2018).

Easy to Access Material

The next Ease of Use indicator is that it is easy to access learning materials. The results of the interview regarding the ease of accessing the material are shown as follows.

It's easy to open the material files (R1)

It's easier on Moodle, because it's more convenient, more detailed and more systematic. (R2)

It's easier and more complete (R3)

It's easier, complete, a lot of material; structured. (R4)

It's easier on Moodle. Consistent [by simply] hitting the next [button]. More systematic. (R5)

It's easier, because there is a manual. Because it's more detailed, more systematic. (R6)

Regarding the material, [it] depends on the lecturer. It's easy. (R7)

When there is an error, you can't log in. (R8)

Based on the results of the interviews conducted with 8 (eight) respondents, almost all reported that they could easily access the material on the MOODLE LMS. This is because, with the MOODLE system, all materials delivered in one semester need to be uploaded simultaneously so that students can see the flow of the material as a whole. The uploaded materials are not too big in terms of size because they are connected to various other media such as Google Drive, YouTube and so on. In some cases, it is difficult to access materials as in the case of (R8), due to an unstable signal in the area where he lives. There is no significant difference in terms of gender and semester classification. Male and female students or students of high and low semester classifications find it easy to receive the material on the MOODLE LMS.

The ease of receiving material certainly gives a convenient effect on the use of MOODLE LMS. With this ease of use, learning will be effective. Although in practice for students at this researched university, there are several network problems, overall, these challenges can be overcome. The ease of uploading proves that the MOODLE LMS works well in the learning process (Quansah, 2021; Rajan & Manyala, 2021; Santoso & Efendy, 2020).

Easy to Receive and Submit Assignments

The next *ease of use* indicator is the ease of receiving and submitting assignments. The results of the interviews regarding the ease of receiving and sending assignments are shown as follows:

It's easy to open the material files. The assignments are also easy to receive and understand, even if there is no notification in the email. To submit assignments, sometimes there is an error (R1)

It's also easy to receive assignments. Submitting assignments is also easy; it's just that sometimes there is an error that assignments can't be submitted. (R2)

Receiving assignments is a little difficult because there are no notifications like in other apps. Submitting assignments is easy, but sometimes when you forget to press the submit button, the assignment is not submitted. (R3)

I find it easy to receive assignments because there are a lot of explanations, such as multiple choice, essays, etc. It's also very easy to submit assignments but when the signal is weak, it's difficult to submit. (R4)

Receiving assignments is a little difficult because there are no notifications. There's only a schedule. But, it's very easy to understand. Submitting assignments frequently encounters errors. (R5)

Receiving assignments is easy; it's just that there are no incoming notifications. But, it's very easy to access the questions. Submitting assignments is rather easy but still depends on the network. (R6)

Assignments have no notifications; Only [when logged] on MOODLE can I find out if there is an assignment. Submitting assignments is easy. (R7)

Assignment notifications are not in email, only on MOODLE. When you can log in [to the application], you can submit assignments (R8).

Some respondents reported that receiving assignments on MOODLE LMS was easy. However, MOODLE LMS does not have assignment notifications in email, so students need to log in to MOODLE LMS first to find out if they receive assignments or if they find out from announcements made by the lecturer. These difficulties were encountered by all respondents, so they still had to check on the application or remind each other so as not to be left behind to do assignments. Submitting assignments is also very easy, but it requires a strong and stable network.

There were several obstacles reported when submitting assignments, such as errors and unstable networks so that assignments could not be submitted on time as experienced by (R1), (R2), (R3), (R4),

(R5), (R6) who often encountered network errors. In (R8)'s case, the assignment submission could only be made at night or with the help of friends who have a strong and stable network.

Regarding the respondents' criteria discussed in this study, there were no significant differences in terms of gender and semester classification. Male and female students or students with high and low semester classifications find it easy to receive and submit assignments.

Easy to Learn about the System and Easy to Navigate

The next *ease of use* indicator is that it is easy to learn about Moodle as a learning system and navigate in it. The results of the interviews regarding these indicators are shown as follows:

Initially, it was easy (to learn about Moodle) because there was a manual on YouTube provided by the lecturer. So, ask for information from friends is so easy. It's also easy (to navigate). Sometimes I forget. The interface on the phone and on the laptop is different. So, the interface layout is also different. (R1)

At first, it was a bit complicated. [But] it doesn't take long to learn. It's easy to navigate. (R2)

It was a bit difficult at first (to learn and navigate on Moodle). It took me some time, but I can finally do it (R3)

At first, I was confused because there were so many menus. How to submit assignments, where, etc. But because I've got used to it. It's easy because it is structured (for easy navigation) (R4)

It's easy because the features are complete (learn). It's easy to navigate. (R5)

It was [difficult] at first, because the Moodle dashboard is a bit different. Navigating is easy (R6)

It's easy to understand; easy to explore. (R7).

Praise be to Allah, it's easy to learn about Moodle and easy to navigate (R8).

Based on the results of the interviews regarding the ease of learning about Moodle LMS as a learning application and the ease of navigating it, it can be formulated that all respondents reported that in general, they found it easy to learn about and navigate on the platform. Some of the factors that improved their knowledge were the comprehensive explanation from the lecturers on how to use the Moodle LMS. In addition, the fact that students actively asked questions among themselves resulted in the improvement of their knowledge about the platform. Some respondents encountered some difficulties but it did not last long and over time, they were able to run the application normally. There was no significant difference in terms of gender and semester classification. Male and female students or students with high and low semester classifications found it easy to learn about and navigate in the Moodle LMS.

The ease of learning about and navigating the Moodle LMS greatly contributed to the smooth running of the learning process. This is in line with reports that Moodle's LMS has been proven to be superior in several countries because of its speed in navigating (Gamage et al., 2022). But needless to say, this happens in countries with good network facilities, such as the United States.

3.2 Usefulness

Based on the results of the interviews regarding the usefulness of using the model in learning, eight respondents reported that they felt that Moodle had a very positive effect on their learning process both in terms of the interface, completeness of features, and several additional features with significant usefulness. The usefulness indicators discussed in this study consist of allowing for quick and on-time assignment submission, providing the convenience of interacting with lecturers, making learning more interesting and fun, and increasing learning motivation.

The usefulness of Quick and On-Time Assignment Submission

The results of the interviews and discussions on usefulness indicators in the form of the possibility of quick and on-time assignment submission are shown as follows:

I agree that we can submit assignments quickly and on time with Moodle. However, sometimes it depends on the file. The network also sometimes encounters an error. (R1).

It is possible because there are features that show uncompleted assignments. Deadlines [are strict] that we can't be late either. [If we're late, we] can't submit [assignments]. (R2)

Yes, because if you are late, you can no longer submit it. (R3)

That's right because on Moodle, [if we're late, the assignment] can't be submitted. (R4)

If you're on Moodle, you have to be on time. (R5)

It's possible. But it still depends on the network (R6)

Very possible (R7)

It's possible because it has deadlines. I still have to submit [my assignments] at dawn (R8)

Based on the interviews regarding the *usefulness* indicators in the form of the possibility of submitting assignments quickly and on time, all respondents gave positive responses. In the MOODLE system, each assignment has a strict deadline so participants need to exercise discipline with regard to assignment submission. In addition, there are also several indicators for completing the assignments that can be seen on the MOODLE dashboard so that students can continue to monitor their work. Several problems were reported when submitting assignments on MOODLE, namely unstable network and server errors that had caused many users to submit their assignments late. There was no difference in responses between male and female respondents as well as respondents with high and low semester classifications.

The *usefulness* in terms of the possibility of submitting assignments quickly and on time certainly depends on network conditions. This was reported by several respondents (R6) and (R8) that they had to upload assignments when the network was stable. (R8) in particular, had to upload assignments when the network is not busy or at dawn. Internet is indeed the main stuff needed for the application of MOODLE LMS. Based on the previous findings, students who have better access of internet through their digital devices would have better perspectives on e-learning delivery, including and especially for MOODLE LMS (Arthur-Nyarko & Kariuki, 2019; Quansah, 2021; Rajan & Manyala, 2021)

The convenience of Interacting with Lecturers

The next *usefulness* indicator is the convenience of interacting with lecturers using MOODLE LMS. The results of the interviews and discussion of this indicator are shown below.

So far, I have never interacted with the lecturers. Comments on assignments are not found on Moodle (R1)

Never via MOODLE. Moodle only provides links, so [we] use Gmeet or Zoom, etc. (R2)

Quite convenient because we have a forum created by the lecturer (R3)

It's easy to interact in the forum or on [Google]meet (R4)

More convenient on MODLE (R5)

[We] can have discussion with the lecturers on Gmeet and in the forum. (R6)

The interaction only takes place on [Google]meet or in the discussion forum (R7)

[We] can interact on Moodle because a discussion forum is created (R8)

Based on the interviews with 8 (eight) respondents, several students reported that MOODLE LMS did not provide the convenience of interacting with lecturers. On MOODLE LMS, there is a feature that can be used as a medium for sending messages. However, this feature is managed by education providers (lecturers). Some lecturers do not use this feature as a medium of communication. So far, interactions have been carried out through the help of other media such as WhatsApp, Google

Meet, or Zoom. There is no difference in responses between male and female respondents or respondents with high or low semester classifications.

The convenience of interaction, in this case, is certainly facilitated by several other media such as Google Classroom, WhatsApp, and other supporting applications. This is because Moodle LMS does not provide a video conferencing feature. A discussion forum can be used as a medium of communication between lecturers and students or between students and students. However, some lecturers do not activate the forum so the MOODLE LMS application has absolutely no media to communicate on but is facilitated by other applications.

Learning is More Interesting and Fun

The next *useful indicator is that MOODLE LMS makes learning fun and interesting*. The results of the interviews and discussion of this indicator are shown below.

I agree because Moodle have more features, such as a profile, course schedule, and there is progress percentage (R1)

I agree because it is systematic and clear (R2)

It's more interesting because the material and assignments are more varied (R3)

I agree, because on Moodle, there are various types of assignments and materials (R4).

I agree, because on MOODLE there are many features in Classroom. Finals exams are more real. (R5)

I agree because there are many interesting features. [It also shows] the percentage of learning achievement (R6)

More interesting. On MOODLE, [we] can play live videos (R7)

I agree because it makes things easier for students during the pandemic. More or less like that (R8)

Based on the interviews with the respondents, all of them positively responded to the use of MOODLE LMS, namely, it is an interesting and fun media. The average response considers that MOODLE LMS has an interesting dashboard and wide-ranging features for an online learning platform. These include the materials available for one semester, student profiles, course schedules, percentage of course progress, and other advantages compared to other LMS platforms. In addition, the materials presented on MOODLE LMS are more varied in terms of assignments, such as the multiple choice and essay questions that can be answered directly on the platform. MOODLE LMS is considered to be more complete and more capable of connecting students to the learning process.

Regarding the usefulness of MOODLE LMS, which makes learning more interesting and fun, it is consistent with the criteria of MOODLE LMS, which comes with several plugins that are fun for its users. (Henrick & Holland, 2015). The plugins include the percentage, of course, and progress plugin that each member can monitor. Several other plugins are also very useful for providing a degree of learning effectiveness such as an authentication plugin that helps administrators to properly manage the display, content, and data on MOODLE LMS. In this case, there is no significant difference of opinion between male and female students, or students with high or low semester classifications.

Increasing Learning Motivation

The next *usefulness indicator is that MOODLE LMS increases student learning motivation*. The results of the interviews and discussion of this indicator are shown below.

I agree that MOODLE increases my learning motivation (R1)

I agree because it shows the percentage when [you're] on MOODLE so you can view the progress of our learning. It makes me more enthusiastic (R2)

It's more challenging if [you're] on MOODLE (R3)

I agree [if we switch] to MOODL (R4)

I agree because it's more interactive (R5)

Yes (R6)

I disagree (R7)

I agree because it can be exciting and fun (R8).

Seven students were interviewed, and their responses indicated that MOODLE LMS has the potential to boost their enthusiasm to learn despite the ongoing covid-19 epidemic. This is due to MOODLE LMS's superior visual appeal to that of competing LMS platforms utilised extensively in secondary education. In particular, R1-R6 and R8 (the majority of respondents) mentioned this. Students' proportion of completed lessons is clearly displayed on the MOODLE dashboard, as indicated by (R2) respondents. Respondent (R7) said he was uninspired by MOODLE LMS because of its frequent faults and its need for a sizable data package. With regards to semesters and gender, there is no discernible difference. The majority of students, both male and female and from a variety of semester classes, felt that MOODLE LMS boosted their enthusiasm to learn.

Findings from a study conducted at SMA Muhammadiyah 2 Yogyakarta suggest that MOODLE LMS has the potential to boost students' desire to learn (Rahmani, 2021). This study's findings corroborate those of the previous one in that they reflect an optimistic view of MOODLE LMS's usability and utility, both of which have the potential to increase students' motivation to utilise the app/web. It's common knowledge that MOODLE LMS is distinct from the plethora of alternative LMS platforms found in West Kalimantan's universities. The philosophy of education on which MOODLE LMS is based (Jason Cole and Helen Foster, 2007) was developed with the needs of its users in mind; the goal was to boost students' interest in learning.

4. CONCLUSION

The vast majority of participants in this study rated MOODLE LMS highly for both its simplicity of use and its usefulness as a learning tool. The majority of respondents said they had no trouble with any aspect of the system's usability, including logging in, reading the materials, completing assignments, understanding the system's layout, and submitting work. The majority of students said they found the platform helpful because it allowed them to complete their work more quickly, connect with their instructors more easily, engage in more engaging and enjoyable learning activities, and boost their drive to study. The results of this research should persuade more teachers, particularly lecturers, to adopt MOODLE LMS to facilitate more meaningful learning and, ultimately, quality face-to-face connection with their students in the wake of the pandemic. The lack of quantitative research on this topic in the relevant department and the absence of perspectives from the lecturers' sides, both of which are crucial to analyse, are two examples of the study's weaknesses that call for more investigation.

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