



## **E-Learning As Information Technology-Based Learning Media For Students**

**I D Sumitra<sup>1</sup>, W Karwati<sup>\*2</sup>, D A Mariam<sup>3</sup>, D E S Simangunsong<sup>4</sup>**

<sup>1</sup>Departemen Teknik Informatika, Universitas Komputer Indonesia, Indonesia

<sup>2,3</sup>Fakultas Hukum, Universitas Komputer Indonesia, Indonesia

<sup>4</sup>Fakultas Teknik dan Ilmu Komputer, Universitas Komputer Indonesia, Indonesia

Email: [Wantiputri18@mahasiswa.unikom.ac.id](mailto:Wantiputri18@mahasiswa.unikom.ac.id)

---

### **Article Info**

Article History:

Received: March 26, 2021

Revised: April 4, 2021

Published: April

e-ISSN:2623-2324

p-ISSN:2654-2528

DOI: 10.5281/zenodo.4683492

### **Abstract:**

The purpose of this study was to determine the effectiveness of the Learning Management System (LMS) as an information technology-based learning medium for students of the Indonesian Computer University. This research method uses descriptive quantitative methods. Data collection was carried out by distributing questionnaires using Google Form media and disseminating them via WhatsApp. The scope of the distribution of the questionnaire was limited to 34 respondents with the characteristics of semester 3 to semester 7 students. The results showed that the effectiveness of LMS as an information technology-based learning medium for Indonesian Computer University students was already effective. However, some students argue that face-to-face learning systems are more effective than using LMS. The results of this study conclude that LMS e-learning is effectively used as an Information Technology-based learning medium for students of the Indonesian Computer University. Learning can be said to be effective if the four indicators of learning effectiveness are effective. LMS effectiveness indicators consist of quality, facilities, student readiness to use, and readiness to receive and understand course material.

**Keyword:** Learning Management System (LMS), technology-based, learning, effectiveness

---

## **INTRODUCTION**

Information and communication technology is now progressing quite rapidly. The learning process with a face-to-face system is still the main model in education, but now the online learning model is also beginning to develop. E-learning is a computer-based educational device or system that allows students to learn anywhere and anytime. E-learning

is also referred to as a learning model that includes various media, delivery of learning materials through a site on the internet using multimedia, virtual classes, etc. Many types of platforms use e-learning models to support the running of information technology-based learning processes, one of which is the Learning Management System (LMS) (Courts, B, et al., 2012). LMS is an application system with learning concepts that manage the learning process, provide and submit content, and track online activities. Many people widely use information technology as a media learning using the LMS model among academics, including teachers and lecturers who can interact with students.

Previous research with a similar topic conducted by Rusli et al related to e-learning Management Systems in Higher Education examined the meaning and concept of e-learning. This research shows that e-learning is an effort to achieve equitable education and improve information technology in education (Muhammad Rusli, M. T, 2020). Another study mentioned that the website's effectiveness successfully meets user information needs (Salsabil, Z, et al., 2020; Adiyarta, K, et al., 2018). Similarly, further research related to e-learning shows that the development of e-learning can be seen from every student who uses e-learning and contributions and expectations about the role of tutors in e-learning that are not formed (Harandi, S. R, 2015). Research with a similar theme related to the effectiveness of learning using moodle against learners' motivation and interest during the Covid-19 pandemic states that talented and skilled students in using moodle e-learning applications play an active role in using the application (Wicaksana, E. 2020). Research with a similar theme shows that the effect of e-learning is useful on student learning achievement (Gamage, D, et al., 2015).

This research aims to determine the effectiveness of LMS as a learning media based on information technology for students of Universitas Komputer Indonesia (UNIKOM). This research method used a descriptive quantitative method. Data was collected by spreading the questionnaire using Google Form media and distributed through WhatsApp.

## RESEARCH METHOD

Based on the previous statement, this research aims to determine the effectiveness of LMS as a learning medium based on information technology for students of Universitas Komputer Indonesia. With 34 respondents consisting of students from semester 3 to semester seven who use the LMS application as a learning medium. This research used the descriptive quantitative method and the method of spreading polls using Google form and distributed through WhatsApp. The questionnaire method in this study aims to measure the effectiveness of LMS as a learning medium for students of Universitas Komputer Indonesia.

Data collection was obtained from the responses to the polls that have been disseminated. The research results were analyzed descriptively are questionnaire data referred to as the effectiveness indicator consisting of learning quality, incentives, conformity of learning level, and time.

## RESEARCH RESULTS AND DISCUSSION

### *Features of LMS Learning Management System UNIKOM*

In UNIKOM's LMS (Learning Management System) platform, there are several main features with different functions that can support the learning process. Here are some of the features in UNIKOM's LMS:

## *Initial Appearance of LMS UNIKOM*

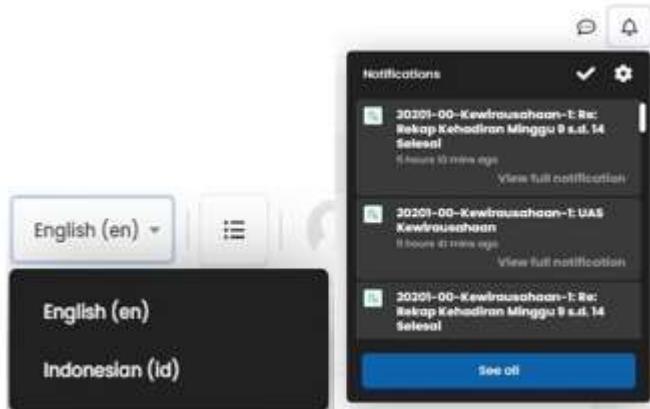
Figure 1 below shows the interface of the LMS UNIKOM homepage.



**Figure 1.** UNIKOM LMS Homepage  
Source : UNIKOM LMS

## *Customization*

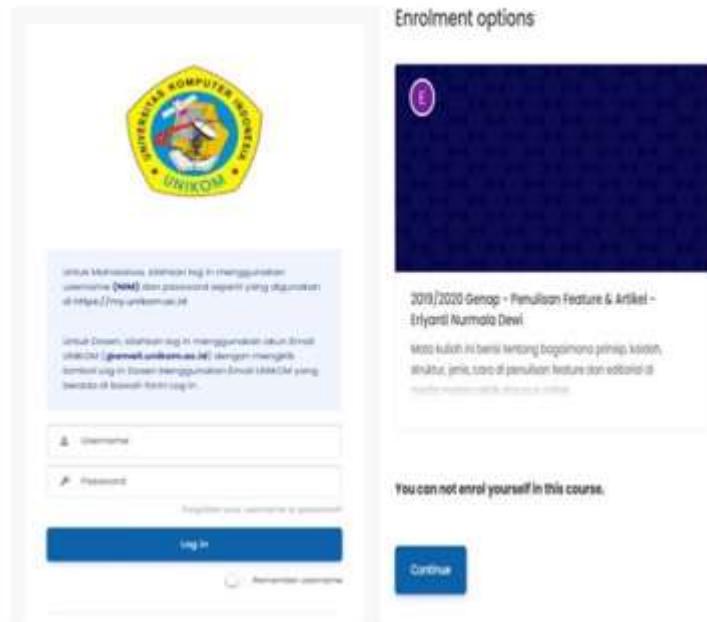
Features that always offer several options in the form of language options, notification settings that can be customized to the user's needs (see Figure 2).



**Figure 2.** Multilingual LMS and Notifications

## *Enrollment*

One of the features where students can online register and track their details and the progress and test results of its users (see Figure 3).



**Figure 3.** Enrolments Options Menu  
*Completion*

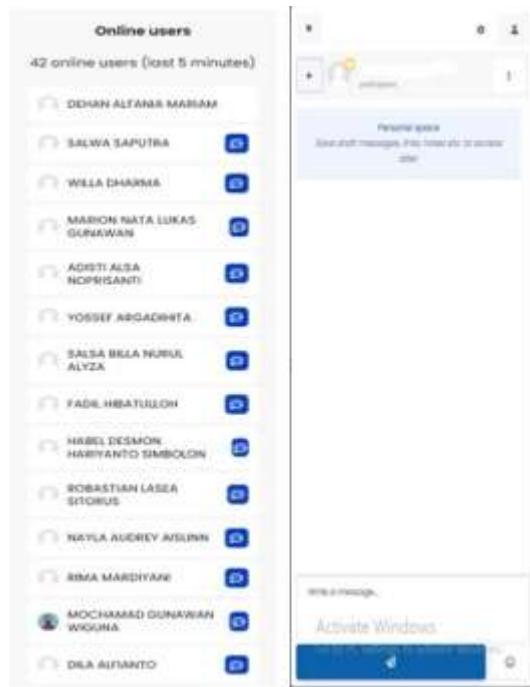
This feature helps in carrying out any learning activities that are done, such as syllabus but online. Here lecturers can see if students have completed their learning activities, and the completion feature is also the focus to see attendance (See Figure 4).



**Figure 4.** Completion Page Menu

### *Communication*

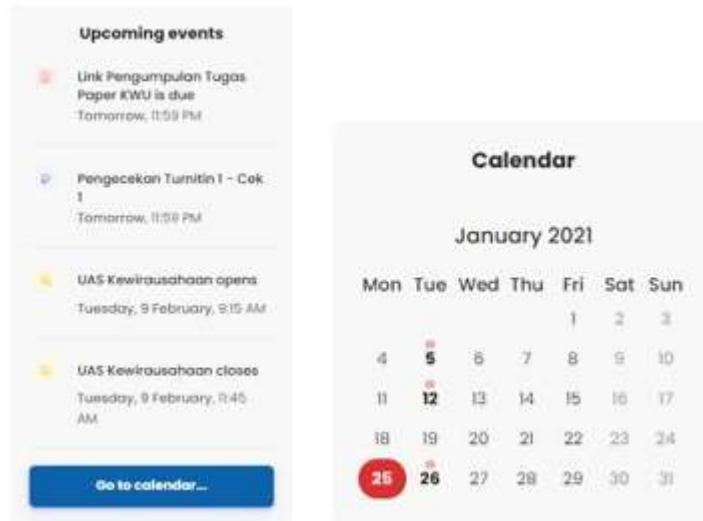
Students use this feature for discussions, such as sending a message to all participants who follow the learning and the students or to students who learn specific other lessons (see Figure 5).



**Figure 5.** Messenger Page Menu

### *Calendar*

The Calendar feature can display dates, months, and years and deadline reminders of assigned tasks (see Figure 6).



**Figure 6.** Calendar page menu

### *Analyst of the effectiveness LMS (Learning Management System) UNIKOM*

From the results of the questionnaire that has been distributed, 34 responses were obtained from students of Universitas Komputer Indonesia, consisting of students of the third semester and semester 7, female and male, with an age range between 17-21 years. Respondent's profile is shown in Tables 1-3.

## **Respondent Profile**

Based on the distribution of questionnaires to 34 respondents, it was found that the most dominant age characteristics of respondents were respondents in the 20-21 years range (54%). On the other hand, if we look at the gender of the respondent, female respondents also dominate, namely 60%. As for the level of semester that has been taken between semester 3 and semester 7, there is only a difference of 2 respondents. Respondents in semester 3 consisted of 16 people, and semester 7 consisted of 18 people (See Table 1).

**Table 1.** Respondent Profile

Characteristic	Amount	Percentage
<b>Age</b>		
17-19 year	16	46%
20-21 year	18	54%
<b>Total</b>	<b>34</b>	<b>100%</b>
<b>Gender</b>		
Men	14	40%
Women	20	60%
<b>Total</b>	<b>34</b>	<b>100%</b>
<b>Education</b>		
3rd Semester Students	16	46%
7th Semester Students	18	54%
<b>Total</b>	<b>34</b>	<b>100 %</b>

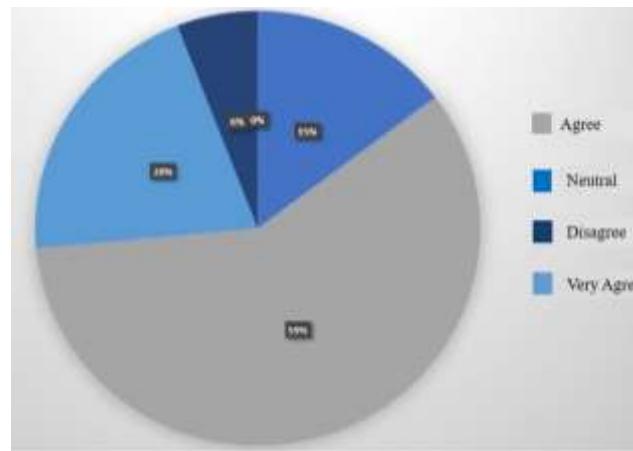
## **Likert Scale**

The Likert scale is used to measure people's attitudes, opinions, and perceptions of people related to social phenomena (See Table 2).

**Table 2.** Likert Scale

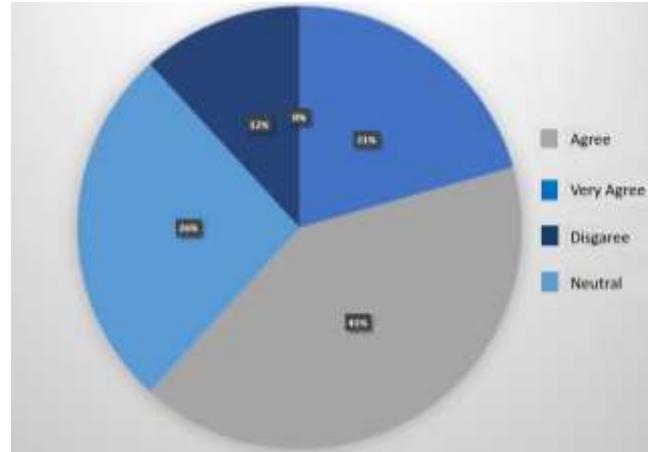
№	Alternative Answers	Value Weight	
		Positive Score	Negative Score
1	SS (Strong Agree)	5	1
2	S (Agree)	4	2
3	N (Neutral)	3	3
4	TS (Disagree)	2	4
5	STS (Strong Disagree)	1	5

From the poll results that have been disseminated, 34 responses were obtained from Students of Universitas Komputer Indonesia. Here is the description and discussion about the data that has been obtained from the dissemination of the questionnaire (see Figure 7).



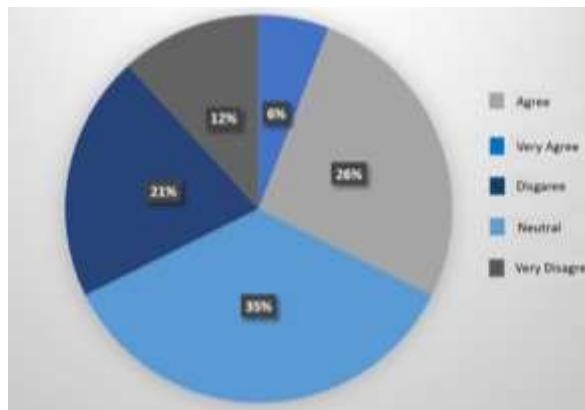
**Figure 7.** LMS Quality Satisfaction Diagram

From diagram 7. above on the effectiveness of quality, learning can be seen if 59% of students choose to agree and 20% vote strongly. It shows that LMS UNIKOM provides satisfaction related to the quality of learning, including providing students' information and understanding the information obtained by students. However, there are 6% who choose neutral (see Figure 8).



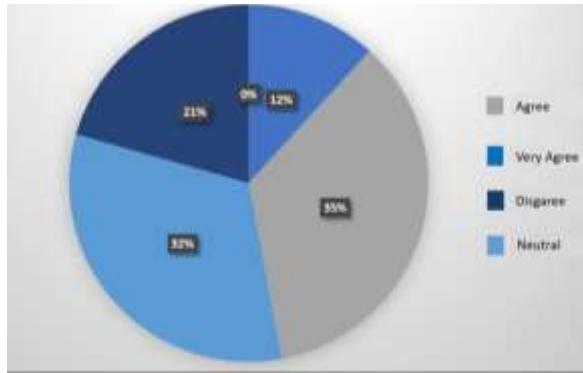
**Figure 8.** Diagram of Ease of Provision of LMS Facilities

Figure 8 shows that if 41% of students voted, they agreed, and 26% voted strongly regarding incentives' effectiveness. It indicates that the LMS UNIKOM provides convenience related to the lecturer's provision of tasks in question intended to motivate students. However, the more significant the motivation is to provide tasks, the greater the students' activeness in receiving and understanding lecturers' materials through the LMS. Although 21% of students voted neutral and 12% voted against (see Figure 9).



**Figure 9.** Conformity Diagram of learning levels

Figure 9 shows that regarding the effectiveness of conformity of learning levels can be seen that 35% of students voted they agreed, and 21% of students voted strongly. It shows that students are ready to carry out learning activities using the LMS. While 26% chose neutral, 6% of students voted disapproval, and 12% voted disapproval strongly, suggesting that some students do not lack the readiness to carry out learning activities using the LMS (see Figure 10).



**Figure 10.** Diagram of Students' Understanding of LMS

From diagram 10. above on the effectiveness of time, it can be seen that 35% of students voted in agreement and 32% strongly agreed. This indicates that LMS UNIKOM can make it easier for students during the online teaching and learning process. By using an LMS, it will provide sufficient time for students to understand the material that has been provided and also provide sufficient time for students to complete online-based tests, which serve as a measure of the extent to which students understand the material they have. has been given (Jethro, O. O., 2012; Yuen, A. H., 2019; Alharbi, S., 2014; Ahmad, C. V. 2021.). Moreover, there are 21% of students voted disapproval, and 12% of students chose neutral. In contrast, it shows some students feel the time given by the LMS (Learning Management System) UNIKOM is less to complete an online-based test that serves as a measuring tool for the extent of students' understanding of the material been given.

## CONCLUSION

According to the above discussion, it could be concluded that e-learning LMS is effectively used as a learning media based on Information Technology for students of Universitas Komputer Indonesia due to student's learning can be more beneficial for all four indicators of effective learning effectiveness.

## BIBLIOGRAPHY

Adiyarta, K., Napitupulu, D., Rahim, R., Abdullah, D., & Setiawan, M. I. 2018. Analysis of e-learning implementation readiness based on integrated elr model. In *Journal of Physics: Conference Series*, 1007(1), pp. 012041.

Ahmad, C. V. 2021. Causes of Students' Reluctance to Participate in Classroom Discussions. *ASEAN Journal of Science and Engineering Education*, 1(1), pp. 47-62.

Alharbi, S., & Drew, S. 2014. Using the technology acceptance model in understanding academics' behavioural intention to use learning management systems. *International Journal of Advanced Computer Science and Applications*, 5(1), pp. 143-155.

Courts, B., & Tucker, J. 2012. Using technology to create a dynamic classroom experience. *Journal of College Teaching & Learning (TLC)*, 9(2), pp. 121-128.

Gamage, D., Perera, I., & Fernando, S. 2015. A Framework to analyze effectiveness of eLearning in MOOC: Learners perspective. In *2015 8th International Conference on Ubi-Media Computing (UMEDIA)*, pp. 236-241.

Harandi, S. R. 2015. Effects of e-learning on Students' Motivation. *Procedia-Social and Behavioral Sciences*, 181, pp. 423-430.

Jethro, O. O., Grace, A. M., & Thomas, A. K. 2012. E-learning and its effects on teaching and learning in a global age. *International Journal of Academic Research in Business and Social Sciences*, 2(1), pp. 203.

Muhammad Rusli, M. T., Hermawan, D., & Supuwiningsih, N. N. 2020. *Memahami E-learning: Konsep, Teknologi, dan Arah Perkembangan*. Penerbit Andi.

Salsabil, Z., & Arfa, M. 2020. Efektivitas Website femaledaily. com Dalam Memenuhi Kebutuhan Informasi Pengguna. *Jurnal Ilmu Perpustakaan*, 8(2), pp. 199-210.

Wicaksana, E. 2020. Efektifitas Pembelajaran Menggunakan Moodle Terhadap Motivasi Dan Minat Bakat Peserta Didik Di Tengah Pandemi Covid-19. *EduTeach: Jurnal Edukasi Dan Teknologi Pembelajaran*, 1(2), pp. 117-124.

Yuen, A. H., Cheng, M., & Chan, F. H. 2019. Student satisfaction with learning management systems: A growth model of belief and use. *British Journal of Educational Technology*, 50(5), pp. 2520-2535.