Application of the *Use Questionnaire* Method in Edlink Learning Management System *(LMS) Usability* Measurement

LM. Fajar Israwan[1)], Ike Kusdyah Rachmawati[2)], Agus Rahman Alamsyah[3)]

[1)] Teknik Informatika, Universitas Dayanu Ikhsanuddin
[2-3)] Magister Manajemen, Institut Teknologi Dan Bisnis Asia

Correspondence Author: fajarisrawan@unidayan.ac.id

Article Info :

Article History :
Received :
15 September 2023
Revised :
05 January 2024
Accepted :
27 February 2024
Available Online :
03 April 2024
Keyword :
Edlink, Use Questionnaire, Usability,

ABSTRACT

Distance education has evolved from a correspondence education model to E-learning based education using a Learning Management System (LMS). One LMS that is widely used is Edlink. The successful implementation of an information system, including elearning, is very important to determine the user's ability to utilize the system so that it can empirically describe elearning user satisfaction. The purpose of this research is to measure the usability of the Edlink LMS. The questionnaire use method used in this research consists of the variables Usefulness, Ease of Use, Ease of Learning and User Satisfaction. From the results of the Usability calculation, the Usefulness variable's feasibility level was 83.54%, the ease of use variable was 83.03%, the ease of learning variable was 84.79%, the usability variable was 82.62% and the total usability value was 83.31. %. This shows that LMS Edlink is a very effective learning media to use in bold learning.

1. INTRODUCTION

The industrial era 4.0 directs various industries and organizations to use Information Technology in their management process. This technology is not limited only to computer technology in the form of hardware and software used to process and store information, but also includes the use of telecommunication technology to distribute this information. This also applies to universities in the implementation of the teaching and learning process (Sahfitri, 2014).

The application of information technology in higher education to encourage the learning system has been directed to the *Hybrid Learning System* learning pattern. The hybrid learning system existed before the Covid 19 pandemic hit the world, but during the Covid 19 period, this learning pattern became more widely used by various universities, especially when the government issued Circular Letter No.1 of 2020 concerning the prevention of Covid 19 in higher education, by instructing universities to conduct distance lectures (Firman & Rahayu, 2020). Currently, distance education has evolved from a correspondent education model to an E-learning-based education using *a Learning Management System* (LMS) (Sumardiana et al, 2021). There are many LMS provider companies, one of which is PT. Sevima has more than 20 years of experience as an IT consultant in the field of education (EdTech), with its LMS product, Edlink. This application is developed on two platforms, namely a website and an android application with various features, namely sharing lecture materials, discussion forums, online quizzes, and video conferences. This application has been used by more than 150,000 students, more than 7000 lecturers and more than 270 higher education institutions in Indonesia (Fatihahsari & Darujati, 2021).

The success of the implementation of an information system, including elearning, is very important to find out the ability of users to utilize the system, so that the goal of implementing the

ISSN Print : 1979-7141
ISSN Online : 2541-1942

system can be achieved which will ultimately empirically describe user *satisfaction (User Satisfaction*) (Sahfitri, 2014). The main factor that can be used as a guideline in measuring the success rate of the implementation of a system is *Usability*. Usability measurement according to *the International Organization for Standardization* (ISO) 9241:11 standard refers to how users or users can learn and use a product to achieve goals effectively, efficiently and achieve user satisfaction in a certain context (Rahadi, 2014). There are many methods in measuring Usability, one of which is *the Use Questionnaire*, this method is used to measure how effective the interaction between users and a product is. *The Use Questionnaire* is widely used because it includes three usability components based on ISO 9241-11. This method uses three criteria in measuring *user satisfaction*, namely *Usefulness*, *Ease of Use*, and *Ease of Learning* (Hariyanto et al., 2020). With the measurements carried out, it can be known how much acceptance and satisfaction users use the Edlink LMS.

2. RESEARCH METHODS

2.1 Metode Use Questionnaire

The Use Questionnaire method was first introduced in 1998 by Arnold (Arnie) M. Lunod. The Use Questionnaire is a package of questionnaire instruments to measure usability that has 3 (three) variables, namely Usefulness, Ease of Use, and User Satisfaction (Lund, 2001). Then for *the* Ease of Use variable, it is still divided into 2 (two), namely Ease of Use and Ease of Learning. The number of statements contained in the USE Questionnaire questionnaire package is 30 statements with 8 statements on the usefulness variable, 11 statements on the ease of use variable, 4 statements on the ease of learning variable, and 7 statements on the satisfaction variable. The questionnaire was answered by users with ratings from the likert scale ranging from strongly disagree to strongly agree.

SS : Strongly Agree, score 5
S : Agree, score 4
N : Neutral, score 3
TS : Disagree, score 2
STS : Strongly Disagree, score 1

The *statement of Use Questionnaire* given to the respondents is presented in table 2.1. as follows (Lund, 2001):

Table 2.1. Statement on *Use Questioannaire*

No	Statement Item
Usefulness	
1	Edlink LMS helps me be more effective (K_1)
2	Edlink LMS helps me be more productive (K_2)
3	LMS Edlink is useful (K_3)
4	Edlink's LMS gives me more control over my activities (K_4)
5	Edlink's LMS makes it easy to achieve what I want (K_5)
6	Edlink LMS saves me time (K_6)
7	Edlink's LMS fits my needs (K_7)
8	Edlink LMS does everything I want (K_8)
Easy to Use	
1	Edlink LMS is easy to use (KP_1)
2	Edlink LMS is practical to use (KP_2)
3	Edlink LMS is easy for users to understand (KP_3)
4	It only took a little process on the Edlink LMS to achieve what I wanted in online learning (KP_4)
5	LMS Edlink fleksibel (KP_5)
6	It doesn't take much effort to use Edlink's LMS (KP_6)
7	I can use the Edlink LMS without any written instructions or guidebooks (KP_7)

ISSN Print : 1979-7141
ISSN Online : 2541-1942

8	I didn't encounter any problems when using the Edlink LMS (KP_8)
9	All users love Edlink's LMS (KP_9)
10	I was able to easily resolve the issue when there was an issue with the Edlink LMS application (KP_{10})
11	I've always had success when using the Edlink LMS (KP_{11})
Easy to Learning	
1	I can learn LM Edlink quickly (MD_1)
2	I easily remember how to use the Edlink LMS (MD_2)
3	How to use an Edlink LMS is easy to learn (MD_3)
4	I quickly mastered how to operate the Edlink LMS (MD_4)
Satisfaction	
1	I am satisfied with the Edlink LMS (Y_1)
2	I would recommend the Edlink LMS to my friends (Y_2)
3	Edlink LMS is interesting to use (Y_3)
4	Edlink's LMS works according to what I want (Y_4)
5	Edlink's LMS is very satisfying (Y_5)
6	I feel like I need an Edlink LMS (Y_6)
7	Edlink LMS is convenient and easy to use (Y_7)

2.2 Usability Measurement

Usability was established using a questionnaire with a *Use Questionnaire approach* consisting of Usability Variables, Easy to Use *Variables,* Easy to Learning *Variables and Satisfaction Variables*. The equations used in measuring Usability are (Sufandi, 2022):

$$Percentage\ of\ Eligibility = \frac{the\ observed\ score}{expected\ score} * 100\%$$

$$Percentage\ of\ Eligibility = \frac{score\ wight * \ number\ of\ voter\ scores}{maximum\ score * number\ of\ statement * number\ of\ respondents} * 100\%$$

Table 2.2. Credentials

Number %	Klasifikasi
<21	Very Unworthy
21-40	Not Eligible
41-60	Enough
61-80	Proper
81-100	Highly Worth It

2.3 Population and Data Sample

The population used in this study is students of one of the health study programs on the Polytechnic campus who use the Edlink LMS in learning activities, with a total of 256 students. For the number of samples, the Slovin equation with a *margin of error* of 10% was used, so that the total sample was obtained as follows:

$$n = \frac{N}{1 + N.e^2}$$

$$n = \frac{256}{1+256*0,1^2} = \frac{256}{3,56} = 71,91$$

ISSN Print : 1979-7141
ISSN Online : 2541-1942

So that the total sample in this study is 71.91 or rounded up to 72 students.

3. RESULTS AND DISCUSSION

3.1 Validity Test

The Validity Test is used to determine the feasibility of the items in the questionnaire. The questionnaire is said to be valid when the calculation is > rTable and significant < 0.05. The test was carried out using SPSS software. The test results are as follows:

Table 3.1. Results of the Questionnaire Item Validity Test

Variabel	Item	rCount (Pearson Correlation)	rTable	Significance Sig.(2-tailed)	Information
Use (X1)	K1	0,800	0,349	0,000	Valid
	K2	0,826		0,000	Valid
	K3	0,699		0,000	Valid
	K4	0,792		0,000	Valid
	K5	0,844		0,000	Valid
	K6	0,766		0,000	Valid
	K7	0,796		0,000	Valid
	K8	0,921		0,000	Valid
Ease of Use (X2)	KP1	0,667	0,349	0,000	Valid
	KP2	0,860		0,000	Valid
	KP3	0,704		0,000	Valid
	KP4	0,796		0,000	Valid
	KP5	0,791		0,000	Valid
	KP6	0,781		0,000	Valid
	KP7	0,850		0,000	Valid
	KP8	0,801		0,000	Valid
	KP9	0,797		0,000	Valid
	KP10	0,887		0,000	Valid
	KP11	0,667		0,000	Valid
Ease of Learning (X3)	MD1	0,917	0,349	0,000	Valid
	MD2	0,931		0,000	Valid
	MD3	0,917		0,000	Valid
	MD4	0,887		0,000	Valid
Satisfaction User (Y)	P1	0,736	0,349	0,000	Valid
	P2	0,815		0,000	Valid
	P3	0,873		0,000	Valid
	P4	0,869		0,000	Valid
	P5	0,866		0,000	Valid
	P6	0,840		0,000	Valid
	P7	0,822		0,000	Valid

Based on the results of the validity test in table 3.1., it can be concluded that all questionnaire statement items are valid and can be used to measure the usability of the Edlink LMS.

3.2 Feasibility Test

The reliability test is used to determine the level of consistency of the measuring instruments used in data collection. The questionnaire item is said to be reliable when *Cronbach's Alpha* value > 0.6. The results of the reliability test are shown in table 3.2 below:

ISSN Print : 1979-7141
ISSN Online : 2541-1942

Table 3.2. Questionnaire Item Reliability Test Results

No	Variabel	Cronbach's Alpha	Information
1	Use	0,921	reliabel
2	Ease of Use	0,941	reliabel
3	Ease of Learning	0,930	reliabel
3	User Satisfaction	0,930	reliabel

Based on table 3.2, it can be concluded that the questionnaire used is reliable.

3.3 Usability Test Results

The questionnaire was distributed to students using the Edlink LMS as respondents using the google form, using the statement in table 2.1 and the following results were obtained:

Table 3.3. Results of the *Usefulness* Variable Questionnaire

No	Indicator	Alternative Answers				
		1 (STS)	2 (TS)	3 (N)	4 (S)	5 (SS)
1	K1	0	0	7	38	27
2	K2	0	0	10	38	24
3	K3	0	0	4	36	32
4	K4	0	0	11	43	18
5	K5	0	0	7	43	22
6	K6	0	0	9	44	19
7	K7	0	0	8	46	17
8	K8	0	0	11	42	18
Jumlah		0	0	67	330	177

Based on table 3.3, the eligibility criteria for Edlink LMS in the Usability Variables are as follows:

$$Percentage\ of\ Eligibility = \frac{(1*0)+(2*0)+(3*67)+(4*330)+(5*177)}{5*8*72} * 100$$

$$Percentage\ of\ Eligibility = \frac{2406}{2880} * 100 = 83{,}54$$

So that the results were obtained, namely in the Usability Variable (Usefulness), a feasibility level of **83.54%** was obtained and based on table 2.2 was in the **Very Feasible category**. In the Ease of Use variable, the questionnaire results were obtained as follows:

Table 3.4. Results of the Easy *to Use* Variable Questionnaire

No	Indicator	Alternative Answers				
		1 (STS)	2 (TS)	3 (N)	4 (S)	5 (SS)
1	KP1	0	0	4	38	30
2	KP2	0	0	9	35	28
3	KP3	0	0	10	36	26
4	KP4	0	0	9	42	21
5	KP5	0	0	7	43	22
6	KP6	0	0	6	45	21
7	KP7	0	0	9	38	24
8	KP8	0	0	18	38	16
9	KP9	0	0	15	39	18
10	KP10	0	0	15	41	16
11	KP11	0	0	14	40	18
Sum		0	0	116	435	240

ISSN Print : 1979-7141
ISSN Online : 2541-1942

Based on table 3.4, the eligibility criteria for Edlink LMS in the Ease of Use Variable are as follows:

$$Feasibility\ Percentage = \frac{(1*0)+(2*0)+(3*116)+(4*435)+(5*240)}{5*11*72} * 100$$

$$Feasibilty\ Percentage = \frac{3288}{3960} * 100 = 83{,}03$$

So that the results were obtained, namely in the Easy *to Use* Variable, a feasibility level of **83.03%** was obtained and was in the **Very Feasible category**. In the Ease of Learning variable, the questionnaire results were obtained as follows:

Table 3.5. Results of the Easy *to Learning* Variable Questionnaire

No	Indicator	Alternative Answers				
		1 (STS)	2 (TS)	3 (N)	4 (S)	5 (SS)
1	MD1	0	0	12	37	23
2	MD2	0	0	6	42	24
3	MD3	0	0	5	41	26
4	MD4	0	0	8	37	27
Sum		0	0	31	157	100

Based on table 3.5, the eligibility criteria for the Edlink LMS in the Ease of Learning Variable are as follows:

$$Feasibility\ Percentage = \frac{(1*0)+(2*0)+(3*31)+(4*157)+(5*100)}{5*4*72} * 100$$

$$Feasibilty\ Percentage = \frac{1221}{1440} * 100 = 84{,}79$$

So that the results were obtained, namely in the Easy *to Learning* Variable, a feasibility level of **84.79%** was obtained and was in the **Very Feasible** category. In the User Satisfaction Variable*, the* following questionnaire results were obtained:

Table 3.6. Results of the User Satisfaction Variable Questionnaire (*Satisfication*)

No	Indicator	Alternative Answers				
		1 (STS)	2 (TS)	3 (N)	4 (S)	5 (SS)
1	P1	0	0	10	42	20
2	P2	0	0	11	44	17
3	P3	0	0	8	40	24
4	P4	0	0	11	42	18
5	P5	0	0	7	43	21
6	P6	0	0	12	39	20
7	P7	0	0	4	42	25
Sum		0	0	63	292	145

Based on table 3.6, the eligibility criteria for Edlink LMS in the User Satisfaction Variable are as follows:

$$Feasibility\ Percentage = \frac{(1*0)+(2*0)+(3*63)+(4*292)+(5*145)}{5*7*72} * 100$$

$$Feasibilty\ Percentage = \frac{2082}{2520} * 100 = 82{,}62$$

ISSN Print : 1979-7141
ISSN Online : 2541-1942

In the measurement of the User Satisfaction Variable, a feasibility value of 82.62% was obtained and was in the Very Feasible **category**. For the total Usability value, the following results were obtained:

$$Feasibility\ Percentage = \frac{(1*0)+(2*0)+(3*227)+(4*1214)+(5*662)}{5*30*72} * 100$$

$$Feasibilty\ Percentage = \frac{8997}{10800} * 100 = 83{,}31$$

The result of the calculation of the total feasibility for all Edlink LMS variables is 83.31% and is in the **Very Feasible category**. Based on the results of the Edlink LMS usability calculation, it shows that all variables are in the very feasible category. Once you go home to the simultaneous calculation for all variables are in a very feasible category. The highest percentage is in the Ease of Learning Variable of 84.97%, this shows that the Edlink LMS is an elearning that is easy for students to use. The results of this study are in accordance with the results of Wibowo's (2020) research which explains that the features in the Edlink LMS are easy to learn so that it makes it easier for students to get the subject matter, so it is highly recommended to become an online learning medium.

4. CONCLUSION

Based on the results of the Edlink LMS Usability measurement research, it was concluded that the Edlink LMS is a useful Elearning in online learning, this is shown by the results of the calculation of the Edlink LMS Usability using the *Use Questionnaire* Method, all variables are in the very feasible category, namely the usability variable of 83.54%, the ease of use variable of 83.03%, the ease of learning variable of 84.79%, and the usability variable of 82.62%. Likewise, when the four variables were calculated as a whole, a very decent result was obtained with a value of 83.31%. This shows that the Edlink LMS is a very powerful learning medium to be used in online learning.

5. DECLARATION OF COMPETING INTEREST

We declare that we have no conflict of interest.

6. REFERENCES

Fatihahsari, F., & Darujati, C. 2021. Analisis Usability Mobile Apps Edlink dengan Menggunakan Heuristic Evaluation. SISTEMASI, 10(2), 404. https://doi.org/10.32520/stmsi.v10i2.1263

Firman, F., & Rahayu, S., 2020. Pembelajaran Online di Tengah Pandemi Covid-19. Indonesian Journal of Educational Science (IJES), 2(2), 81–89. https://doi.org/10.31605/ijes.v2i2.659

Lund A., 2001. Measuring Usability with the USE Questionnaire. Usability Interface, 8(2), 3-6

Sahfitri, V., 2014. Analisis Usability Sistem E-Learning Menggunakan Use Questionnaire. Prosiding SNaPP2014 Sains, Teknologi, dan Kesehatan. Vol.4 No.1. pp.373-380.

Sufandi UU., Priono M., Aprijani DA., Wicaksono BA., Trihapningsari D., 2022. Uji Usability Fungsi Aplikasi Web Sistem Informasi Dengan Use Questionnaire (Studi Kasus: Aplikasi Web Sistem Informasi Tiras Dan Transaksi Bahan Ajar), Jurnal Pendidikan Teknologi dan Kejuruan Vol. 19, No. 1. pp.24-34.

Sumardiana, B., Fergina S., Nurmala S., Nanda TS., Oktaviani NN., 2022. Penerapan Hybrid Learning System di Era Pandemi Covid-19 Sebagai Upaya Untuk Mewujudkan Hak Belajar Anak, Jurnal Pengabdian Hukum Indonesia, Vol.5 No. 1. pp. 10-22.

Wibowo A., 2020. Penggunan Sevima Edlink Sebagai Media Pembelajaran Online untuk Mengajar dan Belajar Bahasa Indonesia. Imajeri: Jurnal Pendidikan Bahasa dan Sastra Indonesia. Vol. 02, No. 2, pp. 163-174.

ISSN Print : 1979-7141
ISSN Online : 2541-1942