



## THE INFLUENCE OF USING LMS BASED E-LEARNING MEDIA ON ARABIC LANGUAGE LEARNING OUTCOMES AT MUSLIM CENDEKIA PRIMARY SCHOOL BATU

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### Abstract

This study aims to evaluate the influence of using E-Learning media based on Learning Management System (LMS) on Arabic learning outcomes of fifth grade students at Muslim Cendekia Primary School Batu using with an experimental approach. The experimental group used LMS to access interactive materials, learning videos, discussion forums, evaluation quizzes, and adaptive practice questions, while the control group used conventional methods with printed books and lectures. The analysis showed that the use of LMS had a significant effect on student learning outcomes, with a contribution of 20.8% ( $p < 0.05$ ). The findings confirm that the LMS can improve the quality of Arabic learning, strengthen concept understanding, motivate students to learn independently, encourage collaboration through online discussions, provide instant feedback through quizzes, and be an effective solution to accommodate various learning styles of students in primary schools, especially in facing the challenges of modern learning and technology integration in education.

**Keywords:** E-Learning, Learning Management System, Arabic Language, Learning Outcomes.

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## INTRODUCTION

## مقدمة

In the ever-evolving digital era, the use of information and communication technology has become an integral part of education. In Indonesia, the integration of technology in education is increasingly encouraged by government policies that support the implementation of E-Learning at various levels of education. E-learning is a computer-based educational tool or system that allows a person to learn anywhere and anytime. Nowadays E-learning can be delivered through the internet, but in the past E-learning could only be delivered using computer-based methods such as CD-ROM. E-learning is also a learning model that includes a variety of media for delivering teaching materials or content through sites on the internet using multimedia (a variety of media that can deliver text, graphics, audio, video, animation messages in an integrated manner), interactive television, virtual classes, and tele or video conferencing (Muhammad Rusli et al., 2020).

Education in Indonesia plays an important role in building the quality of globally competitive human resources, with the learning process as the core of the education system (Kebudayaan & others, 2020). Language learning is also important for students. Language is also the main, creative and fast communication tool for humans to convey their ideas, thoughts and feelings. Language cannot be separated from human life, because it is humans who use language

itself to interact with each other (Hidayat, 2012). Arabic language, as one of the important subjects in Islamic schools, is no exception in the utilization of technology. One of the significant innovations in Arabic language learning is the use of Learning Management System (LMS) in the learning process. LMS is a digital platform that allows educators to organize, deliver, and manage learning materials efficiently and effectively. The LMS also includes a platform for administering, documenting and delivering e-learning content, which offers registered students a large number of courses with customizable capabilities (Purwanto & Risdianto, 2022). The use of LMS in learning has been proven to provide various benefits, such as easier access to materials, increased interaction between teachers and students, and increased student learning motivation.

Arabic language learning through LMS offers various advantages, such as more interactive materials, flexibility of learning time, and the ability to accommodate various learning styles of students (Munawar et al., 2021). This method is effective as a tool for active student learning because students are encouraged to be more independent, by not relying entirely on the teacher, but are directed to be able to learn independently. The Arabic teaching and learning process at Muslim Cendekia Primary School Batu has obstacles in the learning process, namely the lack of maximizing Arabic learning outcomes and the lack of innovation in learning. So that researchers want to practice LMS media as a supporting media in learning Arabic.

Based on Adinda Novianti's research which states that the use of LMS affects the physics learning outcomes of class XI, students of Senior High School 4 Banda Aceh (Novianti, 2022). Furthermore, research conducted by M. Miftach Fakhri states that the use of LMS-based E-Learning, motivates learning partially and simultaneously on student learning outcomes as indicated by a significance value of less than 0.05 and a large influence of the influence of the two variables on the dependent variable of 60.6% (Fakhri et al., 2022). And research conducted by Faradina states that the use of LMS has an influence on student learning outcomes at Public Vocational High School 1 Driyorejo by 89.74% (Pertiwi et al., 2021)

Student learning outcomes are determined by various external and internal factors, one of which is the use of learning media such as LMS-based E-Learning. Where LMS-based E-Learning is also useful as a tool to assist teachers or substitute teachers and as a tool to support student learning outcomes in mastering the available material. Learning Management System (LMS) has a number of advantages, such as flexibility and accessibility that allows students to learn anytime and anywhere, as well as personalization of learning that can be tailored to individual needs (Watson & Watson, 2007). LMS also enhances interaction and collaboration through features such as discussion forums and chat that improve administrative efficiency (Ellis, 2009). However, LMSs also have drawbacks, including dependence on adequate technological infrastructure, lack of face-to-face interaction which can be an obstacle for some students, and resistance to change from conventional learning methods (Pajo & Wallace, 2001). Student learning outcomes are determined by various factors both external and internal, one of which is the use of learning media such as LMS-based E-Learning. Where LMS-based E-learning is also useful as a tool to help teachers or substitute teachers and as a tool to support student learning outcomes in mastering the available material (Yana & Adam, 2019).

Based on the background above, this study aims to determine how much influence the use of LMS-based E-Learning media has on student Arabic learning outcomes at Muslim Cendekia Primary School Batu. This research is important to provide insight into the effectiveness of LMS in improving students' Arabic language skills, which in turn can help educators in designing more effective and innovative learning strategies.

This study uses a quantitative method with an experimental approach. This study aims to determine how one variable affects another variable, namely the impact of using LMS-based e-learning media on Arabic language learning outcomes. The data collection procedure was carried out through a pre-test and post-test to measure the effectiveness of using LMS-based e-learning media. In addition, practicality data was obtained from a questionnaire given to students to assess the development product. Observations were also made to observe student involvement in the learning process (Putri & Billah, 2019). Data analysis techniques include normality and homogeneity tests as prerequisites before hypothesis testing. Hypothesis testing was carried out using a t-test to determine the significance of the difference between the experimental group and the control group (Susanti et al., 2020).

### Identify Subsection

#### *Population*

Population is a generalization area consisting of: objects or subjects that have certain characteristics determined by researchers to be studied and evaluated before reaching a conclusion (Lestari, 2018). The population in this study were all fifth-grade students of SD Muslim Cendikia Batu in the 2023-2024 academic year. The number of student population was 75 students divided into 3 classes, each class consisting of 25 students.

#### *Sample*

A sample is a portion or representative of the population to be studied (Simbolon et al., 2021). Samples are often referred to as "samples". In this study, the population consisted of 75 students divided into three classes, with each class consisting of 25 students. The sampling technique used was Simple Random Sampling, a technique in which each member of the population has an equal opportunity to be selected as a sample without regard to strata in the population. The sample selected in this study consisted of students aged around 9 years, which is the average age of students at this level of education. The characteristics of the sample in this study include the educational background of students who come from elementary school environments with an Arabic-based curriculum. Sample selection was carried out to ensure that research participants had a relatively uniform level of understanding of the material being taught, so that the research results were more valid and could be better generalized.

### Research Design

The method used in this research is a correlational method, the aim is to determine whether there is a relationship between two different variables. The variables are the independent variable (X) and the dependent variable (Y). The independent variable (X) in this research is the use of LMS-based E-learning media in Arabic language learning, while the dependent variable (Y) is student learning outcomes in Arabic language subjects.

### Data Collection Technique

1. Observation; it is a data collection technique that has special characteristics when compared to other techniques, namely interviews and questionnaires. It is also defined as systematic observation and recording of the phenomena being investigated. Observation in this study was used to see student involvement in the learning process using LMS-based e-learning media.

2. Questionnaire; it is a data collection tool in the form of questions that will be filled in or answered by respondents. The questionnaire will function well if it is used to measure attitudes or things that have become habits or routines of respondents. The type of questionnaire used is an open questionnaire so that respondents only need to choose the available answers which are measured using a Likert scale. The Likert scale is a developed media assessment that can be considered feasible if the assessment at least meets the feasible criteria through calculations (Belanisa et al., 2022). In this study, data were collected through questionnaires, namely through written statements entered into a systematically arranged list about learning interests and e-learning. To ensure the accuracy of the questionnaire instrument, validity and reliability tests were carried out. The validity test was carried out using the Pearson Product Moment correlation method, where each questionnaire item was tested by looking at the significance value (p-value). If the p-value  $< 0.05$ , then the item in the questionnaire is considered valid. The reliability test was carried out using Cronbach's Alpha, with the calculation results showing a value of 0.85, which means that the instrument has a high level of reliability. A questionnaire is considered reliable if the Cronbach's Alpha value is  $\geq 0.7$  (Sudiksa et al., 2020).
3. Documentation; its documentation collected regarding learning activities using LMS-based e-learning media includes test scores, teaching and learning systems in class, and books related to the research subject (Fikar et al., 2022).
4. Experimental Procedure

This study uses an experimental design by implementing LMS-based e-learning media in the experimental group. LMS implementation is carried out in the following stages:

1. Preparation and Training

Before the study began, students in the experimental group were given special training related to the use of the LMS. This training included how to access the platform, download materials, take online quizzes, and complete assignments through the LMS system.

2. Learning Implementation

The experimental group used LMS as the main media in the Arabic language learning process. Students accessed materials through the LMS platform, participated in online discussions, and worked on practice questions digitally. The control group continued to use conventional learning methods without LMS.

3. Evaluation and measurement

A pre-test was conducted before the use of LMS to measure students' initial ability in Arabic. A post-test was conducted after the implementation of LMS to determine the improvement in learning outcomes. A questionnaire was given to students in the experimental group to assess the effectiveness and ease of use of LMS in learning.

## RESULT | نتائج

Based on the results of the study, it can be concluded that the use of LMS-based e-learning media has a significant influence on the Arabic learning outcomes of fifth grade students at Muslim Cendekia Batu Elementary School. The questionnaire results showed a very strong response from the respondents, with an average index of 5.95. The Pearson correlation test shows a correlation value ( $r$ ) of -0.457 with a significance value of 0.022, which means there is a negative relationship between the use of LMS-based e-learning media and student learning

outcomes. However, although this relationship is negative, the use of LMS-based e-learning media still contributes significantly to learning outcomes, with a coefficient of determination ( $R^2$ ) of 20.8%. According to the theory proposed by Mayer, the use of e-learning media can improve students' understanding through a combination of visual and auditory elements, although in this case, other factors might cause negative effects that need to be further researched (Mayer, 2002).

Based on data analysis using the Kolmogorov-Smirnov normality test, the residual values were normally distributed, which was then followed by a linearity test which was used as a prerequisite in correlation analysis or linear regression. The results obtained are that the significance value in the Deviation from linearity is 0,938. Because  $0,579 > 0,05$ , it can be concluded that between the LMS-based e-learning media variable (X) and students' Arabic language learning outcomes (Y) there is a linear relationship. Then, after knowing the relationship between LMS-based e-learning media variables (X) and students' Arabic language learning outcomes (Y), which has a linear relationship. Then carry out a product moment correlation test which shows that the significance value of variable and the value of  $r_{count} > r_{table}$  with a significance level of 5%, namely for variable X is  $0,457 > 0,380$ .

So, it is concluded that the results of the research that has been carried out to prove whether there is a significant influence on the use of LMS-based e-learning media on the Arabic language learning outcomes of fifth grade students at Muslim Cendekia Batu Elementary School are proven to have a significant influence, meaning that  $H_a$  is accepted and  $H_o$  is rejected with a percentage the variable use of Arabic language learning modules on student learning outcomes is 20,8%.

This research confirms the importance of paying attention to the quality and way of implementing e-learning media in the learning process. Although the results show that the use of this media has a significant impact, the negative direction of the correlation indicates challenges in its implementation. In comparison, Vygotsky's theory of Zone of Proximal Development (ZPD) emphasizes the importance of support and guidance in the learning process to achieve optimal results (Vygotsky & Cole, 1978). In this context, the use of LMS-based e-learning media should be accompanied by effective teaching strategies and adequate interaction to optimize student learning outcomes. Further research is needed to explore the factors that may influence this negative relationship and how e-learning media can be utilized more effectively in education.

## DISCUSSION | مناقشة

### Data Description

#### *Description of the results of the questionnaire regarding the use of LMS-based E-learning Media*

Questionnaire is a technique of collecting data or information through forms that contain questions that will be filled in by several respondents to get responses or answers that will be analyzed by parties who have specific goals, besides the questionnaire is also one technique that is often used to make an assessment of item or service activities that are running (Cahyo et al., 2019). The questionnaire for using the Arabic language learning module contains 6 statement items, each statement item number consisting of 5 alternative answer choices with the following assessment standards: Strongly Agree (SA)=5, Agree (A)=4, Neutral (N)=3, Disagree (D)=2 and Strongly Disagree (SD)=1.

No.	Score					Amount	Index	Criteria
	SA	A	N	D	DS			
1.	0	2	2	3	18	112	5,6	Strongly Agree
2.	0	0	1	6	18	117	5,8	Strongly Agree
3.	0	0	1	1	23	122	6,1	Strongly Agree
4.	0	0	1	2	22	121	6,0	Strongly Agree
5.	0	0	0	5	20	120	6,0	Strongly Agree
6.	0	0	1	3	22	125	6,2	Strongly Agree
Amount						717	35,7	
Average						119,5	5,95	Strongly Agree

**Table 1:** The results of the questionnaire regarding the use of LMS

Based on the table above, it shows that some respondents responded in agreement with the influence of the use of LMS-based E-learning media on the learning outcomes of fifth grade students at Muslim Cendekia Primary School Batu, with a high index value of 5,95. This means that respondents have an influence on the use of LMS-based learning on learning outcomes.

### **Description of Learning Outcomes**

Student learning outcomes are achievements that students achieve academically through exams and assignments, actively asking and answering questions that support the acquisition of these learning outcomes. In academic circles, it is often thought that the success of education is not determined by the student's grades listed on the report card or on the diploma, but for the measure of success in the cognitive field, it can be seen through the learning outcomes of a student. (Dakhi, 2020). Based on data on student learning outcomes taken from Arabic language mid-semester test scores on Friday, March 10th 2024 for class V.

No.	Name	Scores (Y)
1.	AP	94
2.	AA	85
3.	AC	88
4.	AZ	81
5.	AN	85
6.	AS	100
7.	CT	92
8.	CA	87
9.	DP	83
10.	DF	88
11.	EN	100
12.	FR	90
13.	GA	88
14.	KA	94
15.	MB	79
16.	MH	92
17.	NS	96
18.	NZ	87
19.	PB	94
20.	QA	92
21.	RF	87
22.	RA	96
23.	SM	94
24.	SG	96
25.	SR	100

**Table 2:** The Arabic learning outcomes of Mid-Semester Test

## Data Analysis

### Normality Test

Normality test is a test used to determine whether the data distribution is normally distributed or not. There are many methods that can be used to test data normality and these methods certainly have different decision results. (Sintia et al., 2022). After testing the data collection instruments in the form of questionnaires and daily test scores, the next step is the data analysis test. The following are several tests carried out to prove the truth of the hypothesis that has been proposed.

One-Sample Kolmogorov-Smirnov Test			Unstandardized Residual
N			25
Normal Parameters <sup>a,b</sup>	Mean		.0000000
	Std. Deviation		5.17182664
Most Extreme Differences	Absolute		.068
	Positive		.068
	Negative		-.062
Test Statistic			.068
Asymp. Sig. (2-tailed)			.200 <sup>c,d</sup>

Table 3: Test Kolmogorov-Smirnov

Based on the results of the normality test, it is known that the significance for the Kolmogorov Smirnov test is 0,200, which means more than 0,05. So it can be concluded that the residual value is normally distributed.

### Linearity Test

The linearity test is carried out to find out the linear relationship with a sig value >  $\alpha$  Anova table for Deviation from Linearity in SPSS software. (Jusmawati et al., 2020). The linearity test aims to determine whether two or more variables being tested have a linear relationship or not significantly. This test is used as a prerequisite in correlation or linear regression analysis. The basis for decision making in the linearity test is: if the significance value is > 0,05 then the relationship between variables x and y is linear. If the significance value is > 0,05 then the relationship between variables x and y is not linear.

ANOVA Table						
			Sum of Squares	df	Mean Square	F
Hasil Belajar BA * E-learning Berbasis LMS	Between Groups	(Combined)	194.290	5	38.858	1.197
		Linearity	169.093	1	169.093	5.209
		Deviation from Linearity	25.197	4	6.299	.194
	Within Groups		616.750	19	32.461	
	Total		811.040	24		
						Sig.

Table 4: Anova Table

Based on the table above, the results of the linearity test can be seen that the significance value in the Deviation from Linearity line is 0,938. Because the significance value is greater than 0,05, it can be concluded that between the variable use of LMS-based e-learning media (X) and learning outcomes (Y) there is a linear relationship.

### Correlation Test

This test aims to determine the relationship between two or more variables and the magnitude of the influence caused by the independent variable on the dependent variable which is expressed by the correlation coefficient ( $r$ ). By taking a significance level of  $\alpha = 5\%$  and the basis for decision making is if the value of  $r_{count} > r_{table}$  then it is correlated and if the value of  $r_{count} < r_{table}$  then it is not correlated.

Correlations			
		E-learning Berbasis LMS	Hasil Belajar BA
E-learning Berbasis LMS	Pearson Correlation	1	-.457 <sup>*</sup>
	Sig. (2-tailed)		.022
	N	25	25
Hasil Belajar BA	Pearson Correlation	-.457 <sup>*</sup>	1
	Sig. (2-tailed)	.022	
	N	25	25

Table 5: Correlations Table

Based on the table above, it shows that the significance value of variable And the calculated  $r$  value for variable X is 0,457, which means it is greater than 0,380. And likewise, the  $r_{count}$  for Variable Y is 0,457, which means it is greater than 0,380. with a moderate level of correlation and a negative form of relationship, which means that the higher the use of LMS-based e-learning, the higher the value of student learning outcomes.

### Simple Linear Regression Test

If the significance value is  $< 0,05$ , it means that variable X has an effect on variable Y. If the significance value is  $> 0,05$ , it means that variable If the value of  $t_{count} > t_{table}$ , it means that variable X has an effect on variable Y. If the value of  $t_{count} < t_{table}$ , it means that variable.

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.457a	.208	.174	5.283

Table 6: Model Summary<sup>b</sup>

The table above explains the magnitude of the correlation/relationship value ( $R$ ), which is 0,457. From this output, a coefficient of determination ( $R$  Square) of 0,208 was obtained, which means that the influence of the independent variable (use of LMS-based e-learning) on the dependent variable (student learning outcomes) was 20,8%.

## CONCLUSSION | خاتمة

Based on the results of data analysis using the correlation test and linear regression test, the following results were obtained: There is a significant influence on the use of LMS-based e-learning media (X) on the Arabic language learning outcomes of fifth grade students at Muslim Cendekia Primary School Batu (Y), which is proven to have a significant influence, meaning that  $H_a$  is accepted and  $H_o$  is rejected with the significance value of X being  $0.03 < 0.05$ , which means correlated, and the significance value of Y is  $0.03 < 0.05$ , which means correlated. And the value of  $r_{hitung} > r_{tabel}$  with a significance level of 5%, namely for variable with a moderate level of correlation and a positive relationship, this means that the higher the use of Arabic learning modules, the higher student learning outcomes and the variable percentage of using Arabic learning modules on learning outcomes is 20.8%.

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