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Building Lexical Memory: Analysis of The Influence of Short Tiktok Videos on Arabic Vocabulary Retention

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Abstract

This study aims to analyze the effect of using short TikTok videos on improving students' Arabic vocabulary memorization skills. The method used is quantitative with an associative explanatory design through simple linear regression analysis. The sample consisted of students divided into an experimental group and a control group. Data collection was conducted through pretest and posttest vocabulary mastery, which was then analyzed using validity, reliability, descriptive statistics, F-test, t-test, and N-Gain calculations based on pretest-posttest comparisons. The results showed a positive and significant effect of using TikTok short videos on improving vocabulary memorization skills. Specifically, the average N-Gain score of 0.5875 (58.74%), which falls into the moderate category, proves the effectiveness of this media in improving vocabulary retention. Thus, TikTok short videos can be recommended as an innovative learning medium in Arabic language teaching.

Keywords: Short TikTok video, Arabic Vocabulary, Memorization Skills, Digital Learning.

INTRODUCTION

Mastery of Arabic vocabulary is a crucial issue in madrasah aliyah education because vocabulary is the main foundation of all language skills (Almelhes, 2024). However, students' ability to memorize vocabulary is still relatively low, especially for 11th grade students who are faced with the demands of understanding more complex Arabic texts and contexts. This is due to the dominance of conventional learning methods that are still in use, which are not very varied and have not been fully adapted to the characteristics of the digital generation(Abubakar et al.,

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2023). Meanwhile, students live in a social environment that is saturated with technology and social media, especially TikTok, which is used intensively in everyday life.(Montag et al., 2021) The lack of synchronization between the learning approach in the classroom and students' digital habits leads to low motivation and memory retention of vocabulary.

Various recent educational studies confirm that learning that is not contextualized to the students' world tends to be less effective(Flores et al., 2022). Therefore, research on the integration of popular media such as TikTok in vocabulary learning is relevant and urgent to study(Benitez-Correa & Gonzalez-Torres, 2025). Previous Studies and Research Gaps prove that a number of studies in the last five years have examined the use of digital media in language learning, including short videos and social media. International studies indicate that the use of audio-visual-based videos can enhance attention, comprehension, and retention of foreign language vocabulary(Ahrabi Fakhr et al., 2021). Other studies also confirm that social media such as YouTube and Instagram are effective in supporting vocabulary learning due to their interactive and multimodal nature(Lin et al., 2022). However, research specifically examining the use of TikTok short videos in Arabic language learning is still very limited. In addition, the ability to memorize vocabulary (mufrodat) as a key variable is rarely studied empirically. This research gap is the main basis for the importance of this study.

This study has several novel elements that distinguish it from previous studies. First, this study specifically focuses on the use of TikTok short videos as a medium for learning Arabic vocabulary, not merely as a supporting medium, but as the main learning instrument. Second, the research context was conducted at MAN 3 Banyuwangi in grade XI, which represents a madrasah aliyah environment with religious characteristics and a distinctive Arabic language curriculum. Third, this study examines the aspect of vocabulary memorization ability, which focuses on students' short-term and medium-term memory, an aspect that has not been widely addressed in previous studies. Recent studies confirm that short video media has the potential to improve memory through visual stimuli and brief repetition(Barton & Smyth, 2025). Therefore, this study does not merely replicate, but expands and deepens previous findings in a new and relevant context(Flake et al., 2022).

Based on the above background, the research question in this study is: (1) Does the use of TikTok short videos affect students' ability to memorize Arabic vocabulary?. (2) Is there an increase in students' Arabic vocabulary memorization skills after the implementation of TikTok short videos as a learning medium?

The objectives of this study are to determine the effect of using TikTok short videos on

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improving students' Arabic vocabulary memorization skills. It also aims to determine whether there is an increase in students' Arabic vocabulary memorization skills through the use of TikTok short videos as a learning medium.

Specifically, this study aims to answer several key questions: Does the use of TikTok short videos have a significant effect on students' Arabic vocabulary memorization skills? To what extent can TikTok media increase students' motivation and memory of vocabulary? How do students respond to the use of TikTok as a medium for learning Arabic? These questions are crucial to answer in order to produce empirical evidence regarding the effectiveness of contemporary digital media in Arabic language learning(Meier & Reinecke, 2021). Previous studies suggest the need for contextual studies that focus on the needs and characteristics of students(Aas, 2022). Therefore, the purpose of this study is designed to answer these needs systematically.

This study is based on the assumption that the use of TikTok short videos has a positive effect on students' ability to memorize Arabic vocabulary. TikTok media is believed to be able to increase students' attention, motivation, and engagement through the presentation of short, visual, and repetitive materia(Chen, 2025). Cognitively, audio-visual stimuli are believed to strengthen the encoding and retrieval processes of vocabulary memory(Karatas et al., 2025). From a pedagogical point of view, the use of TikTok in learning has the potential to create an interesting learning environment that is relevant to the students' reality. Therefore, this study's hypothesis states that there is a significant effect of TikTok short videos on improving students' Arabic vocabulary memorization skills. If the hypothesis is confirmed, the results of this study are expected to contribute practically to Arabic language teachers in developing innovative learning media and theoretically to the development of Arabic language education technology studies.

RESEARCH METHODOLOGY

Approach and Design This study applies a quantitative approach with an explanatory associative design using simple linear regression analysis. A quantitative approach is used because it allows for objective measurement of variables and testing of causal correlations between independent and dependent variables based on statistical analysis(Hunermund & Louw, 2025). The associative explanatory design aims to test the effect of using TikTok short videos as a predictor variable on the ability to memorize Arabic vocabulary as a result variable, while also predicting the magnitude of the independent variable's contribution to improving this ability(Dankel & Loenneke, 2021). This research was conducted during a predetermined instructional period in the 2025–2026 academic year, involving 11th grade students at MAN 3

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Banyuwangi.

This study covers two main variables, namely: Independent Variable (X) in the form of the use of TikTok short videos as a medium for learning Arabic vocabulary. This variable was operationalized through learning interventions during six meetings. Variable X was measured using a dummy variable approach (0 = control group with conventional media, 1= experimental group with TikTok short videos) plus media implementation scores based on learning observation sheets.The dependent variable (Y) is students' Arabic vocabulary memorization ability, which is measured through normalized gain scores (N-Gain), namely the difference between post-test and pre-test scores for vocabulary memorization ability(Dankel & Loenneke, 2021).

The population in this study included all 120 students in grade XI at MAN 3 Banyuwangi for the 2025–2026 academic year, distributed across four parallel classes. The sampling technique used purposive sampling with the following criteria:

1. students actively participating in Arabic language learning,
2. having a pretest score for vocabulary memorization below the Minimum Passing Grade (KKM) of 75,
3. willing to participate in all stages of the research intervention. Based on these criteria, a sample of 40 students was obtained, divided into experimental and control groups. The similarity of the first skill of the two groups was verified through an independent samples t-test on the pretest scores, which showed that there was no significant change ($p > 0.05$)(Outcomes, 2022; Ganesha, 2024).

Instruments and Data Collection Techniques The main instrument of this study was a test of Arabic vocabulary memorization skills in the form of 20 multiple-choice and short-answer questions. The instrument was tested for content validity using Aiken's V with a value of ≥ 0.70 based on the assessment of three Arabic language and education experts, and its reliability was measured using Cronbach's Alpha with a coefficient of 0.85, which is classified as highly reliable. Data collection techniques included:

1. Pre-test, The N-Gain score was calculated using conducted at the beginning of the study to evaluate students' initial vocabulary memorization abilities.
2. Post-test, conducted after a four-week intervention using an equivalent instrument.
3. Hake's formula , and was used as the dependent variable (Y) in the regression analysis (Fatmawati & Andriani, 2024). Data analysis was carried out in several stages, including descriptive analysis, which involved calculating the mean,

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standard deviation, and N-Gain score to describe the data trends. Prerequisite analysis included a normality test using K-S to verify the normality of the residual distribution. Linearity testing was conducted using the Test for Linearity to ensure a linear correlation between variables X and Y. Inferential analysis (simple linear regression) was conducted to test the research hypothesis by formulating the regression equation: $\hat{Y} = a + bX$. Model significance testing (F test) was conducted to evaluate the feasibility of the regression model. Regression coefficient significance test (t-test) to test the effect of variable X on Y. to measure the role of TikTok short video utilization in improving Arabic vocabulary memorization skills.

RESULTS AND DISCUSSION

The findings of the study on the effect of using TikTok short videos on improving the Arabic vocabulary memorization skills of 11th grade students at MAN 3 Banyuwangi in the 2025–2026 academic year were obtained by conducting pre-tests and post-tests on 40 students in the experimental group. The data from this study were analyzed using SPSS version 26. The pre-test was conducted before the implementation of learning using TikTok short videos, while the post-test was conducted after the students had attended six learning sessions(Azharinas, 2025). The results of this study were obtained from the pre-test and post-test scores in Table 1 below:

Table 1. ***Pre-Test and Post-Test Score Results***

No.	Name	Keterangan			
		Eksperimental		Control (konvensional)	
		Pre-Test	Post-Test	Pre-Test	Post-Test
1	Adam Maulana Ihsani	85	86	55	50
2	Ahmad Firdaus	95	86	52	54
3	Aldi Avanda	75	78	62	60
4	Anandita Riviani Rizkya Ningrum	78	75	61	67
5	Arinda Fitri Rahmasari	88	89	70	65
6	Aulia Rahmawati	80	89	72	63
7	Azzahra Mahlisa Nusabela	77	76	67	60
8	Carli Dava Esrani	75	75	75	70
9	Dina Ayu Wulandari	95	90	70	70
10	Ibnu Ibrahim	89	80	70	61
11	Ilfi Nurdina	90	80	74	55

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12	Intan Naila Karima	80	82	80	55
13	Langit Jingga Maharani	67	83	61	56
14	Melin Firstyandita	65	85	60	65
15	Moh Sahrul Iksan	70	77	70	53
16	Moh. Fino Dwi Andika	70	77	71	52
17	Mohamad Toher Mujaki	70	75	74	55
18	Muhammad Kefin Alfaruq	65	76	77	50
19	Muthia Afifah Budiyono	65	72	55	60
20	Muzahrotussita	65	87	55	62
21	Nafia Faiqotul Himmah	78	89	53	63
22	Nasywa Aulia	75	90	64	70
23	Ninin Anggi Lestari	89	91	54	54
24	Nisa Aliya Ayesha	90	81	53	55
25	Noval Prayogi Maulana	88	82	50	50
26	Restu Aji Haryo Winoto	87	86	65	55
27	Ridlo Mahdi Vikia	86	87	61	65
28	Riza Ibnu Kaisul Aly	85	97	65	54
29	Senandung Hidayatul Maulani Ichtisom	80	90	65	54
30	Syva Arum Aurencia	75	99	66	62
31	Tata Maulidia	77	97	66	61
32	Thoriq Kamil Basyara	78	87	70	61
33	Umul Khasanah	80	81	75	60
34	Zakia Himmaty Maulida	81	83	56	65
35	Muhammad Asjad Waffi Fa'at	82	85	56	65
36	Nayla Avcarina	76	70	73	67
37	Abizar Ibrahim Al-Ghifari	74	75	72	77
38	Ade Ayu Hastini	73	75	70	72
39	Alifia Nadin Hutama	83	77	80	70
40	Alyssa Dea Aprilyanti	90	78	73	70

A comparison of pre-test and post-test scores reveals different dynamics. The experimental group showed progress with an average increase from 79.28 to 82.95. Meanwhile, the control group experienced a decline, with an average decrease from 65.45 to 60.83. This fact indicates that the statement regarding an increase in scores for all students is not entirely accurate, as the raw data shows individual variation. To ensure that the increase in the experimental group is statistically significant and not a random fluctuation, supporting tests such

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as t-tests and N-gain analysis are required.

1. Validity Test

The validity test aims to determine the degree of validity of the instrument data. The validity of each instrument item is determined by comparing the product moment correlation value (rxy) to the r-table score at a significance level (α) of 5% of 0.312. An instrument item is declared invalid if rxy < r-table, and valid if rxy > r-table. The validity test results for the 20 instrument items show that all items have an item-total correlation value above 0.312, so all items are declared valid. To see whether the test questions used as instruments are truly appropriate and relevant, a validity test needs to be carried out. The validity test results for the 20 pre-test and post-test items show that all items are valid for 40 respondents, as can be seen in Table 2 below:

Table 2. ***Pre-test and Post-test Item Validity Test Results***

Case Processing Summary

		N	%
Cases	Valid	40	100,0
	Excluded[a]	0	,0
	Total	40	100,0

**Source: SPSS 26*

The validity calculation results show a figure of 100%, so it can be concluded that the instrument is valid for assessing the improvement in students' vocabulary mastery.

2. Reliability Test

After going through the validation process for 20 items of the research instrument, the next stage, which is no less important, is the implementation of a reliability test. The purpose of this test is to ensure that the measuring instrument can obtain consistent, stable, and accurate data ( ) when used repeatedly over time and under different conditions. Thus, reliability is the basis for confidence in the stability of measurements in research. The reliability results are shown in Table 3:

Table 3. ***Reliability Test Results***

Reliability Statistics

Cronbach's Alpha	N of Items
,984	20

**Source: SPSS 26*

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In reliability testing, decisions are made by comparing the Cronbach's Alpha value (r_{count}) with the r-table value. The reliability criteria stipulate that an instrument is considered reliable if r_{count} > r-table. The results show a Cronbach's Alpha value of 0.984, while the reference r-table value is 0.3291. Thus, 0.984 > 0.3291, meeting the reliability standard. Furthermore, the item-total correlation for each instrument item ranged from 0.715 to 0.958, where all values also exceeded the r-table. Therefore, the 20 test items were declared reliable.

3. Descriptive Statistics

Data processing using IBM SPSS 26 produced various descriptive statistics that provide a comprehensive overview of the characteristics of the research variables. This analysis includes data distribution and measures of central tendency as a basis for further interpretation, as presented in the following table:

Table 4. ***Descriptive Statistics Results***

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Eksperimen	40	30	65	95	79,28	8,425
Post-Test Eksperimen	40	27	72	99	84,35	6,435
Pre-Test Kontrol	40	30	50	80	65,45	8,342
Post-Test Kontrol	40	27	50	77	60,83	6,898
Valid N (listwise)	40					

**Source: SPSS 26*

Based on the descriptive statistics table, there is a striking difference between the control and experimental groups, each with 40 respondents. At the pre-test stage, the average score of the experimental group (79.28) was already higher than that of the control group (65.45). This gap widened in the post-test, where the experimental group achieved an average score of 84.35, while the control group's score dropped to 60.83. These findings consistently indicate that the use of TikTok short videos in the experimental group had a much more significant impact on learning outcomes than the conventional approach in the control group.

4. Normality Test

A normality test was conducted as an absolute requirement for inferential statistical

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analysis to verify whether the research data residuals were normally distributed. In the study The Effect of Using TikTok Short Videos on Improving the Arabic Vocabulary Memorization Ability of Grade XI Students at MAN 3 Banyuwangi in the 2025–2026 Academic Year, the normality test applied One-Sample K-S to unstandardized residual values. The normality test applied Shapiro-Wilk because the total sample was < 40 respondents. The normality test results are presented through SPSS 26 processing in the following table:

Table 5. *Normality Test*

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		40
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,16680528
Most Extreme Differences	Absolute	,190
	Positive	,176
	Negative	-,190
Test Statistic		,190
Asymp. Sig. (2-tailed)		,001[c]

**Source: SPSS 26*

According to the normality test results, the number of data (N) tested reached 40 respondents, with a residual mean of 0.000 and a standard deviation of 1.1668. These findings indicate that the residual distribution is statistically centered symmetrically around zero. Most Extreme Differences recorded an absolute difference of 0.190 (positive 0.176 and negative −0.190), with a Kolmogorov–Smirnov statistical value of 0.190 and asymptotic significance (2-tailed) of 0.001.

In decision-making criteria, data is considered normally distributed if the sig value exceeds 0.05. However, the Kolmogorov-Smirnov test results obtained a sig score of 0.001 (<0.05), meaning that the residual data in this study is not normally distributed. As a result, the normality assumption is not met, requiring alternative non-parametric statistical analysis or adjustment of the analysis method to suit the nature of the empirical data in this study.

5. F-test (Simultaneous)

The F test aims to test the significance of the regression model as a whole, namely to

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evaluate the joint effect of independent variables on dependent variables(Rechenzentrum, 2019). In the study of the Effect of TikTok Short Video Utilization on Improving the Arabic Vocabulary Memorization Ability of Grade XI Students at MAN 3 Banyuwangi in the 2025–2026 Academic Year, this test was conducted through ANOVA analysis on a simple linear regression model. The analysis results show a regression sum of squares of 1367.679 (df = 1), while the residual sum of squares reaches 53.096 (df = 38). The regression mean square is recorded at 1367.679 and the residual mean square is 1.397.

Table 6. ***Result of F Test***

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1367,679	1	1367,679	978,828	,000[b]
	Residual	53,096	38	1,397		
	Total	1420,775	39			
a. Dependent Variable: Y						
b. Predictors: (Constant), X						

**Source: SPSS 26*

The F test results obtained an F_count score of 978.828 with a degree (Sig.) of 0.000. Referring to the decision-making criteria, the regression model is considered significant if the sig score is < 0.05. With a Sig. value of 0.000 < 0.05, the regression model in this study is proven to be statistically significant. Therefore, the F-test results prove that the use of TikTok Short Videos as an independent variable simultaneously has an effect on improving students' Arabic vocabulary memorization skills. The regression model constructed is considered feasible and can be used to explain the relationship between the two research variables.

6. T-test

The t-test aims to test the partial effect of independent variables on dependent variables in a simple linear regression model. In the study of the Effect of TikTok Short Videos on Improving Students' Arabic Vocabulary Memorization Skills, this test evaluates the significance of the effect of TikTok short videos on vocabulary memorization skills.

The regression coefficient analysis results show a constant value of 0.578 with a significance of 0.673. Because this value exceeds 0.05, the constant has no significant effect on the dependent variable.Furthermore, the variable of TikTok short video usage (X) has a

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regression coefficient (B) score of 1.002 with a standard error of 0.032. The standardized beta coefficient value of 0.981 indicates that the effect of variable X on Y is very strong and positive. The t-test results show a t-value of 31.286 with a significance level of 0.000.

Table 7. *Result of T Test*

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,578	1,358		,425	,673
	X	1,002	,032	,981	31,286	,000
a. Dependent Variable: Y						

**Source: SPSS 26*

Based on the significance value of the SPSS 26 output results:

1. For the constant value, the Sig. value is 0.673 > 0.05. Thus, the constant is not statistically significant.
2. For the independent variable (X), the Sig. value is 0.000 < 0.05. This indicates that variable X has a significant effect on the dependent variable (Y).

Referring to the decision-making criteria, Ha is accepted if the sig score is < 0.05. With a Sig value of 0.000 < 0.05, the use of TikTok short videos is proven to have a significant effect on students' Arabic vocabulary memorization abilities. This finding confirms that every increase in the use of TikTok short videos as a learning medium is followed by an improvement in vocabulary memorization ability. Therefore, the research hypothesis that suggests a significant effect of TikTok short videos on Arabic vocabulary memorization ability can be accepted.

7. N Gain Test

The improvement in vocabulary memorization ability provides an overview of the improvement in Arabic vocabulary memorization ability after the implementation of TikTok short videos. A descriptive statistical analysis of the N-Gain data was conducted. This analysis aims to measure the trend of improvement in student learning outcomes quantitatively, both in terms of scores and percentages, as a basis for the initial evaluation of the effectiveness of the learning intervention applied. The N-Gain test was conducted using SPSS 26 with the

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following procedure :

Table 8. *Result of Descriptive Statistics*

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_score	40	,00	1,00	,5875	,21077
Ngain_persen	40	,00	100,00	58,7458	21,07675
Valid N (listwise)	40				

**Source: SPSS 26*

Based on the descriptive statistics table, it can be seen that the N-Gain score obtained has an average value of 0.5875 with a standard deviation of 0.21077. The minimum N-Gain score is 0.00 and the maximum value reaches 1.00. Meanwhile, in percentage terms, the average increase achieved is 58.75% with a standard deviation of 21.08%. Based on the N-Gain score interpretation category, the increase in student learning outcomes is in the moderate category, because the average value of 0.5875 is greater than 0.3 and less than 0.7 ($0.3 < g < 0.7$). The gain score criteria can be seen in the following provisions:

1. If $g > 0.7$, it falls under the high criterion
2. If $0.3 < g \leq 0.7$, it falls under the moderate criteria
3. If $g \leq 0.3$, it is classified as low

The relatively low standard deviation reflects a fairly homogeneous distribution of improvement among respondents. Thus, the use of TikTok short videos has been proven to have a positive contribution and moderate effectiveness in supporting the Arabic vocabulary memorization skills of 11th grade students(Azharinas, 2025).

CONCLUSION

Based on a simple linear regression test, the findings reveal that the contribution of TikTok short videos in improving students' mastery of Arabic vocabulary is significant and substantive. Quantitatively, the regression coefficient (B) value of 1.002 represents that each additional unit of use of this media correlates with an increase in memorization scores of 1.002 units. On the other hand, the standardized Beta coefficient (β) of 0.981 confirms the almost perfect positive association between the two variables. Confidence in these findings is further strengthened by the significance level (p) of 0.000, which is well below the critical threshold of $\alpha = 0.05$, indicating

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that the chance of this relationship occurring by coincidence can be ignored. Thus, it can be statistically confirmed that TikTok short videos do indeed affect the improvement of mufradat memorization skills, proving their effectiveness as a medium for learning Arabic vocabulary for students. This conclusion is in line with the research objectives, namely to test the effectiveness of TikTok short videos and to measure the level of improvement in mufrodat memorization skills after the implementation of this medium in learning.

The findings from comparing pre-test and post-test scores indicate a substantial increase in the average score in the experimental group, in contrast to the control group using conventional methods, which actually decreased. The validity and reliability tests confirm the feasibility and consistency of the research instruments, thereby ensuring the credibility of the data collected. Descriptive statistical analysis clearly shows the disparity in learning outcomes between the experimental and control groups after the intervention.

The F test confirmed the statistical significance of the regression model, while the t test proved the positive and significant effect of TikTok short videos on students' Arabic vocabulary memorization abilities. The mean N-Gain value of 0.5875 (58.7458%) in the moderate category indicates the moderate effectiveness of TikTok short videos in improving vocabulary memorization skills. Thus, the research objectives were achieved, and TikTok short videos are recommended as an innovative learning medium for Arabic language subjects.

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