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The Effectiveness of TikTok Social Media Content in Improving Students' Understanding of Islamic Religious Education in Grade X at SMK N 1 Batealit

M. Bagus Setiawan[1]*, Taufiqurrahman[2]
[1,2]Nahdlatul Ulama Islamic University, Jepara
e-mail: muhammadbagusset@gmail.com[1], ufiq@unisnu.ac.id[2]
*Corresponding Author.

Abstract: This study aims to analyze the effectiveness of TikTok social media content as a learning medium in improving students' understanding of Islamic Religious Education (PAI) subjects for grade X at SMK N 1 Batealit. The rapid growth of TikTok users in Indonesia, which will reach 157.6 million in 2024, and its potential as an interactive learning tool. The method used is quantitative with an experimental design Pretest-Posttest Control Group Design, involving 32 students as the experimental group (using TikTok) and 32 students as the control group (using textbooks). Data were collected through an understanding test and analyzed statistically with normality, homogeneity, and T-test tests. The results showed a significant increase in the experimental group, with an average posttest score of 92.03, much higher than the control group (77.34). In addition, the consistency of students' understanding in the experimental group was also better, indicated by a lower standard deviation (5,800) and a narrow range of values (80-100). Hypothesis testing confirmed that TikTok was statistically more effective in improving students' understanding (Sig. < 0.001). The conclusion of this study is that TikTok can be an effective learning medium for Islamic Religious Education, especially in attracting interest and improving students' understanding. The implication is that educators are advised to utilize digital platforms such as TikTok with relevant and educational content designs, in order to create more interactive learning that is in accordance with the characteristics of the digital generation.
Keywords: TikTok, Learning Media, Islamic Religious Education, Student Comprehension.

Introduction

In today's digital age, social media has become an integral part of everyday life, especially among the younger generation. Platforms like TikTok have experienced exponential growth and are particularly popular among Generation Z (Yendra et al., 2024). In Indonesia, 68.9 percent of the population uses social media. The number of active social media users is expected to grow by 12.6 percent by 2024, up 21 million from 2022. In Indonesia, social media has now become a crucial aspect of daily internet use. Indonesians are gradually shifting from desktops to mobile devices such as smartphones and tablets (Social, 2025). One of the most popular platforms is TikTok, which is used not only for entertainment but also as a source of information and learning. As of July 2024, the TikTok user population in Indonesia surpassed 157.6 million. This information was revealed in a report titled "Countries with the Largest TikTok Audiences as of July 2024" published by research organization Statista in August 2024 (Galuh Putri Riyanto, 2024). This figure shows how large the number of TikTok users is as a social media platform in Indonesia. Seeing the phenomenon that students now open social media more often than textbooks, there is a great opportunity to utilize this platform strategically in the world of education (Mardiyah et al., 2024).

Learning media plays a crucial role in supporting the teaching and learning process. Using appropriate media can help students understand the material more effectively, increase their motivation to learn, and make the learning process more interactive (Simanjuntak et al., 2024). One of the learning media used in Islamic Religious Education, which remains traditional and continues to be used today, is textbooks. Although technological advances have introduced various forms of more interactive and innovative learning media, such as TikTok, textbooks remain the primary source of information for students. Therefore, innovation in Islamic Religious Education learning media is essential to bridge this gap (Amin et al., 2024).

Based on previous research conducted by (Ramdani et al., 2021), that TikTok social media can be utilized as a learning medium for both educators and students by adapting teaching materials and student characteristics, thereby creating an interactive and creative learning environment. Furthermore, TikTok social media content can increase student creativity and self-confidence. This was followed by research by (Mustaghfirin, 2024). The TikTok application can be used as an appropriate learning medium, method, and technique in the subject of Aqidah Akhlak because of its diverse features and ease of operation. A study by (Salsabila & Muhammad, 2024), shows that Islamic Religious Education teachers can increase student learning motivation through creative educational content creation strategies and utilizing popular trends on TikTok. The use of TikTok has been proven to increase student motivation, interest, and learning achievement, as well as improve student learning outcomes, leading to a progressive Islamic education. The use of TikTok as a means of preaching and spreading Islamic values has also been recognized, making it a relevant tool for character education in the digital era (Khosla & El - Yunusi, 2024). This proves that TikTok has potential as a learning medium.

Despite its many positive potentials, TikTok's use also presents challenges. Several studies have highlighted its negative impacts, such as students becoming careless, having difficulty managing their time between studying and social media, and the potential for character degradation if not properly guided (Suwahyu, 2024). These positive and negative impacts underscore the importance of teachers' roles as facilitators and supervisors in guiding the use of TikTok for constructive learning purposes. This provides strong justification for researching how TikTok can be implemented effectively and measurably within formal learning structures, particularly for Islamic Religious Education (PAI) subjects at the vocational high school level.

The scientific novelty of this study lies in the method used and its object. This study uses a quantitative approach to explore the effectiveness of using TikTok as a learning medium in Islamic Religious Education. Many previous studies, such as those conducted by (Mardiyah et al., 2024) at State Vocational School 3 Jepara or (Suwahyu, 2024) at SMK Negeri 4 Bantaeng, using descriptive qualitative methods. This research will complement this by providing objective statistical data to compare the understanding of students using TikTok with those using textbooks, thus providing stronger empirical evidence regarding the effectiveness of the medium.

The problem to be answered in this research is: Can the use of TikTok as a learning medium improve students' understanding of Islamic Religious Education material compared to the use of textbooks?

Based on the existing problems, the hypothesis in this study is: (Ha) The use of TikTok as a learning medium in Islamic Religious Education at SMK N1 Batealit significantly improves students' understanding of the material being taught compared to the use of traditional learning methods, such as textbooks. (H0) There is no significant difference in students' understanding of Islamic Religious Education material between those who use TikTok as a learning medium and those who use textbooks.

This study aims to analyze whether TikTok social media content can be used as an effective learning medium in Islamic Religious Education (PAI) for class X students of SMK N 1 Batealit.

Method

This research uses a quantitative method with an experimental type and a pretest-posttest control group design. The quantitative approach was chosen because it has systematic, planned, and clearly structured specifications from the beginning to the creation of the research design, and requires the use of numbers in collecting, interpreting, and presenting data, which is very relevant to the objectives of this research (Syahroni, 2022). Experimental research is research that tries to find a causal relationship between independent variables and dependent variables, where the independent variables are deliberately controlled and manipulated (Abraham & Supriyati, 2022). In the context of this study, the independent variable is the use of TikTok as a learning medium, while the dependent variable is students' understanding and skills in Islamic Religious Education. The Pretest-Posttest Control Group Design was chosen because it is considered very effective in measuring the impact of an intervention by comparing changes between the experimental and control groups (Bulus, 2021). This allows researchers to draw more valid conclusions regarding the effectiveness of TikTok as a learning aid, as well as providing valuable insights for the development of more innovative and relevant teaching methods in the digital era. This research was located at SMK N 1 Batealit, Bringin Village, Batealit District, Jepara Regency. This research was conducted for three weeks with a focus on the effectiveness of TikTok social media content in improving students' understanding of Islamic Religious Education (PAI) learning. The sampling technique used was purposive sampling, which is a non-probability sampling method from two existing intact groups. Class X MP 2 (32 students) as the experimental class and X AK 1 (32 students) as the control class.

The data collection technique in this study used a test method to measure student understanding. The instrument used was a test administered twice: a pretest and a posttest to the sample class after receiving the treatment. Before being used in the study, this instrument underwent a series of validity and reliability tests to ensure its quality. The test requirements were as follows: 20 multiple-choice questions, with all correct answers receiving a score of 100. Each correct answer was worth 1 point, and each incorrect answer received 0 points.

The data analysis technique used in this study is descriptive analysis, calculating the average (mean), median, and standard deviation of the pretest and posttest scores. Inferential analysis includes prerequisite tests, which consist of normality tests and homogeneity tests. Hypothesis testing using independent T-Test.

Results and Discussion

Results

a. Data Description

In this section, we will describe the pretest and posttest data from data obtained through valid and reliable data.

Table 1. Pretest and Posttest Scores of Control and Experimental Classes

Statistics		Pretest Control	Posttest Control	Experiment Pretest	Experiment Posttest
N	Valid	32	32	32	32
	Missing	0	0	0	0
Mean		70.94	77.34	77.34	92.03
Standard Error of Mean		1,626	1,209	1,188	1,025
Median		70.00	80.00	80.00	92.50
Mode		75	80	80	95

Statistics				
	Pretest Control	Posttest Control	Experiment Pretest	Experiment Posttest
Standard Deviation	9,197	6,837	6,718	5,800
Variance	84,577	46,749	45,136	33,644
Range	40	25	30	20
Minimum	45	65	60	80
Maximum	85	90	90	100
Sum	2270	2475	2475	2945

In Table 1 the results of statistical analysis present data from 32 respondents in each group, namely the control group and the experimental group. In the pretest stage, the control group showed an average value of 70.94, with a fairly wide distribution of data, indicated by a standard deviation of 9.197 and a range of values from 45 to 85. The median of 70.00 and mode of 75 indicate a concentration of values around the lower middle limit. Meanwhile, the experimental group had a slightly higher average pretest value, namely 77.34. Despite having a higher average, the distribution of values in the experimental group was narrower (standard deviation of 6.718) with a range from 60 to 90, and the median and mode at 80.

After the treatment, in the posttest stage, both groups showed improvement. The control group experienced an average increase of 77.34, from 70.94 in the pretest. The distribution of scores became denser with a standard deviation of 6.837 and a range of 25 (from 65 to 90). The median and mode of the control group increased to 80. However, the most significant and striking improvement was seen in the experimental group. The average posttest score of the experimental group jumped drastically to 92.03, an increase of more than 14 points from their pretest average. The distribution of data in the experimental group also became very consistent and homogeneous, marked by the lowest standard deviation of 5.800 and a range of only 20 (from 80 to 100). The median of this group was 92.50 and the mode was 95, indicating that most students in the experimental group managed to achieve very high scores.

b. Data Analysis Test

Normality Test

The normality test is to create a frequency distribution graph for the existing scores (Usmadi, 2020). This normality test was used to determine whether the data from the control and experimental classes were normally distributed. This study used the Shapiro-Wilk test because the sample size was small, less than 100. The test results are as follows:

Table 2. Normality Test Results

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Control Class Pretest	.139	32	.117	.948	32	.122
Control Class Posttest	.152	32	.058	.946	32	.114
Experimental Class Pretest	.134	32	.154	.935	32	.053
Experimental Class Posttest	.103	32	.200*	.959	32	.266
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

The basis for the decision according to (Ghozali, 2018):

If the significance value (Sig.) > 0.05 then the data is normally distributed
If the significance value (Sig.) < 0.05 then the data is not normally distributed.

Based on the analysis of table 2, significant results were obtained from the four groups (*Pretest*Control Class 0.122, Control Class Posttest 0.114, Experimental Class Pretest 0.053, and Experimental Class Posttest 0.266), are normally distributed because the significance value (Sig.) is greater than 0.05 in each class. Although 0.053 is formally greater than 0.05, so the distribution of the Experimental Class Pretest is considered normal, it is important to recognize that this value is very close to the limit where the distribution would be considered abnormal.

Homogeneity Test

The homogeneity test is a statistical test used to determine whether the variance of two or more data groups is the same or homogeneous (Sianturi, 2022). In other words, this test checks whether the data distribution between groups has similar variations. The test results are in the following table:

Table 3. Posttest Homogeneity Test Results

Test of Homogeneity of Variance		Levene Statistics	df1	df2	Sig.
Understanding	Based on Mean	1,367	1	62	.247
	Based on Median	.381	1	62	.539
	Based on Median and with adjusted df	.381	1	53,015	.540
	Based on trimmed mean	1,372	1	62	.246

The basis for decision making according to(Julie Pallant, 2020):
If the significance value (Sig.) > 0.05 then the data is homogeneous
If the significance value (Sig.) < 0.05 then the data is not homogeneous

Based on the analysis results of table 3, the homogeneity test for the posttest of the control and experimental classes obtained a significance value of Sig. 0.247, so Sig. > 0.05, thus the two classes are homogeneous.

Hypothesis Testing

Hypothesis testing is a statistical decision-making method used to determine whether there is sufficient evidence in a sample of data to conclude that a condition or assumption about a population is true (Watt, 2020). Based on the results of previous tests showing that the data for both classes were normally distributed and had homogeneous variance, the hypothesis analysis was conducted using parametric statistical tests. This hypothesis test table uses the independent T-Test as follows:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Pemahaman	Equal variances assumed	1.367	.247	-9.266	62	<,001	<,001	-14.688	1.585	-17.856	-11.519
	Equal variances not assumed			-9.266	60.395	<,001	<,001	-14.688	1.585	-17.858	-11.517

Picture 1. Independent T-Test Results

The basis for the decision according to (Sutanto et al., 2018):
If $H_0 : \mu_1 > \mu_2$ means that there is no difference in the understanding of students in the control and experimental classes regarding TikTok content regarding Islamic Religious Education learning materials.

If $H_a : \mu_1 < \mu_2$ means that there is a difference in understanding between control and experimental class students regarding TikTok content regarding Islamic Religious Education learning materials.

Based on the results of the analysis of Figure 1, a significant value (Sig. Two-Sided p) was obtaine $d \leq 0.001$. Therefore, it can be concluded that the value (Sig. Two-Sided p) < 0.05, which means H_a accepted and H_0 rejected. Thus, it can be concluded that TikTok social media content is significantly effective in improving students' understanding of Islamic Religious Education (PAI) learning materials in Class X of SMK N 1 Batealit.

Discussion

Data Description and Initial Comparison

The results of the data description show an interesting initial picture regarding the performance of students' understanding of Islamic Religious Education subjects in both groups, both before (pretest) and after (posttest) the treatment. In the pretest stage, the experimental group had a slightly higher average score (77.34) than the control group (70.94), although both groups started with a fairly diverse distribution of scores.

Significant improvements were seen in the posttest stage in both groups. The control group showed an average increase to 77.34. However, the most striking improvement occurred in the experimental group, whose average posttest score jumped dramatically to 92.03. This figure not only far exceeded the experimental group's own pretest score (77.34), but was also substantially higher than the control group's posttest score (77.34). Furthermore, the standard deviation in the experimental group's posttest (5,800) was the lowest compared to the other groups, and the score range narrowed (from 80 to 100). This indicates that using TikTok content not only improved comprehension on average, but also resulted in greater consistency of comprehension among students in the experimental group, with many students achieving very high scores.

Verification of Statistical Assumptions (Normality and Homogeneity Test)

Before conducting a parametric hypothesis test, statistical assumptions must be met.

- **Normality Test:** The results of the Kolmogorov-Smirnov and Shapiro-Wilk tests show that all data in the four groups (Control Class Pretest, Control Class Posttest, Experimental Class Pretest, and Experimental Class Posttest) are normally distributed. This is evidenced by the significance value (Sig.) of both tests which is always greater than 0.05 (e.g., Shapiro-Wilk for Control Pretest 0.122, Control Posttest 0.114, Experimental Pretest 0.053, and Experimental Posttest 0.266). These results indicate that the data meets the normality assumption for parametric tests.

- **Homogeneity Test:** The results of the homogeneity of variance test on the "Understanding" variable also indicate that the variance between groups is homogeneous. This is evident from all Levene's Test significance values (Based on Mean, Median, and Trimmed Mean) which are greater than 0.05 (e.g., Based on Mean Sig. = 0.247). The fulfillment of this homogeneity of variance assumption supports the validity of using parametric statistical tests to compare means between groups.

Hypothesis Testing and TikTok Effectiveness

After the assumptions of normality and homogeneity were met, hypothesis testing was conducted using parametric statistical tests. The proposed research hypothesis is:

- H_0: There is no significant difference in students' understanding of Islamic Religious Education material between those who use TikTok as a learning medium and those who use textbooks.

- H_a: The use of TikTok as a learning medium in Islamic Religious Education at SMK N 1 Batealit significantly improves students' understanding of the material taught compared to the use of traditional learning methods, such as textbooks.

Based on the results of the Independent Samples t-test analysis, the significance value (Sig. Two-Sided p) was obtained ≤ 0.001. Because the Sig. value (0.000) is smaller than the specified significance level (0.05), the statistical decision is to reject the Null Hypothesis (H_0) and accept the Alternative Hypothesis (H_a).

Thus, these results empirically prove that TikTok social media content is significantly effective in improving students' understanding of Islamic Religious Education learning materials in Class X of SMK N 1 Batealit.compared to the use of traditional learning methods (textbooks).

Relationship with Previous Research and Implications

The findings of this study are consistent with previous literature supporting the potential of social media as an educational tool, particularly TikTok. As expressed by (Ramdani et al., 2021). TikTok social media can be used as an interactive and creative learning medium, and can increase students' creativity and self-confidence. Research by (Mustaghfirin, 2024), also specifically found that the TikTok application can be an appropriate learning medium, method, and technique in the subject of Aqidah Akhlak, proven to increase student motivation, interest, and learning achievement. This study strengthens this argument by providing clear quantitative evidence regarding TikTok's effectiveness in improving student understanding of Islamic Religious Education (PAI) in a vocational high school context.

The implications of this research are very significant for educational practice, especially in Islamic Education subjects in the digital era.

- **Theoretically:** This research adds empirical evidence to the effectiveness of integrating modern technology, particularly popular social media platforms like TikTok, into the religious education curriculum. It demonstrates that Islamic Religious Education (PAI) learning need not be limited to traditional methods and can adapt to the learning preferences of the digital generation.
- **In Practical:** For educators, these results provide strong encouragement to explore and implement TikTok content as a learning medium. Islamic Religious Education (PAI) teachers can develop or utilize relevant and educational TikTok content to present materials in a more engaging, interactive way, and in a way that aligns with students' current learning styles, ultimately improving their understanding and learning outcomes. It's important to remember that this effectiveness also depends on appropriate content design and the relevance of the material presented through the platform.

This study confirms that TikTok is not only an entertainment tool, but also a powerful learning instrument, which, if utilized appropriately, can bring positive changes in the effectiveness of Islamic Religious Education learning.

Conclusion

Based on the results of data analysis and discussion, it can be concluded that this study successfully answered the hypothesis and research objectives. The main findings indicate that the use of TikTok social media content as a learning medium is significantly more effective in improving students' understanding of Islamic Religious Education (PAI) material in Grade X of SMK N 1 Batealit compared to traditional learning methods using textbooks. This is evidenced by the highly significant average posttest score of the experimental group (from 77.34 to 92.03), far exceeding the increase in the control group. In addition, students' understanding in the experimental group became more consistent and even, as indicated by a lower standard deviation. The answer to the research hypothesis clearly shows that the Null Hypothesis (H_0) is rejected and the Alternative Hypothesis (H_a) is accepted, with a significance value (Sig. Two-Sided p) < 0.001. These findings strengthen the argument that interactive learning media that are in accordance with the preferences of the digital generation can have a positive impact on learning outcomes. As a suggestion, further research can focus on a more in-depth analysis of the type or design of TikTok content that is most effective for

various PAI materials. Furthermore, future research could also explore the impact of TikTok use on students' affective aspects, such as motivation and interest in learning in the long term, as well as examine its effectiveness at different educational levels or subjects.

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