

Address : Tuesday Block No. 76 Rt/Rw 01/003  
Jatitengah Village, Jatitujuh District, Majalengka  
Regency, West Java


Email : arjijournal@gmail.com


Contact : 0821-4250-1527


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## **Penerapan Model Pembelajaran *Blended Learning*: Upaya Meningkatkan Kemampuan Analisis (C4) pada Materi Keteladanan Para Ulama di Indonesia**

### **The Implementation of the Blended Learning Model: An Effort to Enhance Analytical Skills (C4) on the Topic of Exemplary Indonesian Islamic Scholars**

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 Nurul Azizah<sup>1\*</sup>, Nachua Qinanthi<sup>2</sup>, Nadia Eka Sauwitri<sup>3</sup>,  
Lepi Maya Sari<sup>4</sup>, Mona Agustina<sup>5</sup>, Anggraini Pratiwi<sup>2</sup>

 <sup>12345</sup>Universitas Islam Negeri Raden Intan Lampung

 Email Correspondence: nurulazizah23@student.uns.ac.id

**Kata Kunci:**

Blended learning, quizziz, hasil belajar

**Abstrak:** Rendahnya pencapaian siswa dalam mata pelajaran Pendidikan Agama Islam (PAI) yang belum memenuhi Kriteria Ketuntasan Minimal (KKM) menunjukkan adanya kendala dalam proses pembelajaran. Penelitian ini bertujuan untuk mengkaji efektivitas model pembelajaran blended learning berbasis aplikasi Quizizz terhadap hasil belajar siswa di SMA Negeri 1 Katibung dengan menggunakan metode quasi eksperimen, desain post test only control group, dan teknik simple random sampling. Sampel penelitian terdiri dari 63 siswa kelas XI yang dibagi menjadi dua kelompok, yaitu kelas eksperimen dengan model blended learning dan kelas kontrol dengan model pembelajaran tradisional. Instrumen yang digunakan berupa tes pilihan ganda yang telah memenuhi syarat validitas dan reliabilitas, diberikan setelah perlakuan selesai. Analisis data mencakup uji normalitas, uji homogenitas, independent sample t-test, serta uji Mann-Whitney U. Hasil pengujian menunjukkan bahwa nilai Sig. (2-tailed) pada Levene's Test for Equality of Variances adalah 0,228 (>0,05), sehingga  $H_0$  diterima

dan  $H_a$  ditolak, yang berarti model blended learning berbasis Quizizz tidak efektif dalam meningkatkan hasil belajar siswa. Oleh sebab itu, guru disarankan untuk melakukan evaluasi terhadap model pembelajaran ini dan mempertimbangkan alternatif metode lain. Sekolah juga dianjurkan untuk menyediakan pelatihan teknologi pembelajaran bagi guru, peneliti sebaiknya menelaah faktor-faktor lain yang dapat mempengaruhi hasil belajar serta memperluas cakupan penelitian. Selain itu, pihak terkait diharapkan memberikan dukungan berupa kebijakan dan fasilitas yang memadai untuk mendukung penggunaan teknologi dalam pembelajaran.

**Keywords:**

*Blended learning, quizizz, learning outcomes*

**Abstract:** The low scores of students in the Islamic Religious Education (IRE) subject, which have not yet met the Minimum Completeness Criteria (KKM), indicate challenges in the learning process. This study aims to examine the effectiveness of a blended learning model based on the Quizizz application on student learning outcomes at SMA Negeri 1 Katibung using a quasi-experimental method with a post-test only control group design and simple random sampling technique. The sample consisted of 63 eleventh-grade students divided into an experimental class using the blended learning model and a control class using a traditional learning model. The instrument used was a valid and reliable multiple-choice test administered after the treatment. Data analysis included normality test, homogeneity test, independent sample t-test, and Mann-Whitney U test. The results showed that the Sig. (2-tailed) value in Levene's Test for Equality of Variances was 0.228 ( $>0.05$ ), thus the null hypothesis  $H_0$  was accepted and the alternative hypothesis  $H_a$  was rejected, meaning that the Quizizz-based blended learning model was not effective in improving student learning outcomes. Therefore, teachers are advised to evaluate this learning model and consider alternative methods. The school is also recommended to provide training on learning technology for teachers. Researchers are encouraged to investigate other factors affecting learning outcomes and expand the scope of research. Furthermore, relevant parties are expected to support the use of technology through appropriate policies and adequate facilities.

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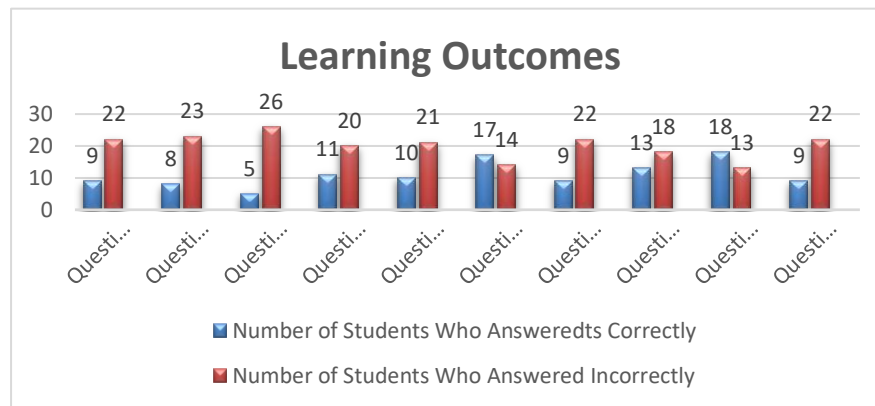
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## INTRODUCTION

Education is a process of guidance that helps children develop their potential, enabling them to become civilized, independent individuals who can live safely and happily within society (Asmanto et al., 2023; Pristiwanti et al., 2022). Education serves to develop abilities, shape character, and build civilization within the context of community life, nationhood, and the state (Najili et al., 2022). To achieve quality education, there must be an integration of students, educators, interactions, objectives, curriculum, methods, and the learning environment (Bp et al., 2022). Education aims to cultivate individual potential, nurture noble character, and contribute to the advancement of a productive civilization in the contexts of society, nationhood, and statehood (Maryanti et al., 2022). In its implementation, this goal is realized through various structured and integrated learning processes (Diantoro & Purwanti, 2021).

Learning is a structured activity intended to support, stimulate, and maximize students' educational growth and learning quality (Lubis et al., 2024). A range of factors affects both the extent and quality of student learning, which in turn has a direct impact on their academic outcomes (Wiriani, 2021). Student learning outcomes represent the abilities developed through their engagement in instructional activities over a designated time frame. These abilities encompass aspects of knowledge, attitudes, and skills, which are demonstrated through behavioral changes, improved understanding, and observable and measurable achievements or performance (Hidayati et al., 2024; Nada et al., 2024; Rahman, 2024).

Good learning outcomes can be observed through the achievement of predetermined indicators. According to Bloom, Learning achievements are categorized into three primary domains: cognitive, affective, and psychomotor. A student's success is reflected in their ability to enhance their knowledge, attitudes, and skills. These three domains include: (1) the cognitive domain, which relates to thinking abilities; (2) the affective domain, which involves attitudes and values; and (3) the psychomotor domain, which pertains to skills and actions (Nurdian et al., 2021; Ulfah & Opan Arifudin, 2021). Anderson and Krathwohl divide the cognitive learning outcome indicators cognitive learning outcomes are divided It is categorized into six cognitive levels: C1) Recall, C2) Comprehension, C3) Implementation, C4) Analysis, C5) Assessment, and C6) Synthesis or Creation (Setyawati et al., 2021). Specifically, The learning outcomes of Islamic Religious Education at the senior high school level, as outlined in the Minister of Education and Culture Regulation No. 24 of 2016, consist of three main components: (1) social attitudes, (2) knowledge competencies, which reflect students' ability to understand, apply, and evaluate factual, conceptual, procedural, and metacognitive information driven by their curiosity about science and technology, and (3) the skills demonstrated by students in mastering this knowledge (Pratiwi et al., 2024).



**Figure 1. Student Learning Outcomes in the Implementation of Pre-Research**

Based on data obtained regarding students' learning outcomes, it was found that the highest percentage of incorrect answers occurred at the C4 level, with 84% of students failing to provide correct responses. This highlights a serious issue in students' cognitive abilities at the analysis level (C4), as difficulties in developing higher-order thinking skills contribute to low learning outcomes. Preliminary research through Findings Based on observations and interviews conducted with Islamic Religious Education teachers at SMA Negeri 1 Katibung, several challenges were identified in the implementation of the learning process, including limited tools and technology, an unsupportive learning environment, and insufficient learning time. These factors have negatively impacted student achievement, with many scores falling below the Minimum Competency Criteria (KKM). Therefore, it is essential to implement more innovative and effective teaching models To enhance learners' educational achievements.

The instructional model selected and applied by the teacher significantly influences the overall effectiveness of the teaching and learning process (Heryana & Badarudin, 2024). Learning outcomes can be improved through a blended learning model that offers flexibility, access to online materials, and flexible communication (Nande & Irman, 2021). Blended learning refers to a teaching strategy that integrates in-person and virtual methods, engaging diverse models and learning preferences through social interactions (Suhaeb et al., 2022). Using the blended learning approach, instructors can sustain engagement with learners and carry out their teaching responsibilities, while making use of technology via e-learning tools (Puspitarini, 2022). The blended learning method has demonstrated greater effectiveness in improving student achievement compared to solely traditional instruction or fully online learning. Although results may vary across different subjects, this model offers flexibility, promotes independence, is cost-efficient, and enhances student satisfaction (Puspita & Tirtoni, 2023; Truss & Anderson, 2023).

The implementation of blended learning must be supported by internet technology and various appropriate tools to facilitate learning activities, material delivery, and assessment (Ekayana, 2021). One such medium is the educational game Quizizz, which is easily accessible and can make students more interested, active, and less likely to become

bored during learning (Pakaya et al., 2025). Quizizz is a self-directed learning platform that helps students improve their performance through creative and interactive questions. Students can access it via computers, smartphones, or tablets to complete quizzes and enhance their learning outcomes (Cindy Nababan et al., 2023). Quizizz is an interactive learning platform featuring narrative and flexible game elements, which also serves as a tool for delivering educational content, Quizizz can also serve as an engaging and enjoyable medium for learning assessment (Hamid et al., 2023)

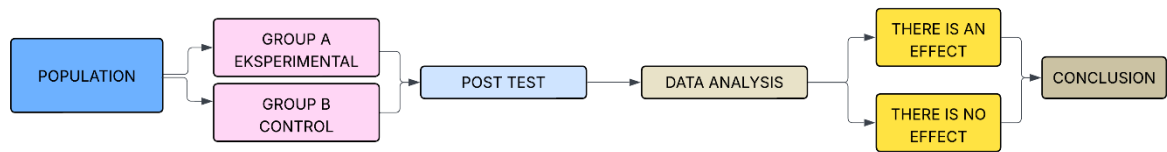
Research conducted by various scholars, including Tomi Apra Santosa (2021), Roki Hardianto (2020), Rahma Rizky Sukma (2022) It demonstrates that blended learning has a greater impact than conventional teaching methods in enhancing the cognitive achievements of students and university learners. Blended learning offers many advantages, such as supporting independent learning, facilitating access to materials, and efficiently combining online and face-to-face instruction. This model enables learning to continue during the pandemic, allows teachers to deliver materials quickly, while also providing more detailed explanations during face-to-face sessions (Handika et al., 2021; Lisurante et al., 2024). This study presents novelty by applying a blended learning model that integrates the Quizizz application in Islamic Religious Education (IRE) to encourage active student engagement and independence, thereby improving learning outcomes. Although numerous studies on blended learning have been conducted, its implementation in (IRE) at the senior high school level remains rarely discussed. During the teaching of Islamic Religious Education at SMA Negeri 1 Katibung, several problems were found. These include a lack of tools and technology, an unsupportive learning environment, and limited study time. All of these issues have a strong impact on students' learning outcomes. The problems found in the Islamic Religious Education classes at SMA Negeri 1 Katibung show that a lack of tools and technology, an environment that does not support learning, and short study time greatly impact how well students learn.

The low scores of students in Islamic Religious Education (IRE), which are still below the Minimum Competency Criteria (KKM), show that there are issues in the learning process. This is concerning because IRE is important for building students' character and morals. If this problem is not solved quickly, students might struggle to understand the religious values that are meant to guide their lives. This research tries to find out why students have low learning results and to look for the right solutions. The goal is to help teachers improve how they teach Islamic Religious Education. By understanding the main causes of students' low scores, teachers can adjust models and approaches to be more effective. The findings of this study can also help schools improve the quality of Islamic Religious Education (IRE) lessons.. In the end, this study supports the growth of students who are not only good at academics but also have strong character and spiritual values.

## **METHODS**

This research uses a quasi-experimental method with a control group that only takes the post-test. The students were split into two groups: Class XI-2, which used the blended learning method, and Class XI-4, which learned through the regular or traditional method. The sampling method used was simple random sampling to give every student an

equal opportunity to be chosen. The sample was selected based on criteria that match the research objectives. Therefore, the research design is:



**Figure 2. Quasi experimental Design**

Data was collected through multiple-choice tests. Before giving these tests to both the experimental and control groups, the researcher had experts review and approve the questions. Then, the questions were tested outside the experimental and control classes to check their validity and reliability. Out of the 18 questions tested, 11 were considered valid. These 11 questions were added to the tests for both classes to evaluate the students' learning outcomes. To test the instrument's reliability, Cronbach's Alpha was used and it showed a value of 0.718, which is above 0.60. Because the calculated r-value is greater than the critical r-table value, the items are considered reliable and consistently measure the same variable in a stable manner.

In this study, the data analysis methods used included the normality test, homogeneity test, and hypothesis testing using the Mann-Whitney U test. The normality test is performed to check whether the collected data follows a normal distribution or not. Then the homogeneity test which aims to prove that the data processed is homogeneous. Finally, the hypothesis test uses the T-test to find differences in final results between the two sample groups, and the Mann-Whitney U test to check the median difference between two independent groups when the data is not normally distributed.

The blended learning model consists of three main stages: (1) Seeking of information, where students search for information from various sources, both online and offline, according to their learning needs; (2) Acquisition of information, where students individually or in groups strive to understand the information found and compare it with their existing knowledge; and (3) Synthesizing of knowledge, where students reconstruct their knowledge through analysis, discussion, and drawing conclusions from the information obtained. These three stages help students build a deeper and more meaningful understanding (Zaeni et al., 2021).

## RESULT AND DISCUSSION

### Result

This study aims to compare the learning results of eleventh-grade students studying the topic 'Exemplary Ulama in Indonesia' using either the blended learning model or the traditional learning model. This material is considered suitable for blended learning due to its broad scope, allowing it to be studied both inside and outside the classroom. The study took place over four sessions: three sessions to use the learning models in each class, and one final session for a post-test to evaluate the students' learning results.

To measure students' learning outcomes, this study used multiple-choice tests. Before administration, the questions were tested for validity and reliability to ensure their appropriateness and consistency. Out of 18 validated questions, further trials and analyses were conducted. Only questions that were confirmed to be valid and reliable were used to gather data from both the control and experimental classes. The test results are presented in the table below.

**Table 1. Description of Validity Test Result**

No. Question	R <sub>Calculated</sub>	R <sub>table</sub>	Description
1	0,3061	0,757	Valid
2	0,3061	0,112	InValid
3	0,3061	0,268	InValid
4	0,3061	0,743	Valid
5	0,3061	0,757	Valid
6	0,3061	0,729	Valid
7	0,3061	0,750	Valid
8	0,3061	0,740	Valid
9	0,3061	0,284	InValid
10	0,3061	0,722	Valid
11	0,3061	0,189	InValid
12	0,3061	-0,093	InValid
13	0,3061	0,742	Valid
14	0,3061	0,749	Valid
15	0,3061	0,729	Valid
16	0,3061	0,745	Valid
17	0,3061	-0,026	InValid
18	0,3061	0,298	InValid

**Table 2. Description of Reliability Test Result**

Reliability Statistics	
Cronbach's Alpha	N of Items
.718	18

From the validity and reliability test results, 11 out of the 18 analyzed items fulfilled the criteria of precision, consistency, and dependability, indicating that they are both valid and reliable. The instrument's reliability was evaluated through the Cronbach's Alpha coefficient, resulting in a score of 0.718, which surpasses the acceptable minimum standard of 0.60. Cronbach's Alpha was chosen because this method is effective in assessing the extent to which the test items are consistent and reliable in measuring the same variable stably. Since the computed r-value is greater than the critical r-table value, the items are considered appropriate and dependable for inclusion in this study.

## 1. Prerequisite Test Result

### a. Normality Test

Given that the sample size was under 100 participants, the Shapiro-Wilk test was employed in this study to assess the normality of the post-test data. If the significance value is greater than 0.05, the data are assumed to follow a normal distribution, otherwise, a value less than 0.05 indicates deviation from normality. The results of the normality assessment for the post-test data in the experimental and control groups are shown in the following table.

**Table 3. Description of Normality Test**

		Tests of Normality					
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
Hasil Belajar	Kelompok	Statistic	df	Sig.	Statistic	df	Sig.
	Kelompok Eksperimen	.194	30	.005	.899	30	.008
	Kelompok Kontrol	.120	33	.200*	.965	33	.357

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The table above indicates that the experimental group's significance value is 0.005, in contrast to the control group's value of 0.357. As the Shapiro-Wilk test produced a significance value below 0.05 for the experimental group, the data is interpreted as not following a normal distribution. Consequently, the researcher decided to employ the Mann-Whitney U test to evaluate the post-test outcomes of the control group

### b. Homogeneity Test

The homogeneity test serves as a preliminary procedure in statistical analysis to assess whether multiple sample groups share equal variances. This test aims to assess the similarity of variability among the populations under study. In this research, the test was conducted using the Bartlett method. When the significance value exceeds 0.05, the data is considered homogeneous. In contrast, if the significance value is below 0.05, the data is regarded as not homogeneous. Data analysis was conducted using SPSS version 25 on a Windows platform, and the findings are detailed below.

**Table 4. Homogeneity Test Result**

**Test of Homogeneity of Variances**

		Levene Statistic	df1	df2	Sig.
Hasil Belajar	Based on Mean	1.599	1	61	.211
	Based on Median	.467	1	61	.497
	Based on Median and with adjusted df	.467	1	57.565	.497
	Based on trimmed mean	1.630	1	61	.207

The results of the homogeneity test indicated a significance value of 0.211, exceeding the 0.05 threshold. This suggests that the data exhibit equal variances, indicating homogeneity. Because the significance value is above 0.05, the post-test data can be regarded as originating from a homogeneous population.

**c. Hypothesis Test**

The Independent Sample t-Test was utilized in this study to test the hypothesis. This statistical method assesses whether a significant difference exists between the means of two groups (Putri et al., 2023). This test is conducted to identify the difference in final outcomes between two sample groups: one class that received a special treatment and another class that did not. This test aims to evaluate the difference in final competencies between the two classes.

**Table 5. Description independent sample t test**

		Levene's Test for Equality of Variances		t-Test for Equality of Means		95% Confidence Interval of the Difference				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil Belajar	Equal variances assumed	.768	.384	1.219	61	.228	.5606	.4599	-.3589	1.4802
	Equal variances not assumed			1.219	60.456	.228	.5606	.4598	-.3590	1.4802

Based on the decision criteria for the Independent Sample t-Test, the null hypothesis  $H_0$  is rejected when the calculated t-value is smaller than the critical t-value. Conversely, if the calculated t-value exceeds the critical value, the null hypothesis is accepted. According to the data analysis, the Sig. (2-tailed) value from Levene's Test for Equality of Variances is 0.228, which is greater than 0.05. Thus, the null hypothesis  $H_0$  is accepted, and the alternative hypothesis  $H_a$  is rejected. It can be concluded that the blended learning model does not significantly impact students' academic performance.

When data do not follow a normal distribution, the Mann-Whitney test is used as a nonparametric method to compare the medians between two independent groups (Deltha et al., 2024). This test is an alternative to the independent samples t-test used for normally distributed data. This test checks if there is a difference in the results between two groups: one that got a treatment and one that didn't. The goal of this test is to assess the difference in final performance between the two classes.

**Table 6. Description of the Man-Whitney U Test**

Test Statistics<sup>a</sup>

	Hasil Belajar
Mann-Whitney U	271.500
Wilcoxon W	736.500
Z	-3.110
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: Kelompok

The table indicates that the Mann-Whitney U test produced a significance value of 0.002 for the post-test scores in the experimental class that applied blended learning. This result suggests a significant difference compared to the control class that followed traditional learning methods.

## Discussion

Blended learning is a method of teaching that mixes face-to-face lessons with online activities, like simulations and discussions, using digital tools to make learning more flexible and efficient. (Alam et al., 2022; Aminah, 2021; Puspitasari & Hanayanti, 2023). The aim is to make the necessary adjustments so that the educational process can proceed effectively. (Safwan et al., 2023).

Blended learning, which mixes classroom and online teaching, should be studied more deeply, especially in how tools like Quizizz can support it. This aims to effectively enhance students' creativity and learning outcomes (Dianti Siboro & Mustika Piliang, 2022; Hamid et al., 2023). Quizizz is an engaging and enjoyable online quiz-based learning platform. In addition to sharing lessons and tests, its features like avatars, themes, memes, and music help boost student motivation and create a fun, competitive learning environment. (Adityawarman et al., 2022; Nur Rahman et al., 2024).

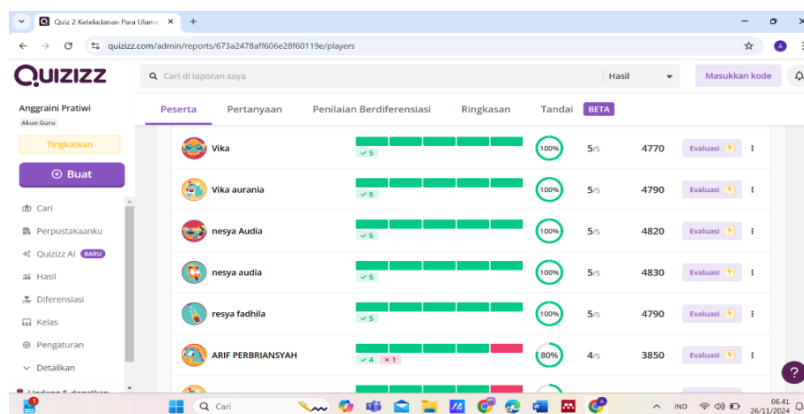


Figure 3. Student Quiz Results on the Quizizz Application

A post-test with 11 multiple-choice questions was given to two groups—the experimental class and the control class—to assess students' learning outcomes after the lesson. A total of 63 students took part in the test as research participants. The results indicated differences in learning achievement in the subject of Islamic Religious Education. The post-test data were analyzed using an independent sample t-test. The data

showed that the control class had a normal distribution (significance =  $0.200 > 0.05$ ), while the experimental class did not (significance =  $0.005 < 0.05$ ). The Mann-Whitney U analysis revealed a statistically significant difference (significance value =  $0.002 < 0.05$ ), while the homogeneity test indicated that the data were uniform (significance value =  $0.384 > 0.05$ ). The t-test results showed a two-tailed significance value of 0.228, which is higher than the 0.05 limit. This means there was no significant difference, so using Quizizz in blended learning did not noticeably improve students' academic performance.

The lack of effective learning outcomes is likely not caused by the teacher's teaching method, but rather by internal student factors such as physical condition, mental state, and fatigue. (Damayanti, 2022), Additionally, external factors such as students' lack of focus during teacher explanations, parenting styles, family harmony, teaching methods, peer influence, an uncondusive classroom environment, and underutilized school facilities can also affect learning outcomes (Magdalena et al., 2020; Salu et al., 2021).

Several studies have shown that blended learning can help improve students' academic achievement. Research by Salsabila and Samsul Maarif (2022) It was confirmed that blended learning with an LMS like Google Classroom can greatly enhance elementary students' math literacy. The experimental class scored an average of 82.93 on the post-test, while the control class averaged 75.80. Meanwhile, Jumaini (2021) found that blended learning greatly improved students' understanding of concepts, with a 91% contribution based on JASP analysis. This finding applies to students from elementary to high school levels across various general subjects. Another study by Rahma Rizky Sukma (2022) The study found that using a blended learning model with a flipped classroom approach and video media effectively improved fifth-grade students' cognitive learning in science. This was supported by statistical results (Sig.  $0.000 < 0.05$ ) and progress in skill levels from C1 to C6. The main difference from the current study is the focus of the dependent variable, which changes from mathematical literacy to overall learning outcomes. Additionally, previous research focused on general subjects such as Mathematics and Science using the flipped classroom model and Google Classroom media, whereas the current study focuses on Islamic Religious Education (IRE) using Quizizz as the media within a blended learning model.

This study aims to evaluate the impact of blended learning on students' achievement in Islamic Religious Education (IRE). The findings show no significant difference between students in the blended learning group and those in the traditional learning group, as the significance value of 0.228 is above the  $\alpha = 0.05$  threshold. The limited effectiveness of the learning process may be due to poor use of learning materials, lack of student focus, and low motivation and interest. In addition, external factors like classroom conditions, the school environment, and social influences also affect student performance. Additionally, obstacles like limited internet access, insufficient training and technical support, and challenges faced by teachers in boosting student enthusiasm have hindered the implementation of blended learning. Therefore, providing a clear understanding of the learning system is an important responsibility for educators. Although blended learning has the potential to increase student engagement, its effectiveness still depends on proper support and time management. Therefore, before

starting, teachers should make sure students are ready to take part in technology-based learning.

The results of this study are expected to help teachers, schools, and policymakers overcome learning barriers. Teachers can get a more suitable learning model, schools can improve facilities and time management, and related parties can design learning strategies or models that support better learning. This research is useful both in theory and practice to improve the quality of education in schools.

## CONCLUSION

The research showed that using the blended learning model with the Quizizz app resulted in a Levene's Test Sig. (2-tailed) value of 0.228, which is above 0.05. This means the data between the groups is consistent. Therefore, there is no significant difference in learning outcomes from using this model. In short, the blended learning model with Quizizz was not proven effective in improving the learning outcomes of 11th-grade students at SMA Negeri 1 Katibung.

Future studies is recommended to develop technology-based learning models using more innovative and adaptive approaches by utilizing other digital applications or platforms that can better encourage active student participation. The developed model should consider the diversity of student learning styles and aim to enhance digital literacy through systematic training or guidance. Additionally, it is important to address external factors such as learning motivation, environmental support, internet connectivity, and adequate infrastructure to support successful learning. It is strongly recommended to repeat the study in various settings, locations, or education levels to better understand how effective the model is and to see if the results apply only to certain situations or can be used more broadly.

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