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The Effect Of Interactive Learning Models On Students' Learning Outcomes In Islamic Religious Education And ETHICS At Senior High School Negeri 1 Girimarto In The 2025/2026 Academic Year

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ABSTRACT

This research is based on the low learning outcomes of students due to the use of conventional learning models, which do not involve student activity in the learning process. The learning model that still uses the lecture method, only uses sources from package books so that the lack of class participation is marked by the inability of students to ask questions so that students do not understand the material being taught. The purpose of this study is to determine the influence of interactive learning models on student learning outcomes in PAI and BP subjects at SMAN 1 Girimarto. This study uses a quantitative approach with *the Nonequvalent Control Group Design design experiment method*. Samples from class X F as experimental class and X G as control class. The research instrument is in the form of a learning outcome test. The results of the study show that there is a significant influence of the use of interactive learning models on student learning outcomes. After being treated with an interactive learning model in the experimental class and given a posttest, the results showed that the average score of the experimental class increased by 81.86 while the control class was 77.14. The initial ability test obtained from the control and experimental class pretest data resulted in a sig value. (2-tailed) by 0.774. The average sample of the experimental class produced sig. (2-tailed) 0.000 with a count of -8.804 and an average of -12.286 indicates that there was a significant improvement in learning outcomes after the application of the interactive learning model to PAI and BP subjects in the experimental class. Based on the N Gain test, there was an influence of the interactive learning model on the learning outcomes of Islamic Religious Education and Ethics at SMAN 1 Girimarto which was evidenced by the average value of N Gain in the experimental class of 0.397 higher than the average value of the control class of 0.257.

Introduction

Learning is a process of interaction between educators and learners that is designed to

achieve educational goals effectively and in a directed manner. In this process, teachers not only play the role of delivering material, but also as facilitators who are able to create an active, communicative learning atmosphere, and encourage student involvement during learning. The success of learning is influenced by various factors, including learning strategies, learning motivation, learning media, and learning models used by teachers in teaching and learning activities (Suharni, 2021). Therefore, choosing the right learning model is one of the important aspects in improving the quality of the learning process and outcomes of students.

Learning is essentially a process of behavior change that is obtained through conscious experience and practice. These changes include aspects of knowledge, skills, attitudes, and the ability of students to understand and apply learning materials in daily life (Wahab & Rosnawati, 2020). In the context of education, learning outcomes are an important indicator to measure the success rate of students after participating in the learning process. Learning outcomes not only show mastery of the material, but also reflect the success of the learning process that has been implemented by the teacher (Fadhli, 2020).

Student learning outcomes are influenced by various internal and external factors. One of the factors that has a big influence is the learning model that teachers apply during the learning process. Learning models that are less varied and tend to be teacher-centered cause students to be less active, easily bored, and have low learning motivation. This condition has an impact on students' low understanding of learning materials so that the learning results obtained are not optimal (Mu'in, 2024). In addition, one-way learning also causes students to play more of a passive role as a passive listener rather than being actively involved in the learning process (Nuridayanti, 2022).

These problems are still found in the learning of Islamic Religious Education and Ethics at the secondary school level. Learning that is dominated by lecture methods causes learning interactions to take place less effectively so that students tend to be less focused, less motivated, and have low learning participation. This condition has an impact on the low learning outcomes of students, especially in understanding Islamic Religious Education and Ethics materials in depth and applicability. A similar phenomenon was also found in the learning process of Islamic Religious Education and Ethics at SMA Negeri 1 Girimarto, where some students showed low involvement during the learning process and had not achieved optimal learning outcomes.

Efforts to improve student learning outcomes require learning innovations that are able to create a more active and interactive learning atmosphere. One of the alternatives that can be applied is the interactive learning model. The interactive learning model is a learning approach that emphasizes the active involvement of students through two-way communication, discussions, questions and answers, and direct interaction with learning materials (Liskawati, 2024). This model provides opportunities for students to develop critical thinking skills, express opinions, and build understanding independently through the process of interaction during learning.

The application of the interactive learning model is considered to be able to improve students' activities and learning outcomes because the learning process no longer takes place in a monotonous and teacher-centered manner. Research conducted by Widiantono and Harjono (2017) shows that interactive learning models are able to improve the activities and learning outcomes of elementary school students through active involvement in the learning process. In addition, Liskawati's research (2024) also explains that interactive learning can improve student communication, motivation, and understanding because students are directly involved in the learning process..

The interactive learning model is relevant to be applied in the learning of Islamic Religious Education and Ethics because learning is not only oriented to mastery of the material, but also to the formation of attitudes, social skills, and understanding of Islamic values in daily life. Through interactive learning, students are expected to be able to be actively involved in the learning process, improve critical thinking skills, and have better learning motivation so that learning outcomes can be optimally improved. Based on this description, this study aims to analyze the influence of interactive learning models on student learning outcomes in the subject of Islamic Religious Education and Ethics at SMA Negeri 1 Girimarto for the 2025/2026 Academic Year.

Method

This research uses Quantitative research is an attempt to gather knowledge and investigate problems based on empirical experience. It involves various theories, designs, and hypotheses and defines the subject of the research. This quantitative method translates data into numbers to analyze research results. The results of this study are considered associative, descriptive, or correlation based on the relationship between variables (Sena, 2022). This research includes Quasi Experiment type research. Experimental Research is a research method that examines the causal relationship by adding control variables. Quasi

Experimental research aims to test the cause-and-effect relationship between variables without randomizing the research subjects as a whole (Syafrida, 2021).

This research was carried out at SMA Negeri 1 Girimarto which is located at Jl. Maron, Randujulu, Girimarto, Girimarto District, Wonogiri Regency, Central Java. The population in this study is class X students of SMA Negeri 1 Girimarto with a total of 249. This population was chosen because it determines the overall purpose of the study, ensuring that it is valid and accurate, facilitating the generalization of results, and considering time, cost, and effort limitations. The samples in this study are as follows:

Table 1.1 Research Sample

NO	Teaching Behavior	Classes	Quantity
1	Eksperimen	X G	35
2	Controls	X F	35
Quantity			70

The data collection techniques in this study are with tests, interviews, and observations and feasibility tests of research instruments with validity tests and reliability tests, difficulty level tests, and differentiating power tests. Meanwhile, data analysis with descriptive analysis and inferential tests is combined with classical assumption tests in the form of normality tests, homogeneity tests. The hypothesis test was carried out by independent sample t-test and paired sample t-test, as well as N gain test

Results and Discussion

1. Instrument Feasibility Test

a. Validity Test

Based on the results of the Validity of Learning Outcome Variables test from 30 questions that were tested, as many as 20 question items were declared valid and 10 question items were declared invalid. It can be concluded that only 20 question items can be implemented for future research.

b. Reliability Test

Based on the results of the calculation of the reliability test using the KR-20 formula with a reliability coefficient value of 0.897. The value is in the high category, so the instrument can be used in collecting research data.

c. Differentiating Power Test

The results of testing 20 questions showed that as many as 20 questions were declared to meet the valid criteria, of which there were 3 questions in the sufficient category, 14 questions in the good category, and 3 questions classified as very good

d. Difficulty Test

The results of testing the total 20 questions analyzed, the difficulty level showed that 1 question item was included in the difficult classification, a total of 3 questions were in the medium category, and the remaining 16 questions were included in the easy category.

2. Statistical Description Analysis

a. Experimental Class Pretest Scores

Table 1.2 Frequency Distribution of Experimental Class Pretest

VAR00002

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50	2	5.7	5.7	5.7
	55	3	8.6	8.6	14.3
	60	5	14.3	14.3	28.6
	65	5	14.3	14.3	42.9
	70	5	14.3	14.3	57.1
	75	6	17.1	17.1	74.3
	80	4	11.4	11.4	85.7
	85	5	14.3	14.3	100.0
	Total	35	100.0	100.0	

Based on table 4.6 which presents the Distribution Table of the frequency of experimental class pretest results, data from 35 students shows that the score of 75 dominates with the number of 6 students or equivalent to 17.1%, the score of 50 is recorded as the lowest score by 2 students (5.7%), the score of 85 is the highest score with the number of 5 students (14.3%), while the majority of students as many as 21 students or 60.0% are in the score range of 60 to 75.

b. Experimental Class Posttest Scores

Table 1.3 Experimental Class Posttest Scores

VAR00001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65	3	8.6	8.6	8.6
	70	2	5.7	5.7	14.3
	75	6	17.1	17.1	31.4
	80	6	17.1	17.1	48.6
	85	8	22.9	22.9	71.4
	90	6	17.1	17.1	88.6
	95	4	11.4	11.4	100.0
	Total	35	100.0	100.0	

ores for the

experimental class, the distribution of scores from 35 students, with the lowest score at 65 and the highest score at 95. There were 3 students (8.6%) who got a score of 65, 2 students (5.7%) got a score of 70, and 6 students (17.1%) each got a score of 75 or a score of 80. A score of 85 was obtained by 8 students or (22.9%), 6 students (17.1%) obtained a score of 90, while 4 students (11.4%) achieved the highest score of 95.

c. Control Class Pretest Scores

Table 1. 4 Control Class Pretest Frequency Distribution

VAR00001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50	1	2.9	2.9	2.9
	55	4	11.4	11.4	14.3
	60	7	20.0	20.0	34.3
	65	4	11.4	11.4	45.7
	70	4	11.4	11.4	57.1
	75	8	22.9	22.9	80.0
	80	4	11.4	11.4	91.4
	85	2	5.7	5.7	97.1
	90	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Table 1.4 The distribution of the frequency of pretest scores of the control class at the lowest interval was 50 (2.9%) with 1 student, the score interval of 55 (11.4%) was achieved by 4 students, at the score interval of 60 (20.0%) there were 7 students, while the score interval of 65 and 70 was (11.4%) of 4 students each, then at the score interval of 75 (22.9) with a total of 8 students, at the score interval of 80 (11.4%) there were 4 students, a score interval of 85 (5.7%) with 2 students, and 1 student obtained a score interval of 90 (2.9%).

d. Postest Value Control Class

Table 1. 5 Control Class Posttest Frequency Distribution

VAR00001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	55	1	2.9	2.9	2.9
	60	3	8.6	8.6	11.4
	65	2	5.7	5.7	17.1
	70	4	11.4	11.4	28.6
	75	5	14.3	14.3	42.9
	80	9	25.7	25.7	68.6
	85	7	20.0	20.0	88.6
	90	3	8.6	8.6	97.1
	95	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

Table 1.5 In the frequency distribution table, the posttest score of the control class from the distribution of 35 students' scores, with the lowest score at 55 and the highest score at 95. There was 1 student (2.9%) who got a score of

55, 3 students (8.6%) got a score of 60, 2 students (5.7%) got a score of 65, 4 students (11.4%) got a score of 70, 5 students (14.3%) got a score of 75, 9 students (25.7%) got a score of 80, 7 students (20.0%) got a score of 85, 3 students (8.6%) got a score of 90, while 1 student (2.9%) got a score of 95.

3. Statistical Inferential Analysis

a. Analysis Prerequisites Test

1) Normality Test

Table 1.6 Normality Test Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre test Eksperimen	.126	35	.179	.945	35	.079
Post test Eksperimen	.155	35	.034	.940	35	.055
Pre test Kontrol	.156	35	.031	.955	35	.163
Post test Kontrol	.187	35	.003	.947	35	.092

a. Lilliefors Significance Correction

Based on Table 1.6 the results of the normality test conducted using the Shapiro-Wilk test were obtained information that the data from the two research groups, namely the control class and the experimental class, fulfilled the normal distributed assumption. Where the significant value (Sig.) for the experimental class pretest was 0.079 > 0.05 and the experimental class posttest was 0.055 > 0.05 while the control class pretest was 0.163 > 0.05 and the control class posttest was 0.092 > 0.05.

2) Homogeneity Test

Table 1.7 Homogeneity Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Pre test Kelas Eksperimen & Kelas Kontrol	Based on Mean	.007	1	68	.934
	Based on Median	.012	1	68	.915
	Based on Median and with adjusted df	.012	1	67.704	.915
	Based on trimmed mean	.002	1	68	.961
Post test Kelas Eksperimen & Kelas Kontrol	Based on Mean	.236	1	68	.628
	Based on Median	.036	1	68	.851
	Based on Median and with adjusted df	.036	1	66.544	.851
	Based on trimmed mean	.212	1	68	.647

Based on Table 1.7, the results of the variance homogeneity test using the Levene test show that the pretest of the control class and the experimental class obtained a sig value. of 0.934 and in the posttest of the experimental class and the control class, a GIS value was obtained. by 0.628. Second, the value of sig. > 0.05, so it can be concluded that the variance of data in the experimental class and the control class is declared homogeneous. Thus, the homogeneity assumption is met and the

test can be carried over to the next stage of analysis.

b. Hypothesis Test

1) Independent Sample t-Test

Table 1.8 Independent Sample t-Test

Independent Samples 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
Pre test Kelas Eksperimen dan Kelas Kontrol	Equal variances assumed	.007	.934	.289	68	.774	.714	2.472	-4.219	5.647
	Equal variances not assumed			.289	67.910	.774	.714	2.472	-4.219	5.648
Post test Kelas Eksperimen dan Kelas Kontrol	Equal variances assumed	.236	.628	2.132	68	.037	4.714	2.211	.302	9.127
	Equal variances not assumed			2.132	67.261	.037	4.714	2.211	.301	9.128

Based on Table 1.8 Independent Sample t-Test tests on the pretest data of both groups resulted in a sig value. (2-tailed) of 0.774 > 0.05. This indicates that there was no difference between the experimental class and the control class before the treatment was administered, so the initial ability of the two classes was considered to be the same.

As for the posttest data, the sig. (2-tailed) is obtained as 0.037< 0.05 meaning that H_1 is accepted and H_0 is rejected. This indicates that there is a significant difference between the control class and the experimental class after the treatment is given. Thus, it can be concluded that the interactive learning model applied in the experimental classroom has a significant influence on student learning outcomes.

2) Paired Sample t-Test

Table 1.9 Paired Sample t-Test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pre test - Post test Kelas Eksperimen	-12.286	8.255	1.395	-15.122	-9.450	-8.804	34	.000
Pair 2	Pre test - Post test Kelas Kontrol	-8.286	7.568	1.279	-10.885	-5.686	-6.477	34	.000

In table 1.9, the paired sample t-Test in the experimental class yielded a sig. (2-tailed) of 0.000 < 0.05 with a mean value of -12.286. Meanwhile, in the control class, the value of sig. (2-tailed) of 0.000 < 0.05 with a mean value of -8.286. The results showed that h_1 was accepted and h_0 was rejected, on this basis there was a difference between the pretest score and the posttest score of the experimental class was higher than the mean value of the control class, thus it was concluded that the increase in learning outcomes that occurred in the experimental class was greater

than that of the control class.

3) N-Gain Test

Table 1.10 N Gain Test

Descriptives

Kelas				Statistic	Std. Error
NGain	eksperimen	Mean		.3970	.04094
		95% Confidence Interval for Mean	Lower Bound	.3138	
			Upper Bound	.4802	
		5% Trimmed Mean		.4081	
		Median		.4000	
		Variance		.059	
		Std. Deviation		.24220	
		Minimum		-.33	
		Maximum		.88	
		Range		1.21	
		Interquartile Range		.27	
		Skewness		-.840	.398
		Kurtosis		1.299	.778
	kontrol	Mean		.2575	.03960
		95% Confidence Interval for Mean	Lower Bound	.1770	
			Upper Bound	.3380	
		5% Trimmed Mean		.2667	
		Median		.2857	
		Variance		.055	
		Std. Deviation		.23427	
		Minimum		-.33	
		Maximum		.67	
		Range		1.00	
		Interquartile Range		.33	
		Skewness		-.568	.398
		Kurtosis		-.074	.778

Based on Table 1.10, the results of N Gain show that the experimental class had an average N Gain of 0.397 which was included in the medium category, while the control class obtained an average of 0.257 which was classified as a low category. This indicates that the experimental class experienced

Based on Table 1.10, the results of the N Gain show that the experimental class had an average N Gain of 0.397 which was included in the medium category, while the control class obtained an average of 0.257 which was classified as the low category. This indicates that the experimental class has a higher increase than the control class.

4. Analysis of the Influence of Interactive Learning Models on Student Learning Outcomes in Islamic Religious Education and Ethics Subjects

Table 1.11 Posttest Scores of Experimental Classes and Control Classes

Classes	Category	Value
Eksperimen	Average	81,86
	Lowest	65
	Highest	95
Controls	Average	77,14
	Lowest	55
	Highest	95

The findings indicated that the initial abilities of students in both the experimental and control classes were relatively similar. The average pretest score of the experimental class was 69.57, with the lowest score of 50 and the highest score of 85,

while the control class obtained an average score of 68.86, with the lowest score of 50 and the highest score of 90. These results demonstrated that students' initial learning achievement in both classes was still below the Minimum Mastery Criteria (KKM), indicating the need for innovative learning approaches capable of improving student learning outcomes. Similar conditions have been reported in previous studies which emphasized that teacher-centered learning often contributes to low student participation and learning achievement (Widiantono & Harjono, 2017; Lestari & Widodo, 2021).

Following the pretest, both classes received different instructional treatments. The control class was taught using conventional lecture-based learning and textbook-centered instruction, whereas the experimental class implemented an interactive learning model through PowerPoint-assisted presentations, group discussions, interactive quizzes, and two-way question-and-answer activities. Interactive learning encourages students to actively participate in classroom activities and facilitates better communication between teachers and students, thereby creating a more meaningful learning process (Widiantono & Harjono, 2017; Putri et al., 2022). Previous studies also revealed that interactive learning strategies can improve classroom engagement, motivation, and students' conceptual understanding because students are directly involved during the learning process (Rahmawati & Suryani, 2020; Sari et al., 2023).

The posttest results revealed improvements in both classes; however, the increase in the experimental class was considerably higher than that in the control class. The experimental class achieved an average posttest score of 81.86 with scores ranging from 65 to 95, while the control class obtained an average score of 77.14 with scores ranging from 55 to 95. Although the control class also demonstrated improvement, the enhancement in the experimental class was more significant due to the implementation of the interactive learning model. These findings support previous research stating that interactive learning environments promote active participation, critical thinking, and collaborative learning, which subsequently improve students' academic achievement (Astuti & Haryanto, 2021; Fauziyah et al., 2022).

The interactive learning model provides opportunities for students to engage actively through discussion sessions, collaborative activities, quizzes, and direct communication with teachers and peers. Such interaction creates a more dynamic and

enjoyable learning atmosphere, enabling students to better understand learning materials. According to Widiantono and Harjono (2017), interactive learning models are effective in improving both learning activities and learning outcomes because the learning process becomes student-centered. Likewise, research conducted by Liskawati (2024) explained that interactive learning increases students' curiosity, motivation, and participation because students are directly involved in constructing their understanding during classroom activities. Similar findings were also reported by Kusuma and Prasetyo (2022), who found that interactive and participatory learning models significantly improved students' learning motivation and comprehension.

The results of this study are further strengthened by several previous empirical studies. Research conducted by Alfatikh and Hidayat (2023) showed that interactive quiz-based learning significantly improved students' learning achievement, where students' average scores increased substantially after the implementation of interactive classroom activities. Another study by Rahmayani and Putra (2022) found that interactive learning assisted by audiovisual media positively influenced student engagement and learning outcomes because students became more attentive and active during lessons. Similarly, research by Dewi et al. (2021) demonstrated that interactive discussion-based learning effectively enhanced students' cognitive achievement and classroom participation. Studies by Pratiwi and Nugroho (2020), as well as Safitri et al. (2023), also concluded that interactive instructional models contribute positively to students' academic performance and learning motivation.

Statistical analysis further confirmed the effectiveness of the interactive learning model. The Independent Sample t-Test results showed a significance value of 0.774 > 0.05 for the pretest data, indicating that there was no significant difference between the experimental and control groups before treatment. However, the posttest analysis produced a significance value of 0.037 < 0.05, indicating a statistically significant difference between the two groups after the implementation of the interactive learning model. These findings suggest that the interactive learning model had a significant effect on students' learning outcomes in Islamic Religious Education and Ethics subjects. Similar statistical findings were reported by Yuliana et al. (2021), who found that interactive classroom approaches significantly improved students' posttest achievement compared to conventional learning methods.

Furthermore, the Paired Sample t-Test analysis showed a significance value of

0.000 < 0.05 with a t-count value of -8.804 in the experimental class, confirming a significant improvement in students' learning outcomes after the treatment. Although the control class also experienced improvement, the increase in the experimental class was substantially greater. These findings align with previous studies emphasizing that interactive learning models are more effective than conventional methods in promoting deeper understanding and improving academic achievement (Fauziyah et al., 2022; Putri et al., 2022).

The improvement in learning outcomes was also supported by the N-Gain analysis results. The experimental class obtained an average N-Gain score of 0.397, categorized as moderate improvement, whereas the control class obtained an average N-Gain score of 0.257, categorized as low improvement. These findings indicate that the interactive learning model was more effective in enhancing student learning outcomes compared to conventional learning methods. Similar results were identified in studies conducted by Wulandari et al. (2022) and Sari et al. (2023), which concluded that interactive learning models produce higher N-Gain scores and significantly improve students' academic achievement. Therefore, the interactive learning model can be considered an effective instructional alternative for improving learning outcomes in Islamic Religious Education and Ethics subjects.

Conclusion

Conclusion should be written concisely as an answer to the research questions or as evidence supporting the research hypothesis. Ideally, the conclusion reflects the relationship between the research questions, objectives, results, and discussion.

Based on the results of the research and discussion that has been described, it can be concluded that there is an Influence of Interactive Learning Models on Student Learning Outcomes in the Subject of Islamic Religious Education and Ethics at SMAN 1 Girimarto for the 2025/2026 Academic Year. The initial ability score (pretest) of the two classes was obtained by the average experimental class of 69.57 and the control class of 68.86. The average score is still said to be below the KKM. Furthermore, the interactive learning model was given to the experimental class and given a final test (posttest), the results showed that the average score of the experimental class increased by 81.86 while the control class was 77.14. The differencein the mean of the pretest and posttest of the two groups in the experimental and control classes resulted in sig. (2-tailed) of 0.774 > 0.05. This indicates that

there is no difference in the experimental and control classes before being given the treatment (the initial ability is the same). Meanwhile, after being treated with an experimental class posttest and a sig value control class. (2-tailed) of 0.037 < 0.05 means that H_1 is accepted and H_0 is rejected,

This indicates a significant difference between the experimental class and the control class after being treated with an interactive learning model in the experimental class. The difference between the pretest and posttest of each group of experimental classes and the control class resulted in sig. (2-tailed) of 0.000 < 0.05 with a calculation of -8.804 and an average of -12.286 meaning that H_1 was accepted and H_0 was rejected, showing that there was a significant increase in learning outcomes after the application of the interactive learning model to the subjects of Islamic Religious Education and Ethics in the experimental class. The results of data analysis and discussion showed that there was an influence of the interactive learning model on the learning outcomes of Islamic Religious Education and Ethics at SMAN 1 Girimarto for the 2025/2026 Academic Year which was evidenced by the average value of N Gain in the experimental class of 0.397 higher than the average value of the control class of 0.257.

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