Learning Outcomes: How is the Experimentation of the AIR Learning Model?

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Article Info
Article History
Received: 2024-11-11
Revised: 2024-11-23
Published: 2025-01-09

Keywords:
Learning Outcomes;
AIR Learning Model;
SKI.

Abstract
This study examines how the experimentation of the Auditory, Intellectually, Repetition (AIR) learning model impacts students' learning outcomes in the Islamic Cultural History (SKI) subject at MTs Negeri 1 Bandar Lampung. The research is motivated by students' learning outcomes that have not met the Minimum Competency Criteria (KKM), which may be due to limitations in teaching methods and the influence of other external factors. This study employs a quantitative approach, with the population consisting of all eighth-grade students. The sample includes class VIII(A) as the experimental group and class VIII(B) as the control group. The data were analyzed using an independent t-test, yielding a final significance value of 0.070. This indicates that there is no statistically significant difference between the experimental and control groups. These results suggest that the AIR learning model does not produce significantly different learning outcomes compared to conventional teaching methods in this context. Therefore, further research is needed to optimize the application of the AIR learning model in the Islamic Cultural History (SKI) subject.

Artikel Info
Sejarah Artikel
Diterima: 2024-11-11
Direvisi: 2024-11-23
Dipublikasi: 2025-01-09

Kata kunci:
Hasil Belajar;
Model pembelajaran AIR;
SKI.

Abstrak
Penelitian ini mengkaji bagaimana eksperimentasi model pembelajaran Auditory, Intellectually, Repetition (AIR) terhadap hasil belajar peserta didik pada mata pelajaran Sejarah Kebudayaan Islam (SKI) di MTs Negeri 1 Bandar Lampung. Penelitian ini dilatarbelakangi oleh hasil belajar peserta didik yang belum memenuhi Kriteria Ketuntasan Minimal (KKM), yang mungkin disebabkan oleh keterbatasan metode pengajaran dan pengaruh faktor eksternal lainnya. Penelitian ini menggunakan metode pendekatan kuantitatif dimana populasi yang digunakan adalah seluruh peserta didik kelas VIII (delapan) dengan sampel yang digunakan adalah kelas VIII (A) sebagai kelas eksperimen dan kelas VIII(B) sebagai kelas kontrol. Data pada penelitian ini dianalisis dengan menggunakan uji t sampel independen, yang menghasilkan nilai signifikansi akhir sebesar 0,070, yang mana hal tersebut menunjukkan bahwa tidak adanya perbedaan pengaruh yang signifikan secara statistik antara kelompok eksperimen dan kontrol. Hasil ini menunjukkan bahwa model AIR tidak menghasilkan hasil belajar yang berbeda secara signifikan dibandingkan dengan model pengajaran konvensional dalam konteks ini, sehingga diperlukan penelitian lebih lanjut untuk mengoptimalkan penggunaan model pembelajaran AIR pada pelajaran Sejarah Kebudayaan Islam (SKI).

I. INTRODUCTION

Education is one of the most important aspects of a nation's development. High-quality human resources will produce intelligent, innovative, and creative individuals who can contribute to the progress of the nation.(Adiyono & Astuti, 2022; Darling-Hammond et al., 2020; Hayyun & Duri, 2019; Masitah et al., 2023; Palguna et al., 2020) Success in the educational process largely depends on the learning models implemented in schools.(Newton et al., 2020; Rojaki & Yuliana, 2023) In the current era of digitalization, the world of education faces increasingly complex challenges.(Hasanah et al., 2021; Hasanah & Ningrum, 2021; Silalahi, 2020) Teachers are expected to implement innovative and interactive learning models to enhance students learning outcomes.(Lubis et al., 2023; Rambe & Aisyah, 2023)

Learning outcomes refer to a change in students' behavior after undergoing a learning process. These outcomes can be observed in three aspects: cognitive, affective, and psychomotor. (Adijaya et al., 2023; Masitoh, 2023; Rahim et al., 2023; Sartika et al., 2022) Students with high interest and motivation generally achieve greater success in learning.(Aulia et al., 2023; Baber, 2020; Ndraha & Harefa, 2023; Yogi Fernando et al., 2024) However, in practice, the learning process is still lacking in variation, especially in the Islamic Cultural History (SKI) subject. As a result,

students have low metacognitive skills because educators tend to focus more on explaining the material theoretically rather than engaging students in activities. (Parwata et al., 2023)

Dawam Rahardjo stated that listening, seeing, and the heart are ways to acquire knowledge that can be developed through teaching.(Rahardjo, 2002) These three components hearing, seeing, and the heart have the responsibility of maintaining, developing, and purifying knowledge, which is related to the concept of learning.(Wakka, 2020) However, the current reality in the field shows that the learning activities conducted by educators are still lacking in variation, especially in the teaching of Islamic Religious Education, particularly in the subject of Islamic Cultural History (SKI).

Based on survey data from MTs N 1 Bandar Lampung, through interviews with Mrs. Rosmiyati, S.Pd.I, the Islamic Cultural History (SKI) subject teacher, and with three students, several issues were identified where the learning outcomes have not met the Minimum Completion Criteria (KKM). The low learning outcomes are suspected to be caused by several factors, such as: (1) limitations in the learning model, (2) inadequate or ineffective teaching time, and (3) the influence of external factors, including excessive use of gadgets.

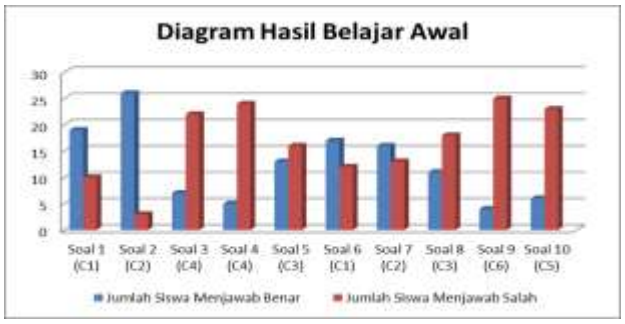

Figure 1. Graph of Students' Learning Outcomes in the Pre-Research Implementation

Based on the figure above, the initial learning outcomes of students at MTs N 1 Bandar Lampung show varying levels of achievement. However, the learning outcomes of eighth-grade students in the Islamic Cultural History (SKI) subject are still low and have not met the Minimum Completion Criteria (KKM). The pre-research data in the figure also shows that most students struggle to reach higher-order thinking skills (HOTS) at levels C4-C6 (Analysis, Synthesis, and Evaluation). Furthermore, the graph indicates that the learning model currently used is not effective in improving students' learning outcomes. Therefore, there is a need for an innovative new learning model that can help improve students' learning outcomes at MTs N 1 Bandar Lampung.

This study aims to contribute by experimenting with the AIR (Auditory, Intellectually, Repetition) learning model on the learning outcomes of eighth-grade students in the Islamic Cultural History (SKI) subject at MTs Negeri 1 Bandar Lampung. The AIR learning model has been proven to enhance students' understanding through problem-solving methods.(Abdullah & Syahirah, 2023; Kartika & Selegi, 2023; Nisarohmah et al., 2021; Saharuddin et al., 2021) The AIR learning model is an approach that combines the elements of Auditory, Intellectually, and Repetition to support various learning styles and enhance the effectiveness of teaching, with the goal of expanding and deepening students' understanding. (Anggraini et al., 2022; Kamsurya & Saputri, 2020; Syahid et al., 2021; Utami et al., 2023)

The results of studies conducted by several previous researchers discussing the AIR (Auditory, Intellectually, Repetition) learning model are as follows: Harry Indah Kartika (Kartika & Selegi, 2023), Nur Ilmiyah Nisarohmah(Nisarohmah et al., 2021), Tan Abdullah(Abdullah & Syahirah, 2023), Eli Hermawati(Hermawati et al., 2020), and Muhamad Syazali(Syazali et al., 2021) which reveal that this learning model has the potential to improve students' learning outcomes. The results of previous studies also prove that there has been a significant improvement in learning outcomes. The AIR learning model is still relatively new, although many previous studies have proven that this model can improve students' learning outcomes. However, no researcher has conducted an in-depth study on this model. Previous research has yet to explore the application of the AIR learning model in the context of Islamic education, especially in the subject of Islamic Cultural History (SKI) at the Madrasah Tsanawiyah (MTs) level.

To improve students' learning outcomes in this era of digitalization, a new approach and innovation are needed to enhance the effectiveness of each learning process. (Abdul Sakti, 2023; Hasriadi, 2022; Saiful Rizal, 2023) Therefore, it is expected that this study can contribute to the development of more effective learning models at MTs Negeri 1 Bandar Lampung.

II. METHOD

This study uses a quantitative approach. Quantitative research is a study involving a set of interrelated variables, which are formulated into propositions or hypotheses that determine the relationships between variables.(John W. Creswell, 2018) This study uses a Quasi-Experimental Design with a Post-Test Only Control Group Design to compare one group with another. The aim is to observe the impact and compare the two groups.

E:	**X**	**O_1**
P:		**O_2**

Figure 2. Post-Test Only Control Group Design Model Scheme

The population in this study consists of all eighth-grade students, with the sample including only two classes (experimental and control). In this study, the sample was determined using the Simple Random Sampling technique, which is a random sampling method based on the criteria for the research objectives.

The instrument used in this study was a test consisting of 15 multiple-choice questions. Before the instrument was used, a validation process was conducted by validators to ensure the quality of the questions. After validation, the instrument was distributed to a trial class. The results of the validity and reliability tests showed that, out of the 15 questions, 9 were valid, with a reliability value of 0.614. These results indicate that the instrument has a sufficient level of reliability to be used in the study.

The instrument testing in this study included validity testing, reliability testing, difficulty level testing, discrimination power testing, and distractor testing. Data analysis was conducted through prerequisite tests, including normality and homogeneity tests. Finally, hypothesis testing was performed using the Independent Sample T-Test to determine the significant difference between the experimental and control groups.

III. RESULTS AND DISCUSSION

A. Results

The data for this study were obtained from the distribution of an instrument consisting of 15 multiple-choice questions to a trial class. The results of the validity and reliability tests from the trial class were then used for both the experimental and control groups.

Table 1. Description of Reliability Test Results for the Trial Class

Reliability Statistics	
Cronbach's Alpha	**N of Items**
.614	15

Based on the results of the validity and reliability tests conducted on the trial class, the validity test results showed that several variables had a significant correlation with the total score, with Rcalculated ≥ Rtable. This indicates that the instrument used is sufficiently valid. Meanwhile, the reliability test results showed a Cronbach's Alpha value of 0.614, which is greater than 0.6. This value indicates that the test instrument is adequate for measuring the research variables.

The data analysis results for class VIII A (experimental) and class VIII B (control) on students' learning outcomes in the subject of Islamic Cultural History (SKI) yielded the following interpretation:

1. Normality Test

The normality test is used to determine whether the collected data are normally distributed or not. Data is considered normal if the significance value is > 0.05. Below are the results of the normality test for this study:

Table 2. Description of Normality Test Results

Tests of Normality							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Kelompik	Statistic	df	Sig.	Statistic	df	Sig.
Hasil	Manajemen Konflik	.251	32	.000	.818	32	.000
	Komunikasi Interpersonal	.227	32	.000	.929	32	.038
a. Lilliefors Significance Correction							

Based on the results of the normality test in Table 2, the following interpretation can be made: For both the experimental and control groups, the Kolmogorov-Smirnov and Shapiro-Wilk significance values were 0.000 and 0.038, respectively. Both values are < 0.05, indicating that the data in both the experimental and control groups are not normally distributed.

Since the data in both groups do not meet the normality assumption, the analysis continued using the Mann-Whitney Test as an alternative non-parametric test. Below are the results of the Mann-Whitney Test:

Table 3. Description of Mann-Whitney Test Results

Test Statistics[a]	
	Result
Mann-Whitney U	329.500
Wilcoxon W	857.500
Z	-2.517
Asymp. Sig. (2-tailed)	.012
a. Grouping Variable: kelompok	

Based on the results in Table 3, the Mann-Whitney U value obtained was 329.500, with a significance value of 0.012. Since this significance value is < 0.05, it indicates a significant difference between the experimental and control groups.

2. Homogeneity Test

The homogeneity test is used to determine whether the variances of the research populations are the same (homogeneous) or different (non-homogeneous). Data is considered homogeneous if the Sig. value is > 0.05. Below is the data from the homogeneity test in this study:

Table 4. Description of Homogeneity Test Results

Test of Homogeneity of Variance					
		Levene Statistic	**df1**	**df2**	**Sig.**
Postes	Based on Mean	.037	1	59	.848
	Based on Median	.043	1	59	.836
	Based on Median and with adjusted df	.043	1	58.012	.836
	Based on trimmed mean	.023	1	59	.881

Based on the results of the homogeneity test in Table 4, all significance values obtained were 0.243 > 0.05, which can be concluded that the variance data is homogeneous (the same). This indicates that the homogeneity assumption in this study is fulfilled.

3. Independent Sample T-Test

The Independent Sample T-Test is used to test the final abilities of the samples. Below are the details of the results from the Independent Sample T-Test in this study:

Table 5. Description of Independent Sample T-Test Results

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Hasil	Equal variances assumed	1.389	.243	1.841	62	.070	.65625	.35653	-.05643	1.36893
	Equal variances not assumed			1.841	57.244	.071	.65625	.35653	-.05761	1.37011

Based on the description table of the Independent Sample T-Test results above, the obtained significance (2-tailed) value is 0.070, which means the significance (2-tailed) value > 0.05. Therefore, it can be concluded that there is no significant difference between the mean scores of the two groups. This indicates that in this study, the AIR learning model did not have a significant effect on students' learning outcomes in the subject of Islamic Cultural History (SKI).

B. Discussion

This study aimed to test whether the Auditory, Intellectually, Repetition (AIR) learning model could improve students' learning outcomes compared to the conventional learning model. Based on the data analysis, it was found that there was no significant difference between the learning outcomes of students who used the AIR model and those who used the conventional model. This was evidenced by the significance value of 0.070.

The results suggest that the AIR model, despite involving an approach that incorporates auditory, intellectual, and repetition aspects, did not have a better impact on students' learning outcomes in this study. Therefore, further research is needed to understand the factors influencing the success of the AIR model, such as student characteristics, classroom conditions, or the way the model is implemented. These findings also present an opportunity to develop more effective teaching methods to improve student learning outcomes.

The AIR learning model is designed to support various learning styles through the approaches of Auditory (hearing), Intellectually (knowledge), and Repetition. (Asih et al., 2020; Benjamin, 2019; Damayanti et al., 2023; Elinawati et al., 2018) However, in this study, the application of the AIR model was not able to provide a significant influence or difference between the experimental group

and the control group. This was due to limitations in time during the research implementation, which prevented students at MTs N 1 Bandar Lampung from becoming sufficiently familiar with this learning model. Additionally, external factors such as classroom environment conditions, students' motivation, and students' characteristics also affected the results of the AIR model's implementation.

The findings of this study suggest that, although the AIR learning model has the potential to improve learning outcomes, its effectiveness requires supporting strategies, such as the researcher's preparation maturity, an adequate implementation duration, and strengthening students' motivation. (Agusdianita et al., 2023; Hira & Anderson, 2021; Patimah & Sumartini, 2022)

The experimental research results on the Auditory, Intellectually, Repetition (AIR) learning model, which did not show a significant effect, are not only due to the learning model itself but also other factors. One of these factors is the characteristics of the students, such as their ability to focus and varying study habits. Additionally, excessive use of gadgets can disrupt students' attention during the learning process. Another factor is the limited class time, which prevents students from having enough time to fully understand the material taught using the AIR model. Therefore, in this study, these factors became obstacles to the effectiveness of implementing the Auditory, Intellectually, Repetition (AIR) learning model.

This research is relevant to previous studies, such as the research by Siti Hafsah Siregar (Hafsah et al., 2023), M. Arsyad Ambo Tuo(Ambo Tuo & Ahmad, 2022), and Annisa Fajra Ashar(Ashar dan Waldi, 2023) Since both studies use the AIR model, this study contributes further by experimenting with the AIR learning model's effect on students' learning outcomes in Islamic Cultural History (SKI) at the eighth grade level in MTs, focusing on cognitive levels C4-C6. The research employs a quantitative approach using the Independent Sample T-Test. The findings of this study are expected to provide new insights into the effectiveness and flexibility of the AIR model in different contexts.

This research can be beneficial for other researchers as a reference in evaluating the effectiveness of the Auditory, Intellectually, Repetition (AIR) learning model in various learning contexts. The results also provide empirical data regarding the impact of the AIR model on learning outcomes, including its advantages and limitations. Other researchers may use these findings to deepen their studies, develop the model further, or adapt the AIR model according to the needs of different subjects, education levels, or student characteristics. Additionally, this research may encourage further exploration of the factors that influence the success of the AIR model, ultimately leading to the development of more effective teaching strategies in the future.

IV. CONCLUSION AND SUGGESTION

A. Conclusion

This study aims to examine the effectiveness of the Auditory, Intellectually, Repetition (AIR) learning model on students' learning outcomes in Islamic Cultural History (SKI) at MTs Negeri 1 Bandar Lampung. Based on the analysis conducted, the validity and reliability tests of the instruments show that the instruments used are sufficiently valid and reliable to measure the research variables. However, the normality test results indicate that the data from both the experimental and control groups do not follow a normal distribution. Therefore, the analysis continued with the non-parametric Mann-Whitney Test, which revealed a significant difference between the experimental and control groups. The homogeneity test results indicated that the data have homogeneous variance, meeting the basic assumption of this analysis. In the Independent Sample T-Test, the significance value of 0.070 indicates that the sig (2-tailed) value is > 0.05, meaning there is no significant effect of the AIR learning model on students' learning outcomes. Thus, this study concludes that the AIR learning model does not significantly affect students' learning outcomes in the SKI subject, despite the average difference between the experimental and control groups.

B. Suggestion

Teachers are encouraged to implement the AIR (Auditory, Intellectually, Repetition) learning model to enhance students' learning outcomes, particularly in the subject of Islamic Cultural History (SKI). Adequate training and thorough preparation are essential to ensure the effective application of this model. Additionally, schools should

support this process by providing sufficient learning time and minimizing distractions, such as excessive gadget use.

Future researchers are advised to explore the application of the AIR model in Islamic education in greater depth. This research could also focus on adapting the model to meet students' needs in the digital era while improving critical thinking skills and overall learning outcomes.

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