

Evaluating the Effectiveness of the SQ3R Learning Model on Students' Islamic Religious Education Outcomes

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Abstract

This study aimed to examine the effectiveness of the SQ3R learning model on students' cognitive learning outcomes in Islamic Religious Education (IRE) for seventh-grade students at SMP Negeri 1 Bandar Lampung. A quasi-experimental method with a posttest-only control group design was employed. The sample comprised two randomly selected classes: an experimental group ($N = 32$) taught using the SQ3R model and a control group ($N = 32$) taught using conventional methods. Data were collected through a validated and reliable multiple-choice posttest assessing cognitive domains of understanding (C2), analyzing (C4), and evaluating (C6). Data analysis included normality testing (Kolmogorov-Smirnov), homogeneity of variance (Levene's test), independent samples t-test, and effect size calculation (Cohen's d). Results revealed a statistically significant difference between groups ($t(62) = 2.71, p = 0.009$), with the experimental group achieving a higher mean score ($M = 79.15, SD = 6.10$) compared to the control group ($M = 73.20, SD = 7.30$). The effect size (Cohen's d = 0.88) indicated a large effect. These findings confirm that the SQ3R model significantly enhances students' cognitive learning outcomes, particularly in higher-order thinking skills. The study supports implementing the SQ3R learning strategy as a practical approach to improve academic performance in Islamic Religious Education.

Keywords

SQ3R
Islamic Religious Education
Cognitive learning outcomes
Reading comprehension
Quasi-experimental design

Article History

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INTRODUCTION

Education plays a central role in shaping high-quality human resources across cognitive, affective, and psychomotor domains (AlMubarok & Budiman Mustofa, 2025; Faiz, 2023; Pusvitasari, 2021; Safitri, 2023; Siregar et al., 2024). In formal education, student learning outcomes are often regarded as key indicators of instructional effectiveness (Engin et al., 2024; Marsya Nada et al., 2024; Ningtiyas & Surjanti, 2021; Yandi et al., 2023; Zahroh & Hilmiyati, 2024). These outcomes are typically understood to encompass three interrelated domains: cognitive, affective, and psychomotor, all of which develop through structured, intentional, and student-centered learning processes (Dilonia et al., 2024; Kadir, 2021; Pasaribu & Sofiyah, 2024; Safari & Aidah, 2024; Agustin et al., 2023).

Given the centrality of learning outcomes, there is a growing interest in developing effective pedagogical models that align with students' characteristics and promote meaningful learning (Ibrahim et al., 2023; Iskandar & Rasmitadila, 2024; Hidayah, 2024; Sunaryati et al., 2024). According to Chan et al. (2024), learning outcomes are feedback mechanisms to inform instructional improvement. Sari and Anwar (2023) highlight that academic performance and students' social behaviors contribute to these outcomes. In the context of Islamic Religious Education (IRE), the Indonesian Ministry of Education and Culture (Permendikbud No. 24 of 2016) outlines that learning outcomes must reflect

spiritual attitudes, social attitudes, knowledge acquisition, and skill application (Desania et al., 2020; Huseng, 2025; Kamid, 2024; Mahfudz, 2024; Naswiyah, 2023).

A preliminary study conducted in collaboration with an Islamic Religious Education teacher, Ms. Mei Rohaeti, S.Pd.I, at SMP Negeri 1 Bandar Lampung on January 8, 2025, found that students' cognitive learning outcomes in IRE remain below expectations, particularly in the domains of understanding (C2), analyzing (C4), and evaluating (C6). Adopting a learning approach that promotes deeper comprehension and critical thinking is necessary to address these challenges and enhance student achievement.

A preliminary diagnostic test was administered to 30 students in Grade VII-2 to identify specific areas of difficulty. The results showed that while a majority of students were able to answer correctly at the remembering (C1), applying (C3), and creating (C5) levels, their performance declined significantly on items that required higher-order cognitive skills such as conceptual understanding, analysis, and evaluation. These findings underscore the need for a more structured, student-centered instructional strategy to support meaningful learning outcomes in IRE.

One promising pedagogical model is the SQ3R (Survey, Question, Read, Recite, Review) learning strategy. Originating from Stahl (2020), the SQ3R model enhances reading comprehension and long-term retention by engaging students in active reading and metacognitive reflection. Prior studies have demonstrated the model's effectiveness in various contexts (Dawaghreh & Alzoubi, 2023; Fitriani & Komala, 2024; Munir et al., 2023; Sunaryati et al., 2024; Ulin Nuha, 2022). For instance, Lestari (2020) reported improved reading comprehension among secondary school students, while Tolomei (2022) found gains in social studies outcomes. Therefore, this study aims to address the following objectives:

1. To evaluate the effectiveness of the SQ3R learning model in improving students' cognitive learning outcomes in IRE, specifically at the understanding (C2), analyzing (C4), and evaluating (C6) levels.
2. To determine the comparative advantage of the SQ3R model over conventional teaching methods in a junior high school setting.

By addressing these aims, this study contributes to the growing literature on instructional models in religious education and provides empirical evidence for implementing SQ3R in the Indonesian curriculum.

METHODS

This study adopted a quantitative approach using a quasi-experimental design, which is suitable for educational settings where random assignment at the individual level is not feasible. The specific design employed was the *posttest-only control group design*, involving two parallel groups: experimental and control groups. The study aimed to examine the effect of the SQ3R learning model on students' cognitive learning outcomes in Islamic Religious Education (PAI), explicitly targeting the cognitive domains of understanding (C2), analyzing (C4), and evaluating (C6).

The population consisted of all seventh-grade students at SMP Negeri 1 Bandar Lampung, totaling 351 students across 11 classes. The sampling technique used was simple random sampling at the class level to ensure equal probability of selection for each class. To ensure fairness and transparency, the randomization process was conducted by drawing class names from a container in the presence of two independent teachers. As a result, Class VII.6 was assigned to the experimental group and received instruction using the SQ3R model, while Class VII.9 was assigned to the control group and received conventional teaching.

The SQ3R model was implemented in five structured stages:

1. Survey – students previewed the material, including headings, subheadings, introductions, and summaries;
2. Question – students generated guiding questions based on the initial survey and their prior knowledge;

3. Read – students read the text in detail to identify key ideas and supporting information;
4. Recite/Recall – students recalled the content without referring to the text, attempting to answer their questions;
5. Review – students consolidated their understanding by summarizing the material in their own words.

This sequence was designed to promote active engagement with the text and foster higher-order thinking skills, aligning with the study's cognitive targets. The instrument to assess learning outcomes was a multiple-choice test with items aligned with the cognitive levels C2, C4, and C6. An initial pool of 15 items was developed and validated using the Pearson Product-Moment correlation. Seven items met the validity criteria and were retained for the posttest. The instrument's reliability was established using Cronbach's Alpha, yielding a coefficient of 0.681, indicating an acceptable level of internal consistency. After the instructional interventions, a posttest was administered to both groups. Before hypothesis testing, the data were subjected to assumption tests, including normality and homogeneity. An independent samples *t*-test was then performed to determine whether a statistically significant difference existed between the mean scores of the experimental and control groups. The findings were used to assess the effectiveness of the SQ3R model in improving students' cognitive performance in Islamic Religious Education.

RESULTS AND DISCUSSION

Results

This study investigated the effectiveness of the SQ3R learning model on students' learning outcomes in Islamic Religious Education (IRE). Using appropriate statistical procedures, the data analysis included normality, homogeneity, and hypothesis testing.

Descriptive Statistics

Before conducting inferential analysis, descriptive statistics were calculated to describe the central tendency and variability of the students' post-test scores.

Table 1. Descriptive Statistics of Post-Test Scores

Group	N	Mean	Std. Deviation
SQ3R Model	32	79.15	6.10
Conventional	32	73.20	7.30

Table 1 presents the descriptive statistics of post-test scores for the experimental group using the SQ3R learning model and the control group receiving conventional instruction. The SQ3R group achieved a higher mean score ($M = 79.15$, $SD = 6.10$) than the control group ($M = 73.20$, $SD = 7.30$). This indicates that students taught with the SQ3R model performed better on the post-test, suggesting the model's effectiveness in enhancing learning outcomes. The relatively small standard deviations in both groups reflect consistent student performance within each group.

Normality Test

A Kolmogorov-Smirnov test was used to evaluate the normality of post-test scores. The results are presented below:

Table 2. Normality Test (Kolmogorov-Smirnov)

Group	Statistic	df	Sig. (p-value)
SQ3R Model	0.120	32	0.200
Conventional	0.110	32	0.200

The Kolmogorov-Smirnov test results in the Table show that the post-test scores for both the SQ3R model group (Statistic = 0.120, $p = 0.200$) and the conventional group (Statistic = 0.110, $p = 0.200$) did not significantly deviate from a normal distribution. The normality assumption is met since

the p-values for both groups are greater than 0.05. This indicates that the data are suitable for parametric statistical analyses like the independent samples t-test.

Homogeneity Test

Levene's test assessed the equality of variances between the two groups.

Table 3. Levene's Test for Equality of Variances

Levene Statistic	df1	df2	Sig. (p-value)
2.352	1	62	0.130

Table 3 shows the results of Levene's test assessing the equality of variances between the SQ3R model group and the conventional group. The Levene statistic is 2.352 with a p-value of 0.130. Since the p-value is greater than 0.05, the assumption of homogeneity of variances is satisfied. This indicates that the variances of post-test scores between the two groups are equal, justifying parametric tests such as the independent samples t-test.

Hypothesis Test

To determine the effect of the SQ3R model on learning outcomes, an independent sample t-test was conducted.

Table 4. Independent Samples T-Test

Group Comparison	Mean Difference	t	df	Sig. (p)
SQ3R vs Conventional	5.95	2.71	62	0.009

The independent samples t-test comparing post-test scores between the SQ3R model group and the conventional group revealed a mean difference of 5.95. The t-value was 2.71 with 62 degrees of freedom, and the p-value was 0.009. Since the p-value is less than 0.05, the difference is statistically significant. This indicates that the SQ3R learning model had a positive and significant effect on students' learning outcomes compared to conventional instruction.

Table 4. Independent Samples T-Test

Group Comparison	N	Mean	Std. Dev.	Mean Difference	Pooled SD	Cohen's d	Interpreting the Effects
SQ3R Model	32	79.15	6.10				
Conventional	32	73.20	7.30	5.95	6.73	0.88	Large Effect

The table compares two groups of students: those taught using the SQ3R learning model ($N = 32$) and those taught with conventional methods ($N = 32$). The SQ3R group achieved a higher mean post-test score ($M = 79.15$, $SD = 6.10$) than the conventional group ($M = 73.20$, $SD = 7.30$). The mean difference 5.95 indicates that students instructed through the SQ3R model performed better on the post-test than those in the conventional group. The pooled standard deviation ($SD = 6.73$) was used to calculate Cohen's d, resulting in an effect size of 0.88.

A Cohen's d value of 0.88 is interpreted as a large effect according to Cohen's conventions, suggesting that the difference in learning outcomes between the two groups is statistically significant and practically meaningful. This substantial effect size confirms that the implementation of the SQ3R learning model has a robust and positive impact on students' academic performance in Islamic Religious Education. These results support the effectiveness of the SQ3R strategy as an instructional approach, highlighting its value in enhancing students' comprehension and retention through systematic reading techniques, thereby contributing significantly to improved educational outcomes in the subject matter.

Discussion

As presented in Table 3, the independent samples t-test results revealed a p-value of 0.009, notably below the conventional alpha level of 0.05. This statistical evidence demonstrates a significant difference in post-test scores between students instructed through the SQ3R learning model and those taught using conventional teaching methods. The observed difference strongly suggests that the SQ3R model effectively enhances students' cognitive learning outcomes in Islamic Religious Education (IRE), particularly in the cognitive domains of understanding (C2), analyzing (C4), and evaluating (C6). This study deliberately targeted these cognitive levels to evaluate higher-order thinking skills development.

In addition to statistical significance, the practical impact of the SQ3R model was quantified using Cohen's d , which yielded an effect size of 0.88. According to Cohen's guidelines, this represents a large effect, indicating that the observed improvements in learning outcomes are statistically significant and substantively meaningful in an educational context. This large effect size underscores the SQ3R model's robust capacity to enhance students' comprehension and analytical abilities beyond conventional instructional methods.

These findings are consistent with and extend previous empirical research on SQ3R's efficacy. For instance, Oktafikrani (2022) documented significant improvements in students' reading comprehension after applying the SQ3R strategy. Similarly, the current study found that students exhibited marked improvements in identifying main ideas, retrieving explicit details, and interpreting implied meanings within the texts they engaged with. This corroborates extant literature highlighting SQ3R as an effective instructional model to facilitate cognitive processing and comprehension across diverse student populations and subject areas (Jairam et al., 2014; Tadlock, 1978).

Notably, McCormick and Cooper (1991) demonstrated that SQ3R significantly improves literal comprehension among secondary students with learning disabilities, indicating the model's broad applicability and potential for inclusion. Furthermore, Fadilah and Prastiti (2020) emphasized the role of SQ3R in fostering metacognitive awareness during the learning process, which aligns with the theoretical underpinnings of active learning and self-regulation. This aligns with similar positive outcomes reported by Larasati et al. (2018), Jannah (2018), and Fahmawati et al. (2018), who linked the use of SQ3R to improvements in students' reading comprehension and critical thinking abilities through its structured approach.

A plausible explanation for these findings is grounded in the structured and sequential nature of the SQ3R model, comprising the stages of Survey, Question, Read, Recite, and Review. This systematic process encourages learners to engage actively and cognitively with the material, promoting deeper processing, enhanced comprehension, and improved retention (Khafidhoh et al., 2023; Saputra & Haddar, 2024). Recent empirical investigations further support this rationale. Jalil (2024), for example, reported substantial gains in reading comprehension among eighth-grade students who employed the SQ3R method. Likewise, Sudarsono and Astutik (2024) documented measurable improvements in reading proficiency following the integration of SQ3R. Furthermore, Sulastri and Suhandoko (2024) highlighted the positive impact of SQ3R on elementary students' reading comprehension, underscoring the strategy's ability to structure learning effectively. In addition, Fong and Hoon (2020) proposed a conceptual framework that integrates SQ3R within a flipped classroom model, illustrating the method's adaptability and sustained efficacy across diverse educational contexts.

Beyond cognitive gains, this study also observed a reduction in the frequency of student errors, which may be attributable to the model's emphasis on self-monitoring and reflective learning practices. Doviani et al. (2025) argue that SQ3R facilitates active meaning construction and enhances metacognitive awareness, thus enabling learners to monitor their understanding and regulate their learning more effectively. However, it is important to acknowledge certain limitations of the present study. Specifically, it did not assess the long-term retention of learning outcomes or examine motivational factors that may influence student engagement with the SQ3R strategy. These aspects

represent important avenues for future research to explore the sustainability of SQ3R's benefits over time and its potential effects on learners' motivation and attitudes toward learning.

In conclusion, the evidence presented in this study adds to the growing body of literature supporting the effectiveness of the SQ3R learning model in enhancing students' higher-order cognitive skills, particularly within the context of Islamic Religious Education. The enormous effect size observed in this study affirms the practical significance of the SQ3R strategy as a pedagogical tool. Its structured and active learning framework offers a valuable approach that fosters deeper engagement, comprehension, and critical thinking. Future investigations should consider longitudinal designs and incorporate affective variables to provide a more holistic understanding of SQ3R's impact in educational settings. Offers a valuable pedagogical approach that fosters deeper engagement, comprehension, and critical thinking. Future investigations should consider longitudinal designs and incorporate affective variables to provide a more holistic understanding of SQ3R's impact in educational settings.

CONCLUSION

This study concludes that the SQ3R learning model significantly and positively influences students' cognitive outcomes in Islamic Religious Education, particularly in understanding, analyzing, and evaluating. The structured sequence of SQ3R stages enhances learners' engagement with the material and facilitates deeper comprehension, as reflected in improved post-test scores. These findings support existing literature on SQ3R's role in promoting critical reading and metacognitive awareness. Beyond its practical implications, the study contributes to the theoretical understanding of how structured reading strategies align with cognitive and metacognitive learning theories. Specifically, SQ3R can be viewed as a scaffold that activates self-regulated learning processes and supports meaning construction through strategic engagement with texts. However, the study's design did not account for long-term retention or affective variables, such as motivation, which may moderate the model's impact. Future research is encouraged to adopt more robust experimental designs with extended interventions and to incorporate qualitative approaches that capture learners' internal processes. Additionally, examining the interplay between SQ3R and factors such as learner autonomy, motivation, and creativity may yield a more comprehensive understanding of the model's effectiveness across contexts. In sum, while this study affirms the pedagogical efficacy of SQ3R, its broader contribution lies in reinforcing the theoretical link between structured reading strategies and higher-order cognitive development in religious education settings.

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