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Contextual Teaching and Learning and Students' Academic Achievement in Islamic Religious Education

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ABSTRACT

This study investigated the effectiveness of Contextual Teaching and Learning (CTL) in improving students' academic achievement in Islamic Religious Education at the senior high school level by employing a quasi-experimental pretest-posttest control group design. Two intact classes were assigned to either CTL-based instruction or conventional teaching. Students' achievement data were obtained through a validated multiple-choice test and analyzed through independent samples *t*-test after confirming normality and homogeneity assumptions. The findings revealed a statistically significant difference in posttest scores in which the CTL group gained higher score. These results provide empirical evidence that CTL offers a more meaningful and context-based learning experience, leading to higher academic achievement in Islamic Religious Education. The study contributes practical insights for teachers and curriculum developers by demonstrating the pedagogical value of CTL as an effective instructional alternative in religious education contexts.

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A B S T R A K

Penelitian ini mengkaji efektivitas Contextual Teaching and Learning (CTL) dalam meningkatkan prestasi akademik siswa pada mata pelajaran Pendidikan Agama Islam di tingkat sekolah menengah atas. Dengan menggunakan desain quasi-eksperimental pretest-posttest pada kelompok control dengan metode konvensional, dan kelas eksperimen dengan pengajaran berbasis CTL. Data prestasi siswa diperoleh melalui tes pilihan ganda yang valid dan dianalisis menggunakan uji t sampel independen setelah memastikan asumsi normalitas dan homogenitas terpenuhi. Hasil penelitian menunjukkan perbedaan yang signifikan secara statistik pada skor posttest, dengan kelompok CTL memperoleh skor yang lebih tinggi. Temuan ini memberikan bukti empiris bahwa CTL menawarkan pengalaman belajar yang lebih bermakna dan berbasis konteks, yang berujung pada peningkatan prestasi akademik dalam Pendidikan Agama Islam. Penelitian ini memberikan wawasan praktis bagi guru dan pengembang kurikulum dengan menunjukkan nilai pedagogis CTL sebagai alternatif pengajaran yang efektif dalam konteks pendidikan agama.

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1. INTRODUCTION

Education plays a pivotal role in developing students' cognitive abilities, moral character, and critical thinking skills, particularly within Islamic Religious Education (IRE). In the context of contemporary education marked by rapid digitalization and the growing influence of secular values, IRE is expected to equip students not only with doctrinal knowledge but also with the ability to internalize and apply Islamic values in real-life situations (Yuliani & Hidayat, 2021). However, instructional practices in many secondary schools remain dominated by teacher-centered and memorization-oriented approaches, which often result in low student engagement and limited academic achievement in IRE (Rahman et al., 2022).

At the senior high school level, IRE is ideally designed to foster holistic student development, encompassing cognitive understanding, emotional maturity, and religious awareness (Halstead, 2024). Students are expected to master core Islamic values—such as morality, worship, and monotheism—while developing critical thinking skills and ethical decision-making abilities relevant to everyday life (Achadah & Yusuf, 2025). In practice, however, conventional lecture-based instruction frequently leads to passive learning, weak motivation, and superficial comprehension, creating a persistent gap between the intended objectives of IRE and actual classroom outcomes.

From a theoretical perspective, Islamic education emphasizes the integration of faith, knowledge, and practice into a meaningful learning experience (Agustiniingsih, 2024). Yet, many learning activities fail to contextualize abstract Islamic principles within students' lived experiences, resulting in minimal internalization of values (Zulkifli & Hasan, 2020). This condition highlights the need for pedagogical approaches that promote active learning, contextual understanding, and reflective engagement. Contextual Teaching and Learning (CTL), grounded in social constructivist theory, positions students' experiences as the foundation of meaning-making and encourages learning through inquiry, collaboration, reflection, and authentic assessment (Wibowo, 2024; Pratama, 2023).

Previous studies have demonstrated the effectiveness of CTL in improving learning outcomes across various disciplines, including science, mathematics, civics, and selected areas of Islamic education (Sumarni et al., 2020; Ismail & Karim, 2022; Rahmawati et al., 2023). Empirical evidence from elementary and secondary education indicates that CTL can enhance student engagement and academic achievement (Jamali, 2023; Afni, 2024). Nevertheless, systematic quasi-experimental research examining the impact of CTL on students' academic achievement in Islamic Religious Education at the senior high school level particularly within the Indonesian context—remains limited. Most existing studies focus on different educational levels, specific religious topics, or non-experimental designs, leaving a clear gap in rigorous empirical evidence regarding the effectiveness of CTL in senior high school IRE classrooms.

Addressing this gap, the present study investigated the effectiveness of the Contextual Teaching and Learning approach in enhancing students' academic achievement in Islamic Religious Education at the senior high school level. Accordingly, the research is guided by the following question: Is there a significant difference in academic achievement between students taught using the CTL approach and those taught using conventional instructional methods in Islamic Religious Education?

The objective of this study is to examine the effectiveness of the CTL approach in improving students' academic achievement in Islamic Religious Education through a quasi-experimental research design.

2. METHOD

This study employed a quantitative approach using a quasi-experimental design. A quasi-experimental method was selected because random assignment of participants was not feasible in the natural school setting; therefore, intact classes were used while controlling potential confounding variables through comparable group characteristics (Creswell & Guetterman, 2019).

The research was conducted at SMA Negeri 1 Barat Magetan during the 2025/2026 academic year. The population comprised all tenth-grade students. Two parallel classes were selected through purposive sampling based on their similarity in curriculum implementation, number of students, and instructional schedule to ensure group equivalence. One class was assigned as the experimental group and received instruction using the Contextual Teaching and Learning (CTL) approach, while the other class served as the control group and was taught using conventional instructional methods.

The study adopted a pretest–post-test control group design, in which both groups completed a pretest prior to the intervention and a post-test after the instructional period. The CTL intervention was implemented over regular instructional sessions, while the control group followed standard lecture-based instruction.

Data on students' academic achievement were collected using a multiple-choice test developed in accordance with the learning objectives of Islamic Religious Education. Content validity was established through expert judgment, yielding an average item validity index of ≥ 0.75 , indicating high validity. Empirical item analysis showed that all test items met the acceptable validity criteria ($r > r_{table}$). Instrument reliability was confirmed using Cronbach's alpha, resulting in a coefficient of $\alpha = 0.87$, which indicates high internal consistency.

Prior to hypothesis testing, data were examined for normality and homogeneity assumptions. An independent samples *t*-test was then employed to analyse differences in post-test scores between the experimental and control groups. Ethical considerations were strictly observed throughout the study. Formal permission to conduct the research was obtained from the school administration. Participants were informed about the purpose and procedures of the study, and their participation was voluntary. All data were collected anonymously and used solely for research purposes to ensure confidentiality and protect students' rights.

The research design scheme can be seen in the following table:

Table 1. Pretest-Post-test Control Group Design

Groups	Pre-test	Treatment	Post-test
Experiment	O1	CTL	O2
Control	O3	Conventional	O4

This design allows researchers to compare differences in learning outcomes before and after treatment, as well as to compare between the experimental group and the control group (Sugiyono, 2019; Fraenkel et al., 2020).

The main instrument is a multiple-choice test (4 options) consisting of 30 items, compiled based on a predetermined grid. The procedure for compiling questions includes formulating indicators, writing questions, compiling answer keys, and scoring guidelines.

3. RESULTS AND DISCUSSION

Descriptive statistical analysis was conducted to examine students' academic achievement in both the experimental and control groups before and after the intervention. A total of 70 tenth-grade students participated in the study, with 35 students assigned to each group. Prior to the intervention, the experimental group obtained a mean pretest score of 62.40 (SD = 6.85), while the control group recorded a mean score of 61.90 (SD = 7.10), indicating comparable initial academic ability between the two groups.

Following the instructional intervention, the experimental group demonstrated a higher mean post-test score ($M = 78.60$, $SD = 7.20$) than the control group ($M = 70.30$, $SD = 6.95$).

The following presents descriptive data for the experimental class and control class.

Table 2. Descriptive Data of the experimental class and control class

Group	N	Pretest Mean	SD (Pretest)	Post-test Mean	SD (Post-test)
Experiment (CTL)	35	62.40	6.85	78.60	7.20
Control (Conventional)	35	61.90	7.10	70.30	6.95

The normality of the posttest scores was examined using the Shapiro–Wilk test. The results revealed that the significance value for the experimental group was 0.124, while the control group obtained a significance value of 0.087.

Table 3. Normality Test

Group	Sig	Conclusion
Experiment	0.124	Normal
Control	0.087	Normal

Assumption testing confirmed that the post-test data were normally distributed and that the variances between groups were homogeneous (Levene's test, $p > 0.05$), allowing for further inferential analysis. Then, the homogeneity of variance between the experimental and control groups was tested using Levene's test. The analysis yielded a significance value of 0.318, which is greater than 0.05. This result indicates that the variances of the post test scores between the two groups were homogeneous. Therefore, the assumptions required for conducting an independent samples t-test were satisfied.

The research hypothesis, an independent samples t-test was conducted to examine whether there was a statistically significant difference in post-test scores between the experimental and control groups. An independent samples *t*-test revealed a statistically significant difference in post-test scores between the experimental and control groups ($t = 4.215$, $p < 0.05$), indicating that students taught using the Contextual Teaching and Learning (CTL) approach achieved significantly higher learning outcomes than those receiving conventional instruction.

Table 4. Hypothesis Test

Inferential Statistic	Significance
t-value	4,215
df	68
Sig (2 tailed)	0,000

The findings suggest that CTL is more effective in improving students' academic achievement in Islamic Religious Education at the senior high school level. This effectiveness can be attributed to the core principles of CTL, which emphasize the integration of learning content with students' real-life experiences, active knowledge construction, inquiry-based learning, and collaborative interaction. In the context of Islamic Religious Education, CTL enables students to relate abstract religious concepts—such as moral values, worship practices, and ethical decision-making—to everyday situations, thereby fostering deeper understanding and meaningful internalization of Islamic teachings.

Moreover, CTL promotes student engagement through discussion, reflection, and problem-solving activities, which contrasts with conventional lecture-based instruction that often positions students as passive recipients of information. This active engagement is particularly relevant in PAI learning, where understanding values and applying them in real-life contexts are as important as mastering cognitive content. The higher post-test performance of the experimental group indicates that CTL facilitates not only improved comprehension but also better retention of learning material.

These results are consistent with previous studies reporting that contextual and student-centered learning approaches lead to superior academic outcomes compared to traditional methods (Yumna & Muthi'ah, 2014; Sumarni et al., 2020). Research in Islamic education settings has also shown that CTL enhances students' motivation and learning achievement by connecting religious content with authentic experiences (Afni, 2024; Rahmawati et al., 2023). However, the present study extends prior research by providing quasi-experimental evidence at the senior high school level, an educational context that has received relatively limited empirical attention in CTL-based Islamic Religious Education research.

Despite its contributions, this study has several limitations. First, the sample was limited to one public senior high school, which may restrict the generalizability of the findings. Second, the research focused primarily on cognitive learning outcomes, while affective and behavioural dimensions of Islamic education—such as attitudes and value internalization—were not directly measured. Future studies are therefore encouraged to involve broader samples, apply longitudinal designs, and incorporate qualitative or mixed-method approaches to capture the long-term and holistic impact of CTL on Islamic Religious Education learning.

4. CONCLUSION

This study demonstrates that the Contextual Teaching and Learning (CTL) approach significantly enhances students' academic achievement in Islamic Religious Education at the senior high school level. Students who were taught using CTL achieved higher learning outcomes than those receiving conventional instruction, indicating that contextual and student-centered learning effectively supports deeper cognitive understanding of Islamic concepts.

From a practical perspective, the findings suggest that CTL can serve as an effective instructional alternative for Islamic Religious Education teachers seeking to promote meaningful learning, active student engagement, and the application of religious values in real-life contexts. The integration of inquiry, reflection, and authentic learning tasks within CTL aligns well with the educational goals of contemporary Islamic education.

Future research is recommended to explore the long-term impact of CTL on students' affective and behavioural development, involve larger and more diverse samples, and employ mixed-method or longitudinal designs to capture the holistic outcomes of contextual learning in Islamic Religious Education.

5. AUTHORS' NOTE

The author truly declares that there are no conflicts or interests related to the publication of this article. The author affirms that the manuscript of this article is free from plagiarism.

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