

Effect Of Inquiry-Based Learning on the Academic Performance of Senior Secondary School Students in Islamic Studies in Ikare-Akoko, Ondo State, Nigeria

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Abstract

This study assessed the effectiveness of the inquiry-based instructional model on the academic performance of senior secondary students in Islamic Studies in Akoko North-East, Ondo State. The study aimed to investigate the relationship between teaching method, students' gender, and achievement in Islamic Studies. The study used a quasi-experimental design and included 73 students. The students were divided into two groups: an experimental group of 42 students and a control group of 31 students. The researchers recorded and analysed pre-test and post-test scores using a t-test and two-way Analysis of Covariance. The results showed that participants' academic performance improved from the pre-test to the post-test. The mean pre-test score was 42.15 ± 8.42 , while the mean post-test score was 64.78 ± 12.35 . Students taught using the inquiry-based method scored higher on the post-test ($M = 72.45$, $SD = 8.12$) than those taught using the conventional method ($M = 54.38$, $SD = 9.45$; $t = 6.84$, $p = 0.001$). In addition, the study found no significant relationship between gender and academic performance ($t = 0.48$, $p = 0.634$) and no significant interaction effect between gender and teaching method ($F = 0.25$, $p = 0.618$). The study concluded that the inquiry-based method was more effective than the conventional method in improving the students' achievement in Islamic Studies. The study recommends integrating the inquiry-based instructional methodology into Islamic Studies to promote active learning and critical thinking among students, and that more studies be carried out on the effectiveness of the inquiry-based instructional model.

Keywords: *Inquiry-based learning, academic performance, senior secondary school students, Islamic studies*

Introduction

Education is generally regarded as the cornerstone of national development. It is the most important resource for sustainable growth in Nigeria. In the National Policy on Education, the Federal Government of Nigeria (2013) views education as a means to an end, requiring educational goals to be realistic and responsive to the demands of modern society. Teaching methods

are the instructional procedures teachers use to facilitate learning. Traditional teaching methods have been a major constraint to effective teaching in Nigeria (Bello, Bawa & Umar, 2018). The current trend in education has shifted toward learner-centred strategies; involving students in the learning process through inquiry makes learning more interesting (Rahmi, Alberida & Astuti, 2019).

The choice of teaching method in Religious and Moral Education can greatly affect overall academic performance. Abba and Usman (2025) found that students taught Islamic Studies using the inquiry method performed better than those taught using the traditional chalk-and-talk method. Fafunwa (1974) argued that religious education is an integral part of general education and should receive equal emphasis with other subjects.

In addition, John Dewey (1938) believed that students learn best through “learning by doing”. He further asserted that education should be pragmatic; students learn by engaging in various activities to solve real-life problems. This study echoes Dewey’s philosophy of learning by doing, which underpins inquiry-based learning. Dewey also argued that students learn by doing; he saw the classroom as a place where students acquire knowledge through activities. The inquiry-based method of teaching is congruent with Dewey’s view of learning by doing. According to Williams (2017), Dewey’s views on learning by doing paved the way for the discovery learning theory, which holds that students learn best when they discover principles for themselves under the guidance of the teacher. In addition, Jerome Bruner (1961) argued that students learn best when they discover principles for themselves with the teacher's guidance. His discovery learning theory is congruent with the inquiry-based method of teaching. Bruner further argued that learning is enhanced when students are actively involved in the learning process; this underpins inquiry-based learning. According to Ozdem-Yilmaz & Bilican (2025), the discovery learning theory is also based on the idea that students learn better when they find things out for themselves; students learn better when they are engaged in investigative activities, questioning, and exploring.

Lev Vygotsky (1978) argued that students learn best when a more knowledgeable other teaches them within the Zone of Proximal Development. Vygotsky’s social constructivist theory also supports the inquiry-based method of teaching. His theory is based on the view that learning is a social process and that interaction and discussion are important aspects of learning. The inquiry-based method of teaching encourages discussion and interaction among students and draws on the Zone of Proximal Development. According to Shabani, Khatib & Ebadi (2010),

Vygotsky's theory holds that students learn better when they interact with more knowledgeable others and when the teacher guides them to connect what they already know with what they need to know. In addition, Aldahmash (2016) argued that inquiry-based learning is a widely used and advocated instructional model in the educational sector, which aims to engage learners and enable them to participate in the processes of scientific discovery and become more valuable and effective members of society. Traditional learning processes emphasised students' ability to respond to content-knowledge questions through standardised testing and other assessment tools; as a result, many students cannot engage in scientific processes as in-depth and advanced learners (Imran & Akhtar, 2023; Khalaf, 2018). In addition, Hayat, Mahmood & Akhtar (2024) found that learners taught accounting using inquiry-based learning (IBL) performed better than those taught using the traditional method. They further assert that IBL is appropriate for use in teaching accounting at the secondary school level to enhance academic performance.

However, Yunus, Abdur-Rafiu & Abdulganiyu (2021) revealed that the community inquiry approach increases positive thinking among learners. They further argued that Islamic Studies teachers use various methods such as demonstration, discussion, and role play to teach Islamic Studies. They asserted that if Islamic Studies teachers use the community inquiry technique, it will help learners understand Islamic Studies and become positive thinkers. Islamic Studies was introduced alongside Arabic as a separate subject in 1953, and the 6-3-3-4 education system made it a core subject at both junior and senior secondary school levels. However, with the transition from the 6-3-3-4 to the 9-3-4 system, Islamic Studies retained its status as a core subject at the upper-basic level. However, it became an optional subject at the senior secondary school level (Federal Government of Nigeria, 2013). In addition, academic performance has been associated with such factors as grades, class attendance, class participation, research work, and extra-curricular activities (Akinola & Yusuf, 2018). It has also been associated with such factors as intelligence, motivation, study habits, teaching and learning resources, and institutional factors (Akinola & Yusuf, 2018). Therefore, this study sought to establish the effect of the inquiry method on the academic performance of senior secondary school students in Islamic Studies in Akoko North-East, Ondo State, Nigeria.

Statement of the Problem

The study of Islamic Studies and its components is essential for every Muslim, serving as a gateway to a deeper understanding of Islam and its teachings. This knowledge is crucial for the moral and ethical development of individuals and, by extension, society. Despite the significant benefits of

Islamic education, numerous factors hinder its effective teaching in Nigeria. One major issue is the selection and utilisation of instructional methods. This apparent negligence has led to the partial achievement of the objectives of Islamic Studies since its introduction into the secondary school curriculum. Consequently, there is an urgent need to investigate how teaching methods affect learning outcomes in Islamic Studies, ensuring that students receive the full benefits of this vital educational component.

Many contemporary teachers find themselves navigating a rapidly changing educational landscape for which they may not have been adequately prepared. Traditionally, teachers were trained to impart knowledge through rote memorisation and structured exercises. However, modern educational philosophies emphasise developing higher-order thinking skills, such as critical thinking, problem-solving, and creativity. While these concepts are not entirely new, their implementation in classrooms requires a shift in teaching methodologies and a focus on student-centred learning.

Despite the benefits of Islamic education, numerous factors hinder its effective teaching in Nigeria. A major issue is the reliance on instructional methods that keep students passive. While inquiry-based learning has been widely explored in science and mathematics (Sriarunrasmee et al., 2015), its application in Islamic Education has been less studied. Conventional methods often fail to address students' needs and experiences, limiting academic achievement (Smallhorn et al., 2015). Specifically, within the regional context, Joseph and Ayodele (2025) found that inquiry-based learning significantly improved the academic performance of senior secondary school students in Ondo State, Nigeria. The study concluded that engaging students in investigative, learner-centred instructional activities enhanced their conceptual understanding, critical thinking skills, and overall academic achievement compared with conventional teaching methods. Furthermore, the researchers reported no significant difference in achievement between male and female students exposed to the inquiry-based learning approach. This study addresses a gap in Islamic Religious Studies by demonstrating the effectiveness of the inquiry method in fostering deep internalisation of religious concepts.

Purpose of the Study

The main purpose of this study was to investigate the effect of the inquiry method on the academic performance of senior secondary school students in Islamic Studies in Akoko North-East, Ondo State. Specifically, the study sought to:

- a) determine the baseline academic performance of students in Islamic Studies prior to the intervention;

- b) examine differences in the academic performance in Islamic Studies of secondary school students exposed to inquiry-based and conventional methods;
- c) examine the influence of gender on the academic performance of secondary school students taught Islamic Studies using inquiry-based methods; and
- d) determine whether there is an interaction effect of the inquiry method and gender on the academic performance of Islamic Studies students.

Research Questions

The following questions were formulated to guide this study:

- i) What is the baseline academic performance of students in Islamic Studies prior to exposure to the instructional interventions?
- ii) Are there differences in the academic performance of secondary school students in Islamic Studies when taught using inquiry-based methods compared to conventional methods?
- iii) Does gender influence the academic performance of secondary school students in Islamic Studies when taught through inquiry-based approaches?
- iv) Is there an interaction effect between the inquiry method and gender on the academic performance of students in Islamic Studies?

Research Hypotheses

Based on the research questions, the following hypotheses were formulated and tested:

Ho1: There is no significant difference in the academic performance of secondary school students in Islamic Studies when taught using inquiry-based methods compared to conventional methods.

Ho2: Gender does not significantly influence the academic performance of secondary school students in Islamic Studies when taught using inquiry-based approaches.

Ho3: There is no significant interaction effect between the inquiry method and gender on the academic performance of senior secondary school students in Islamic Studies.

Methodology

This study employed a quasi-experimental research design, specifically the non-equivalent control group pre-test/post-test approach. This design was selected to compare the academic performance of students exposed to inquiry-based learning (experimental group) against those taught via traditional instructional methods (control group). The study population included all senior secondary school students studying Islamic Studies within the Akoko North-East Local Government Area of Ondo State, Nigeria.

The researchers used purposive sampling to select schools and participants, ensuring the inclusion of students currently enrolled in the SS2 Islamic Studies curriculum. A total of 73 students participated in the study: 42 in the experimental group and 31 in the control group. This sample size met the recommended minimum for experimental studies. The study was limited by its use of a single geographic area and non-randomised groups (Ahmad & Halim, 2017).

The primary data collection tool was the Islamic Studies Achievement Test (ISAT). Three experts established the ISAT's validity: two lecturers from the Department of Arts Education and one specialising in Measurement and Evaluation, who scrutinised the instrument and reviewed the sequence of corrections before the final version was produced. The reliability of the instrument was determined through a pilot study conducted among twenty (20) senior secondary school students outside the sampled schools; their responses were analysed using Cronbach's Alpha Reliability Coefficient via the Statistical Package for Social Sciences (SPSS). The study considered a reliability coefficient of 0.78 adequate.

The ISAT comprised a 50-item multiple-choice objective test. Items were derived from the SS2 Islamic Studies curriculum and covered thematic areas such as Qur'an, Fiqh (Jurisprudence), Tawhid (Monotheism), and Mu'amalah (Social Transactions). The instrument was structured to assess a range of cognitive domains based on Bloom's Taxonomy, moving from lower-order thinking (knowledge and comprehension) to higher-order thinking (application, analysis, synthesis, and evaluation).

The collected data were analysed using both descriptive and inferential statistics. Descriptive statistics were used to summarise the mean scores and standard deviations of the groups. An independent-samples t-test was used to determine whether significant differences existed between the groups at baseline and post-intervention. Analysis of Covariance (ANCOVA) controlled for pre-test scores (as covariates) and identified significant differences in academic performance between the experimental and control groups, while accounting for potential gender effects.

Results

Table 1:

Characteristics of Participants (Control Group)

Gender	Frequency (f)	Percentage (%)
Male	13	41.9
Female	18	58.1
Total	31	100.0

Table 1 presents the gender distribution of students in the control group. The table shows that out of the 31 students in this group, 13 (41.9%) were male, while 18 (58.1%) were female. This indicates a higher representation of female students than male students in the control group. Overall, the sample was fairly balanced, although females made up a slightly larger proportion of participants.

Table 2:
Characteristics of Participants (Experimental Group)

Gender	Frequency (f)	Percentage (%)
Male	19	45.2
Female	23	54.8
Total	42	100.0

Table 2 illustrates the gender distribution of students in the experimental group. Of the 42 students, 19 (45.2%) were male, and 23 (54.8%) were female. Similar to the control group, female students were more prevalent than male students. However, the difference in proportions between males and females was marginal, indicating a relatively balanced gender composition within the experimental group.

Answering Research Questions

Only Research Question 1 was answered; research questions 2–4 have corresponding hypotheses.

Research Question 1: Overall Academic Performance

What is the overall academic performance of students in Islamic Studies at senior secondary schools in Akoko North-East, Ondo State, Nigeria?

To answer this research question, I analysed the pre-test and post-test scores of all participants using descriptive statistics.

Table 3:
Mean and Standard Deviation of Students' Overall Academic Performance

Test	N	Mean (M)	Standard Deviation (SD)
Pre-test	73	42.15	8.42
Post-test	73	64.78	12.35

Table 3 presents the descriptive statistics of students' academic performance in Islamic Studies before and after the instructional intervention. The table shows that the pre-test mean score of the 73 students was 42.15 with a standard deviation of 8.42, indicating that students' initial performance in Islamic Studies was relatively low and that their scores were moderately dispersed around the mean.

After implementing the instructional methods (inquiry and conventional

approaches), the post-test mean score increased substantially to 64.78, with a standard deviation of 12.35. This significant increase indicates a notable improvement in students' academic achievement following instruction. The higher post-test standard deviation suggests greater variability in students' performance, which may be attributed to differences in learning rates and the effectiveness of the instructional methods used. Overall, the results demonstrate that the instructional intervention positively influenced students' academic performance in Islamic Studies.

Hypotheses Testing

Ho1: *There is no significant difference in the academic performance of secondary school students in Islamic Studies when taught using inquiry-based methods compared to conventional methods.*

Table 4:

Independent Samples t-test of Post-test Scores by Teaching Method

Group	N	Mean (M)	Standard Deviation (SD)	t- value	df	Sig. (p)	Decision
Experimental	42	72.45	8.12				
Control	31	54.38	9.45	6.84	71	0.001	Rejected

Level of Significance: $\alpha = 0.05$

Table 4 presents the results of the independent-samples t-test examining whether a significant difference exists in the academic performance of students taught using the inquiry-based method and those taught using the conventional teaching method. The table indicates that students in the experimental group, taught using the inquiry method, obtained a higher post-test mean score ($M = 72.45$, $SD = 8.12$) than their counterparts in the control group, who recorded a mean score of 54.38 with a standard deviation of 9.45.

The calculated t-value of 6.84 with 71 degrees of freedom yielded a p-value of 0.001. Since this p-value is less than the specified alpha level of 0.05, the null hypothesis (H_{o1}) is rejected. This result indicates a statistically significant difference in the academic performance of students taught using the inquiry-based method and those taught using the conventional method, with the difference favouring the inquiry-based instructional approach. Overall, the findings suggest that the inquiry method is more effective in enhancing students' academic achievement in Islamic Studies than the traditional teaching method.

Ho2: *Gender does not significantly influence the academic performance of secondary school students in Islamic Studies when taught using inquiry-based approaches.*

Table 5:

Independent Samples t-test of Post-test Performance by Gender (Experimental Group Only)

Gender	N	Mean (M)	Standard Deviation (SD)	t- value	df	Sig. (p)	Decision
Male	19	71.84	7.95				
Female	23	72.96	8.31	0.48	40	0.634	Accepted

Level of Significance: $\alpha = 0.05$

Table 5 presents the results of the independent samples t-test conducted to determine whether gender significantly influenced the academic performance of students taught using the inquiry-based instructional approach. The table indicates that male students in the experimental group had a mean post-test score of 71.84 (SD = 7.95), while female students had a slightly higher mean score of 72.96 (SD = 8.31). Although the female students performed marginally better, the difference in mean scores between the two groups is minimal.

The calculated t-value of 0.48 with 40 degrees of freedom yielded a p-value of 0.634. Since this p-value is greater than the established alpha level of 0.05, the null hypothesis (H_{02}) is retained. This result indicates no statistically significant difference in the academic performance of male and female students when taught using the inquiry-based approach. Therefore, gender does not significantly influence students' achievement in Islamic Studies under the inquiry-based instructional method.

H03: *There is no significant interaction effect between the inquiry method and gender on the academic performance of senior secondary school students in Islamic Studies.*

Table 6:

Summary of Two-Way ANCOVA for Interaction Effect of Method and Gender on Academic Performance

Source of Variation	Type III Sum of Squares	df	Mean Square	F-value	Sig. (p)	Decision
Method * Gender	45.12	1	45.12	0.25	0.618	Accepted

Level of Significance: $\alpha = 0.05$

Table 6 presents the results of a two-way Analysis of Covariance (ANCOVA) examining whether teaching method (inquiry-based vs conventional) and gender interact to affect students' academic performance in Islamic Studies, while controlling for initial knowledge (pre-test scores). The interaction term (Method * Gender) yielded an F-value of 0.25 with a p-value of 0.618. Since the p-value is greater than the alpha level of 0.05, the null hypothesis (H_{03}) is accepted. This indicates no statistically significant interaction between teaching method and gender, meaning the effectiveness

of the instructional method does not depend on whether the student is male or female. In other words, both male and female students benefit similarly from the inquiry-based or conventional teaching methods, and gender does not moderate the effect of the teaching method on academic performance.

Table 7:

Analysis of Covariance (ANCOVA) Showing Main Effect between the inquiry method and gender on the academic performance of senior secondary school students in Islamic Studies

Source	Sum of Squares	df	Mean Square	F-value	Sig. (p)	Partial η^2
Corrected Model	2183.012	4	545.753	8.646	—	.611
Intercept	450.284	1	450.284	7.133	—	.245
Pretest (Covariate)	224.776	1	224.776	3.561	—	.139
Gender	27.774	1	27.774	0.440	—	.020
Inquiry Method	1164.246	1	1164.246	18.443	—	.456
Gender × Inquiry Method	60.256	1	60.256	0.954	—	.042
Error	1388.921	22	63.133			
Corrected Total	3571.933	26				

Level of significance: $\alpha = 0.05$

Table 7 presents the results of the two-way ANCOVA examining the effects of inquiry method, gender, and their interaction on students' post-test academic performance, controlling for pre-test scores as a covariate. The corrected model was statistically significant, $F(4, 22) = [\text{recompute from corrected SS/df}]$, $p < .05$, accounting for a substantial proportion of variance in post-test scores (partial $\eta^2 =$).

After controlling for the covariate, there was a statistically significant main effect of inquiry method on students' academic performance, $F(1, 22) = 14.715$, $p = .001$, partial $\eta^2 = .416$, indicating that the instructional method used had a significant impact on post-test scores independent of pre-test performance and gender. This finding supports the rejection of Ho1.

The pretest covariate approached but did not reach statistical significance, $F(1, 22) = 3.134$, $p = .057$, suggesting that pre-existing differences in students' baseline knowledge had a marginal, though not statistically significant, influence on post-test outcomes once method and gender were accounted for. This marginal effect is worth noting, as it suggests baseline performance may still play a meaningful role and could reach significance in a larger sample.

Gender did not have a statistically significant main effect on academic performance, $F(1, 22) = 0.257$, $p = .436$, partial $\eta^2 = .018$, supporting the retention of Ho2. Similarly, the interaction between inquiry method and gender was not statistically significant, $F(1, 22) = 0.587$, $p = .437$, partial η^2

= .025, indicating that the effect of the inquiry method on academic performance did not differ significantly between male and female students. This supports the retention of Ho3.

Summary of Findings

- i) The descriptive analysis of students' pre-test and post-test scores indicated that the overall academic performance of students in Islamic Studies improved significantly following instruction. The pre-test mean score for the total sample of 73 students was 42.15 (SD = 8.42), which increased to a post-test mean of 64.78 (SD = 12.35). This demonstrates that the instructional interventions positively influenced students' achievement.
- ii) An independent-samples t-test revealed a significant difference in post-test scores between students taught using the inquiry-based method and those taught using the conventional method. Students in the experimental group achieved a mean score of 72.45 (SD = 8.12), whereas the control group recorded a mean of 54.38 (SD = 9.45). The t-value of 6.84 ($p = 0.001$) indicated a statistically significant difference, supporting the effectiveness of the inquiry-based approach.
- iii) A t-test comparing post-test performance by gender in the experimental group showed no significant difference. Male students had a mean score of 71.84 (SD = 7.95), while females scored 72.96 (SD = 8.31). The t-value of 0.48 ($p = 0.634$) was not significant, indicating that gender does not influence students' academic performance when taught using the inquiry-based approach.
- iv) A two-way ANCOVA was conducted to determine whether gender moderates the effect of teaching method on performance while controlling for pre-test scores. The interaction term (Method * Gender) produced an F-value of 0.25 ($p = 0.618$), showing no significant interaction. This indicates that the effectiveness of the inquiry-based or conventional teaching method is consistent across both male and female students.
- v) The interaction effect of gender on the inquiry-based method produced an F-value of 0.587 with a p-value of .437, which is higher than the significance level of 0.05. This indicates no significant interaction effect between gender and the inquiry-based method on the academic performance of senior secondary school students in Islamic Studies.

Discussion of the Findings

This study provides important evidence on the effectiveness of inquiry-based learning in Islamic Studies. The findings showed that structured instructional engagement improved students' understanding, consistent with the foundational assumptions of active participation and analytical reasoning (Al-

Shammari, 2022). Further analysis demonstrated a statistically significant difference in favour of the inquiry-based group. This outcome confirms the superior effectiveness of inquiry-oriented pedagogy, aligning with research indicating that inquiry-driven strategies promote higher-order thinking and greater learner autonomy (Arifin et al., 2025). By encouraging students to investigate issues and construct meaning, inquiry-based learning shifts the focus from rote memorisation to active knowledge construction (Syafuruddin et al., 2025).

Regarding gender differences, the findings showed no statistically significant disparity within the experimental group. This indicates that gender did not significantly influence achievement under the inquiry-based approach, supporting the inclusive nature of the pedagogy (OECD, 2020). This corroborates prior studies suggesting that student-centred strategies can mitigate traditional gender gaps (DeAngelis, 2021). In essence, the approach resonates with Islamic educational philosophy, which emphasises the continuous pursuit of knowledge ('Ilm) and the cultivation of intellectual development (Ilyas, 2016).

The findings indicate that the inquiry-based instructional method was effective for the sampled students in enhancing academic performance in Islamic Studies at the senior secondary school level and helping them develop critical thinking skills within the context of this study. The study also developed critical thinking skills. However, caution is warranted when generalising these findings due to the non-randomised design, limited sample, and single geographic location of the study. Students exposed to the inquiry-based approach demonstrated significantly higher achievement compared to those taught using the conventional teacher-centred method. This outcome underscores the pedagogical value of engaging learners actively in the teaching and learning process. By encouraging questioning, exploration of Islamic sources, reflective discussion, and collaborative problem-solving, the inquiry method promotes deeper conceptual understanding rather than mere memorisation of religious facts.

The inquiry-based approach's superiority reflects its alignment with contemporary educational philosophies that emphasise critical thinking, analytical reasoning, and learner autonomy. In Islamic Studies, where understanding jurisprudential principles, moral teachings, and theological concepts requires thoughtful reflection and application, inquiry-oriented instruction appears particularly appropriate. The method not only enhances cognitive achievement but also fosters meaningful engagement with Islamic values and principles, thereby supporting both intellectual and moral development.

Furthermore, the study revealed that gender does not significantly influence students' academic achievement under the inquiry-based approach. Male and female students benefited comparably from the instructional strategy, and the study found no statistically significant interaction effect between gender and teaching method. This suggests that inquiry-based learning provides an inclusive and equitable classroom environment in which all learners, regardless of gender, have equal opportunities to participate, contribute, and excel. The absence of gender disparity reinforces the adaptability and fairness of the inquiry method in diverse classroom settings.

In summary, the inquiry-based instructional method is a more effective pedagogical strategy than the conventional approach for teaching Islamic Studies. Its effectiveness transcends gender differences, making it suitable for broad implementation in secondary schools. The study therefore concludes that adopting inquiry-based learning in Islamic Studies classrooms can significantly enhance academic achievement, promote critical engagement with religious content and contribute meaningfully to the overall objectives of Religious and Moral Education in Nigeria.

Implications of the Study

This study's findings have several implications for theory, policy, and classroom practice. Theoretically, the results lend empirical support to Dewey's experiential learning philosophy, Bruner's discovery learning theory, and Vygotsky's social constructivism, confirming that active, learner-centred engagement produces measurable gains in academic performance even within a religious education context that has traditionally relied on didactic, teacher-centred delivery.

Pedagogically, the significant improvement in the experimental group suggests that Islamic Studies teachers in senior secondary schools can achieve stronger learning outcomes by shifting from conventional "chalk-and-talk" instruction to inquiry-driven strategies that encourage questioning, exploration of primary Islamic sources, and collaborative problem-solving. This has direct implications for how CRS and Islamic Studies teacher-training programmes structure their pedagogical content, since teachers may need explicit training in inquiry facilitation rather than assuming they can adopt the method without preparation.

For curriculum policy, the finding that gender did not significantly moderate the effectiveness of the inquiry method implies that inquiry-based instruction can be implemented as a uniform strategy across mixed-gender classrooms without the need for sex-based differentiated delivery, simplifying curriculum planning and teacher deployment at the school level.

Additionally, because the pretest covariate approached but did not reach significance, the findings suggest that inquiry-based instruction may benefit students across a range of baseline ability levels, rather than disproportionately favouring already high-performing students—a point relevant to policymakers concerned with equitable learning outcomes.

Limitations of the Study

Despite its contributions, this study has several limitations to consider when interpreting the findings. First, the study employed a non-randomised, quasi-experimental design, meaning that pre-existing group differences beyond those controlled for by the ANCOVA covariate cannot be entirely ruled out. Second, the sample was drawn from a single geographic area—Akoko North-East Local Government Area, Ondo State—and the relatively small sample size ($N = 73$) limits the generalisability of the findings to senior secondary school students in other parts of Nigeria or under different socio-educational conditions. Third, the unequal group sizes (42 in the experimental group versus 31 in the control group) may have influenced the statistical power of some comparisons. Fourth, the study relied on a single researcher-designed achievement test (ISAT) administered over a short intervention period; it did not assess longer-term retention of the knowledge and critical thinking skills attributed to the inquiry-based method. Finally, as with all classroom-based intervention studies, contextual factors such as teacher enthusiasm, class size, and school resources were not directly controlled for and may have contributed to the observed effects independently of the instructional method itself.

Recommendations

In line with the findings of the study, the following recommendations were put forward:

- i) Islamic Studies teachers should adopt inquiry-based instructional strategies.
- ii) Government and school administrators should organise regular training and workshops for teachers on inquiry-based pedagogy.
- iii) Schools should provide instructional and digital resources to support inquiry-based learning.
- iv) Curriculum planners should integrate inquiry-based methods into Islamic Studies curricula.

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