

RESEARCH ARTICLE

RELATIVE EFFECT OF BLENDED LEARNING ON PRIVATE SENIOR SECONDARY SCHOOL STUDENTS' ACHIEVEMENT IN ISLAMIC STUDIES IN ILORIN, NIGERIA

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Abstract

Blended learning integrates face-to-face classroom instruction with technology-mediated learning to enhance students' academic achievement. However, Islamic Studies in many Nigerian secondary schools is still predominantly taught using conventional teaching methods, which have been associated with poor academic achievement. This study investigated the relative effect of blended learning on private secondary school students' achievement in Islamic Studies in Ilorin, Kwara State, Nigeria. The study adopted a quasi-experimental pre-test, post-test non-equivalent control group design. A sample of 43 Senior Secondary School II students was purposively selected from two private secondary schools in Ilorin. Nineteen students constituted the experimental group, while twenty-four students formed the control group. Data were collected using the Islamic Religious Studies Performance Test (IRSPT). Mean and standard deviation were used to answer the research questions, while independent samples t-test and Analysis of Covariance (ANCOVA) were used to test the hypotheses at the 0.05 level of significance. The findings revealed that students taught using blended learning achieved significantly higher academic performance (Mean = 78.11, SD = 6.65) than those taught using the conventional teaching method (Mean = 64.42, SD = 13.46), with a significant difference between the two groups ($t(43) = 4.05, p < 0.05$). The study further revealed that there was no significant difference in the academic achievement of male and female students taught using blended learning ($t(17) = 1.04, p > 0.05$). Score level also had no significant effect on students' achievement ($F(2,15) = 1.761, p > 0.05$). The study concluded that blended learning is a more effective instructional strategy than the conventional teaching method for improving students' achievement in Islamic Studies. It recommended that Islamic Studies teachers should adopt blended learning in classroom instruction, while school administrators should provide adequate technological facilities and support for its effective implementation.

Keywords: Blended learning; Academic achievement; Islamic studies; Traditional teaching method; Gender.

Introduction

Education remains a fundamental pillar for individual empowerment, societal transformation and national development. It equips learners with the cognitive, emotional and social skills necessary to navigate life, contribute to the workforce and participate meaningfully in civic duties. According to United Nations educational, scientific and cultural organisation (2023), quality education fosters critical thinking, promotes innovation and enhances the ability of individuals to adapt complex societal challenges. Moreover, education remains the most effective tool for reducing poverty, achieving gender equality, promoting peace and stability in societies. With the rapid growth of information and communication technology (ICT), the educational sector globally has undergone a massive transformation aimed at improving teaching methods, enhancing learning experiences and boosting students' academic performance.

In the 21st-century, education has taken on greater importance due to the demands of the digital and knowledge-driven global economy. Lifelong learning, digital literacy and problem-solving abilities are now essential competencies for success. As a result, education systems must evolve to include not just basic literacy and numeracy, but also digital skills, creativity and collaborative competencies (UNESCO, 2022). This is particularly true in Nigeria, where efforts to integrate ICT into education are part of national strategies for technological advancement and youth employment (Federal Ministry of Education, 2019). Without a solid educational foundation, individuals and societies risk falling behind in an increasingly competitive and interconnected world.

The landscape of education is undergoing a digital transformation and Nigeria is gradually embracing this shift, particularly in private educational institutions. Amid this evolution, blended and digitalised learning uses have emerged as innovative strategies to improve educational outcomes. Nigeria, though still developing its digital infrastructure, is progressively aligning with this global trend. Particularly within the private education sector, there has been a noticeable embrace of technology-enhanced learning methods aimed at improving instructional quality and student outcomes.

This gradual adoption is more pronounced in private schools due to their relative financial autonomy, administrative flexibility and competitive drive to innovate. These institutions have been more responsive to the digital needs of 21st-century learners by integrating devices such as tablets, computers and virtual platforms like Zoom and Google Classroom into classroom practices (Ajadi & Salawu, 2021). According to Adeoye, Adeniji and Bello (2022), such integration reflects a growing awareness that traditional teaching approaches alone may no longer be sufficient to meet learners' evolving academic and digital literacy needs.

According to Alabi, Abdulrahman and Ibraheem (2022), blended learning could be defined as a hybrid model combining face-to-face instruction with online and digital media, that seeks to harness the advantages of both traditional and e-learning strategies to support learners more effectively. Blended learning combines traditional face-to-face teaching with digital and online media, creating a hybrid instructional model that capitalises on the strengths of both modes. Blended learning provides learners with the most current information which allows them to study at their own pace, offers live interviews and discussions over the network, reduces training costs and improves learning effectiveness (Al-Shunnaq & Bani Domi, 2010). Ismail (2009) stated that the use of technological innovations in blending the two methods of education face-to-face and distance education to make it easier for teachers or mentors and students to talk to each other in person. This model combines the best parts of classroom and online learning based on the integration of traditional and online learning (Al-Rimawi, 2016).

Blended learning emerged prominently in the early 2000s as institutions worldwide sought to incorporate digital platforms to supplement classroom instruction. The advancement of ICT tools and widespread internet access made it increasingly feasible to combine synchronous (in-person) and asynchronous (online) learning approaches. According to Graham (2016), blended learning provides a continuum between face-to-face and fully online learning environments, allowing teachers to structure learning pathways that suit different student needs. In the context of secondary education, blended learning supports differentiated instruction, fosters independent learning habits and creates opportunities for personalised learning.

Different models of blended learning exist, including the rotation model (station rotation, flipped classroom and lab rotation), the flex model and the enriched virtual model (Horn & Staker, 2015). Among these, the flipped classroom model has gained popularity in Nigeria, particularly in subjects that require active participation and conceptual understanding, such as English Language, Social Studies and Science (Okoye, Ikwuka & Akudolu, 2024). The flipped model encourages students to engage with instructional videos, readings, or activities at home, while classroom time is dedicated to discussions, collaborative projects and teacher-guided activities. This approach enhances students' preparedness, confidence and performance.

Furthermore, digitalised learning in Nigeria has been conceptualised in diverse yet complementary ways. For instance, Dede and Jessy (2025) defined it as the process of converting educational resources from analogue forms into electronic formats that can be stored and manipulated by computers, thereby making teaching, research and community service more efficient. Complementing these views, Olaniyi (2012) underscored that digitalised learning is essentially the application of electronic technologies to access educational curriculum inside and outside the traditional classroom, thus bridging the gap between conventional and technology-driven modes of instruction. Collectively, these definitions present digitalised learning as a shift towards technology-enabled, learner-centered and flexible educational delivery in Nigeria.

In the same vein, digital instructional media such as digital tablet offers portability, interactivity and access to multimedia content, enhancing learners' engagement and motivation. The integration of digital tablets into educational settings has emerged as a transformative innovation in recent years, offering diverse possibilities for enhancing student learning, engagement and academic performance (Aremu & Aremu, 2020). Digital tablets which are portable, touchscreen computing devices combine the capabilities of computers with the accessibility of mobile devices, allowing for interactive, multimedia-based learning experiences. Their growing popularity in classrooms globally and across Africa stems from their capacity to support individualised learning, real-time feedback and differentiated instruction (Abd Malek & Asrah, 2024).

Islamic Studies is a field of learning that deals with the organised study of Islam as a faith, a cultural system and a comprehensive way of life. It is a study which emphasises moral instruction, spirituality and the memorisation of sacred texts, traditional teaching methods still dominate. These methods often rely on rote memorisation and didactic instruction which may not fully support students' engagement or deep understanding, especially among digital-native learners (Abdur-Rafiu, Yunus & Agboola, 2024). Given this pedagogical gap, exploring how blended learning and digital tablets influence Islamic Studies achievement becomes vital. Studies of researchers such as Saritepeci and Cakir (2015), Onwuagboke, Nwakamma and Umune (2020) and Ben Khalifa, Abo Bakr, Abdel Wahab, Abdalla and Mabrouk (2023) have shown that blended learning positively impacts students' performance, engagement and satisfaction across disciplines such as Biology, English and Social Studies. Furthermore, Saadu (2022) found that blended instruction significantly improved pupils' academic achievement in Social Studies in Kwara State. Likewise, Tabassum (2024) concluded that blended learning had a statistically significant positive impact on university students' academic achievement.

More so, Shonola, Joy, Oyelere and Suhonen (2016) stated that the 21st-century learner thrives on interactivity, autonomy and multimodal content. They further explained that blended learning and digitalised learning cater for these needs by allowing learners to access contents anytime and collaborate with peers. Research from Liu (2022) supported the notion that these tools enhance motivation, participation and ultimately learning achievements across various grade levels and contexts.

The terms academic achievement and academic performance are frequently used interchangeably in educational research; however, they possess distinct conceptual meanings. Although both concepts are concerned with students' learning outcomes and educational attainment, they differ in terms of measurement, scope and application. Academic achievement generally refers to the extent to which a learner has attained specific educational objectives or learning outcomes in a particular subject area. It is commonly measured through standardised tests, teacher-made achievement tests, or other assessment instruments specifically designed to evaluate the knowledge, skills and competencies acquired by students after instruction (Steinmayr, Meißner, Weidinger, & Wirthwein, 2015). Similarly, Talib and Sansgiry (2012) defined academic achievement as the degree to which students successfully accomplish their short-term and long-term educational goals. In educational research, academic achievement is often determined through scores obtained from researcher-developed tests, pre-tests, post-tests and standardised examinations designed to assess mastery of specific learning content.

According to Owan, Ukam, and Egame (2023), academic achievement reflects the cognitive outcomes of learning and serves as an indicator of the effectiveness of instructional processes. Likewise, Benjamin Samuel Bloom emphasises that achievement is a direct manifestation of learning that has occurred as a result of educational experiences. Academic achievement therefore represents the measurable evidence of students' acquisition of knowledge, understanding and intellectual skills within a given period of instruction.

Academic performance, on the other hand, refers to students' overall educational outcomes as reflected in their recorded grades, examination results, cumulative scores and other school-based assessments. It encompasses a broader evaluation of students' success in educational activities over time. York, Gibson and Rankin (2015) described academic performance as the extent to which a student meets established educational standards and expectations as reflected in academic records. Similarly, Yunus (2019) viewed academic performance as the documented level of students' accomplishment in school subjects, which may be categorised as high, average, or low depending on the grading system employed.

Furthermore, Richardson, Abraham and Bond (2012) argued that academic performance is influenced by a wide range of factors, including cognitive abilities, learning strategies, motivation, personality traits and environmental conditions. In the same vein, Eggen and Kauchak (2010) maintain that students' performance is shaped by instructional methods, classroom environment, learning resources and socio-cultural factors that either facilitate or hinder effective learning.

Although the concepts differ, they are closely related. Academic achievement often constitutes a component of academic performance because achievement test scores contribute to students' overall academic records (Nitko & Brookhart, 2018). While academic achievement is usually associated with performance on specific tests designed to measure learning outcomes, academic performance represents a broader assessment of students' educational success over time through accumulated grades and examination results. Consequently, academic achievement may be regarded as a specific measure of learning outcomes, whereas academic performance represents the overall manifestation of students' educational attainment. In the context of the present study, academic achievement refers to students' scores obtained from the Islamic Studies Performance Test (ISPT) administered as pre-test and post-test instruments, while academic performance refers to students' overall level of accomplishment in Islamic Studies as reflected through the achievement scores obtained during the study (Owan, Ukam & Egame, 2023).

Score level is an important indicator used in educational assessment to determine the extent of students' attainment of learning objectives. It refers to the classification of students' scores into meaningful performance categories based on established standards or criteria. Educational assessment specialists maintain that numerical scores become more meaningful when they are interpreted according to performance levels, as such classifications provide information about the degree of mastery attained by learners. According to Nitko and Brookhart (2018), score-level classification enables educators to make informed decisions regarding students' progress, instructional effectiveness and educational planning.

According to McMillan (2018), classification of students' scores into high, average and low levels has become a common practice in educational research and evaluation. High score levels indicate substantial mastery of instructional content, average score levels reflect satisfactory attainment of learning objectives, while low score levels suggest limited achievement and possible learning difficulties. He further explained that the categorisation of scores into performance levels facilitates the interpretation of assessment outcomes and assists teachers in identifying students who require enrichment or remedial support. Consequently, score levels provide a practical framework for evaluating students' learning outcomes and monitoring academic progress.

In contemporary education, score levels are often used to assess the effectiveness of instructional approaches and learning interventions. Researchers such as McMillan (2018) and Steinmayr et al. (2015) compared students' score levels before and after exposure to specific teaching methods in order to determine the impact of such methods on learning outcomes. Popham (2020) noted that the interpretation of students'

achievement through performance levels provides valuable evidence regarding the success or otherwise of instructional practices. Therefore, examining students' score levels in Islamic Studies is essential for determining the extent to which instructional strategies contribute to improved academic achievement and overall learning effectiveness.

Islamic Studies is a formal system of education derived from Islamic education. According to Hamzah and Yunus (2018), Islamic education is classified into three aspects: formal, semi-formal and informal. Learning Islamic Studies is specifically associated with the formal aspect of Islamic education, as it is acquired through structured and institutionalised educational systems. They further submitted that academic achievement in Islamic studies encompasses learners' ability to comprehend, interpret and apply the teachings of Islam as conveyed through subjects like Qur'an, Hadith, Islamic jurisprudence (Fiqh), Seerah and moral instructions). According to Abdur- Rafiu (2014), Islamic Studies is viewed as the totality of learning experiences which centre on the relationship between man and his creator and between man and his fellow men. It is a medium for transforming and affecting national all-round development.

Islamic Studies is not merely academic in nature but integrates spiritual, ethical and social learning objectives. As highlighted by Afroz (2020), the discipline of Islamic Studies draws upon diverse fields including Islamic civilisation, social sciences, ethics and comparative religions, aiming to shape learners who are spiritually grounded and intellectually equipped to navigate modern realities. The importance of academic achievement in Islamic Studies lies in its broader role of promoting cognitive excellence alongside moral and ethical consciousness. According to Jega (2024), modern Islamic education emphasises integrating Islamic values with 21st-century pedagogical approaches such as experiential learning, blended instruction and the use of technology. These methods have been found to improve students' understanding and engagement, thereby enhancing academic outcomes across both secular and religious subjects.

Furthermore, research by Arab (2017) demonstrated that students taught Islamic Studies using interactive methods like guided inquiry and structured lectures performed significantly better than those taught with traditional rote memorisation approaches. His findings in Kano State suggest that instructional strategies that promote student engagement are more effective in fostering academic success in Islamic Studies.

Consequently, there exists a significant knowledge gap concerning the use of digital tablets and blended learning in improving students' performance in Islamic Studies within private secondary schools in Nigeria. This gap is further compounded by the absence of localised evaluation frameworks that consider religious sensitivity, cultural appropriateness and technological adaptation in faith-based education contexts (Organisation for Economic co-operation and Development, 2021; UNESCO, 2023). The limited body of literature also lacks longitudinal and comparative studies that assess the sustained impact of these tools on student achievement over time, thereby weakening the policy and practice implications for educators, school administrators and curriculum developers (Tamim et al., 2019; UNESCO, 2023).

Thus, this study becomes imperative. It seeks to address this gap by investigating the effects of Blended-Learning and Digitalised Learning use and on the academic achievement of private secondary school students in Islamic Studies in Ilorin, Nigeria. By focusing on a context where both religious education and technological experimentation intersect, this research not only contributes to the growing field of digital pedagogy but also provides practical insights for curriculum reform, teacher training and policy formulation in Islamic religious education (Ayuba et al., 2025; Oluwatosin et al., 2025).

Gender has been widely conceptualised by scholars as a social rather than a biological construct, emphasising its dependence on cultural values and societal expectations. According to Kaufman (2023), gender is a social, rather than a biological construct and varies with the roles, norms and values of a given society or era. This perspective highlights the dynamic nature of gender, showing how its interpretation changes across time and contexts. Similarly, Smith (2016) discussed gender as a social construct that establishes the social norms and roles based on what a society deems appropriate for individuals. This underscores the idea that

gender is rooted in societal conventions rather than biological determinants. In the same vein, Cislighi and Heise (2019) described gender as encompassing “the socially constructed roles, behaviors, activities and attributes that a given society considers appropriate for men and women.” Taken together, these definitions affirm that gender is primarily constructed through social norms and cultural practices, which determine the expectations, responsibilities and opportunities available to individuals within any given society.

Statement of the Problem

Education in the 21st Century emphasises learner-centered pedagogies and the integration of technology to improve academic performance and engagement. As several global studies have shown digital learning tools such as tablets and blended learning significantly enhance learning outcomes. In the Nigerian context, comparable benefits have been reported including improved comprehension and motivation among learners. Despite these advances, the teaching of Islamic Studies in most Nigerian secondary schools, particularly in Ilorin, remains largely traditional and teacher-centered. It is observed that the continued reliance on the “chalk and talk” method prioritises memorisation over interactive learning, which in turn contributes to students’ low performance and waning interest in the subject. Consequently, this situation not only constrains academic achievement but also undermines the moral development that Islamic Studies is intended to promote.

Research on technology integration in Nigerian education has for the most part concentrated on science-based subjects (Olayemi, 2024 & Fadepe, 2025). Humanities and religious subjects like Islamic Studies remain underexplored. The few available studies on Islamic Studies tend to discuss ICT in general terms without rigorously examining how blended learning or tablet-assisted instruction specifically influences academic achievement. As a result, an important dimension of educational practice has been left under-investigated, even though technology continues to play a growing role in enhancing subject-specific teaching and learning.

In addition, several studies had been carried out in relation to this study. For instance, Yoade (2024), investigated the effectiveness of station-rotation and flipped-classroom models of blended learning among secondary school students in Osun State. The study found that students taught with blended learning instruction demonstrated significantly better than those taught with conventional instructional methods. Similarly, Olayemi (2024), carried out research on the effects of blended learning on student's achievement in Geometry in Kogi State, Nigeria. The finding elucidated that students taught Geometry with blended learning in Kogi State significantly performed better than their counterparts in the control group. The study further concluded that the integration of technology with classroom instruction enhanced students’ achievement in the subject. Likewise, Fadepe (2025) explored the effect of blended learning on secondary students' academic achievement in physics in Bwari Area Council, Abuja. The study identified that blended learning significantly improved the academic achievement of secondary school students in Physics within the Bwari Area Council of Abuja. The study analysed that the instructional approach was effective in enhancing students' learning outcomes.

Furthermore, Mohammed, Shuaibu and Salihu (2021) conducted research on Restoring students' academic achievement in post - COVID- 19 classroom taught with blended learning environment in Kaduna State, Nigeria. The finding highlighted that junior secondary school students in Kaduna State taught Social Studies with the use of blended learning achieved significantly higher scores than those taught using traditional teaching methods. The researchers attributed the improved performance to the interactive and engaging nature of blended learning which increased students' participation and motivation to learn. Olatunde and Adams (2022) Examined the Effect of Blended Learning Models on Students' Academic Achievement and Retention in Science Education in University of Abuja, Nigeria and the research showed that learner’s achievement and retention in science education are correlated with the using of blended learning model.

Not only that, Abidoye (2015) carried out research on the effect of blended learning instructional approach on secondary school students’ academic achievement in geography in Akure, Ondo State. The finding pointed out that using the blended learning method in teaching students make them to perform extra ordinarily in geography. Similarly, Yoade (2024), Mohammed, Shuaibu and Salihu (2021) and Fadepe (2025) assessed the

immediate effects of blended learning on students' achievement in Osun state, Kaduna state and Bwari Area Council in Abuja respectively without examining the sustainability of such gains over time.

To the best of the researcher's knowledge, no study has been previously carried out using blended learning instruction to determine effect on students' achievement in Islamic Studies within Ilorin. The research gap part of which this study intended to fill is to provide empirical evidence on the Comparative effect of blended learning instruction on students' academic achievement in Islamic Studies in selected private senior secondary schools in Ilorin, Nigeria.

Purpose of the Study

The general purpose of this study was to determine the relative effect of blended learning approach and traditional teaching method on students' academic achievement in Islamic Studies private senior secondary school students in Ilorin, Kwara State, Nigeria. Specifically, the study intends to:

- a. Compare the academic achievement of students taught using blended learning with those taught using traditional teaching method.
- b. Examine the difference in the academic achievement of male and female using students using blended learning.
- c. Determine effect of students' score level on their academic achievement whent taught using blended learning.

Research Questions

1. What is the relative effect of blended learning versus traditional teaching on students' academic achievement in Islamic Studies?
2. Is there any statistically significant difference in the academic achievement between the experimental group taught blended learning and the control group taught using the traditional method?
3. Is there any statistically significant difference in the academic achievement of male and female using students using blended learning?
4. What is the effect of students' score level on their academic achievement whent taught using blended learning?

Research Hypotheses

The following research hypothesis would be tested in this study:

- H_{01} : There is no any statistically significant difference in the academic achievement between the experimental group taught blended learning and the control group taught using the traditional method.
- H_{02} : There is no any statistically significant difference in the academic achievement of male and female using students using blended learning.
- H_{03} : There is no effect of students' score level on their academic achievement whent taught using blended learning.

Methodology

The study focused on the Relative Effects of blended Learning on private senior secondary school students' academic achievement in Islamic Studies in Ilorin, Nigeria. The study adopted the quasi experimental research design. The population of the study comprised all Students offering Islamic Religious Studies. The target population consisted all SS2 Students offering Islamic Studies in the selected private Schools within Ilorin. The

study covered two private schools in Ilorin. These schools are: Al-Mubarak Islamic College off Cottage Hospital, Estate, Ogidi, Ilorin, Nigeria and Al-Mumeen College Adjacent Kwara State Specialist Hospital, Sobi, Alagbado Road, Ilorin, Nigeria. The study involved one experimental group and a control group. Blended- learning Instruction and Traditional Methods (Chalk and Talk instruction). Statistically, descriptive Statistics of means, Standard deviation and percentage scores was used in answering research questions raised, while the mean, standard deviation, t-test and ANCOVA analysis was used to test hypotheses formulated at 0.05 level of significance.

This study adopted the quasi-experimental research design consisting of experimental and control group (Traditional Method) where pre-test and post-test was involved. The design falls within the experimental research design and it is a process where random assignment of subjects to experimental and control group is impossible (Creswell, 2018). Intact groups was used in this study as it was not be possible to use true experimental design because manipulation of certain variables will be impossible or inappropriate.

Table1: Research Design Layout

Pre-Test	Treatment	Post-test
0 ₁	X ₁ M/ F	0 ₂
0 ₃	M/ F	0 ₄

Where 0₁ and 0₃ will represent the pretest to be given experimental and control groups respectively. While 0₂ and 0₄ will represent the post-test to be given to experimental and control groups respectively and X₁ will represent treatment for experimental group (Blended learning).

Instrumentation

Results

The results are presented using descriptive and inferential statistics. Specifically, the research questions were answered using mean and standard deviation, while the research hypotheses were tested using t-test statistics and ANCOVA.

Table 2: Characteristic of Participants Based on Gender for Control Group (TRAM)

Control	Gender	Frequency	Percentage
	Male	13	54.17
	Female	11	45.83
	Total	24	100

Table 2 shows demographic information of respondents in control group. The male students taught Islamic studies using conventional method had 13(54.17%) participants while the female counterpart had 11(45.83%). this indicates almost equal participation.

Table 3: Characteristic of Participants Based on Gender for Experimental Group (BLM)

Experimental	Gender	Frequency	Percentage
	Male	9	47.37
	Female	10	52.63
	Total	19	100

Table 3 shows demographic information of respondents in experimental group. The male students taught Islamic studies using blended learning had 9(47.37%) participants while the female counterpart had 10(52.63%). this indicates almost equal participation.

Research Question 1:

1. What is the relative effect of blended learning versus traditional teaching on students' academic achievement in Islamic Studies?

Table 4: Pretest and Post- Test Mean Scores of the achievement of Islamic Studies Students Exposed to BL and TRAM. Methods of Teaching

Teaching Methods	N	Mean	SD	Mean Range	Decision
Blended Learning (Post-test)	19	78.11	6.65	60-100	High
Conventional method (Post-test)	24	64.42	13.46	60-100	High

0-39 = Low Level

40-59 = Moderate Level

60-100 = High Level

Table 4 presents the overall academic achievement of private senior secondary school students offering Islamic studies. The results revealed that students taught using blended learning had a mean value of 78.11 and standard deviation of 6.65 which fell under high academic level, while those taught using conventional method had a mean value of 64.42 and standard deviation of 13.46 which also fell under high academic level. Also, the small standard deviation of both control and experimental groups further indicates high academic achievement for the students respectively.

Hypotheses Testing

H₀₁: There is no any statistically significant difference in the academic achievement between the experimental group taught blended learning and the control group taught using the traditional method.

Table 5: T-test analysis of the achievement of Islamic Studies Students Exposed to Blended Learning (BL) and Conventional (CONV) Methods of Teaching

Variable	Group	N	Mean	SD	Df	T	Sig.	Decision
Post-test	Experimental	19	78.11	6.65	43	4.05	0.00	H ₀₁ rejected
	Control	24	64.42	13.46				

Sig. = 0.00 < 0.05 rejected

The results of table 5 reveal that the experimental group obtained a higher mean score (78.11) than the control group (64.42). Since the p-value of 0.00 is less than 0.05 level of significance, the null hypothesis was rejected. This implies that there is a significant difference in the achievement of students taught Islamic studies using blended learning over those who were taught using conventional method.

H₀₂: There is no any statistically significant difference in the academic achievement of male and female using students using blended learning.

Table 6: T-test Analysis of the achievement of Islamic Studies Students Exposed to Blended Learning (BL) Based on Gender

Variable	Gender	N	Mean	SD	Df	T	Sig.	Remark
Posttest	Male	9	76.44	6.54	17	1.04	0.15	NS
	Female	10	79.60	6.72				

Sig. = 0.15 > 0.05 Accepted

Table 7 shows that the p-value of 0.15 was greater than the 0.05 level of significance; hence the null hypothesis was accepted. Therefore, this means that there was no significant difference in the achievement of male and female students taught using blended learning.

H₀₃: There is no effect of students' score level on their academic achievement when taught using blended learning.

Table 7: ANCOVA Showing Interaction Effect of Score Level and Blended Learning on Students' Achievement in Islamic Studies

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	367.398 ^a	3	122.466	4.288	.023
Intercept	473.937	1	473.937	16.595	.001
Pretest	5.609	1	5.609	.196	.664
Score level	100.582	2	50.291	1.761	.206
Error	428.391	15	28.559		
Total	116704.000	19			
Corrected Total	795.789	18			

R Squared = .462 (Adjusted R Squared = .354)

The ANCOVA results presented in table 8 revealed that the corrected model was not significant with $F(2,15) = 1.761$, $p = .206$. This is because the p-value of 206 was greater than 0.05 level of significance, thus, hypothesis 3 was not rejected. This indicates that there was no effect of score level and blended learning on the academic achievement of students in Islamic religious studies when taught using blended learning.

H₀₄: There is no significant interaction effect of gender and score level on the academic achievement in Islamic religious studies.

Table 8: ANCOVA Showing Interaction Effect of Gender and Score Level on Students' Achievement in Islamic Studies

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	387.482 ^a	5	77.496	2.467	.088
Intercept	399.984	1	399.984	12.735	.003
Pretest	8.959	1	8.959	.285	.602
Score level	84.822	2	42.411	1.350	.293
Gender	2.731	1	2.731	.087	.773
Score level * Gender	15.428	1	15.428	.491	.496
Error	408.308	13	31.408		
Total	116704.000	19			
Corrected Total	795.789	18			

R Squared = .487 (Adjusted R Squared = .290)

The ANCOVA results presented in table 9 revealed that the corrected model was not significant with $F(1,3) = 0.481$, $p = .496$. This is because the p-value of .496 was greater than 0.05 level of significance; therefore, hypothesis 4 was not rejected. This indicates that there was no significant effect of gender and score level on the academic achievement of students in Islamic religious studies when taught using blended learning.

Summary of Findings

This study investigated the relative effect of blended learning on private senior secondary school students' achievement in Islamic Studies in Ilorin, Kwara State, Nigeria. The study specifically examined the difference

in achievement between students taught using blended learning and those taught using the conventional method, as well as the influence of gender and score level on students' achievement. Based on the analysis of data collected and the hypotheses tested at the 0.05 level of significance, the following findings emerged:

1. The study revealed that students exposed to blended learning achieved higher academic achievement in Islamic Studies than those taught using the conventional teaching method. The experimental group recorded a mean score of 78.11, while the control group recorded a mean score of 64.42. This indicates that blended learning was significantly effective in teaching Islamic studies than conventional method.
2. The test of the first hypothesis showed that there was significant difference between the achievement of students exposed to blended learning and those taught using the conventional method. This finding confirms the effectiveness of blended learning as an instructional strategy for improving students' academic achievement in Islamic Studies.
3. The study found that gender did not significantly influence the achievement of students taught using blended learning. Although female students recorded a slightly higher mean score than their male counterparts, the difference was not statistically significant. This implies that blended learning provides equal opportunities for both male and female students to learn and achieve academic success.
4. The findings also reported that there was no significant interactive effect on students' achievement in Islamic Studies when taught using blended learning. This suggests that the instructional strategy was beneficial to students irrespective of their initial achievement levels. Both high-achieving and low-achieving students were able to benefit from the learning experiences provided through blended learning.
5. The study established that blended learning is an inclusive instructional approach capable of addressing the learning needs of diverse students. Its effectiveness across gender and score-level categories demonstrates its potential for promoting equitable learning outcomes in Islamic Studies classrooms.

Discussion of Findings

The findings revealed that there was a significant difference in favour of students taught Islamic Studies using blended learning strategy on the academic achievement over those taught using conventional strategy. This is because blended strategy has capacity to adapt to attitude of students; hence, it captured all their needs to understand Islamic studies which reflected in their results as against conventional strategy that does not separate best students from struggling ones. This implies that if blended learning strategy is properly used, it will improve academic achievement of students in both internal and external examinations. This finding is consistent with the study of Ogunjimi (2025), who reported that student-teachers perceived blended learning as highly beneficial due to its ability to promote flexibility, encourage collaboration and foster independent learning. The study further revealed that blended learning enabled learners to access instructional materials beyond the classroom environment, thereby improving their digital literacy and preparedness for contemporary educational demands.

The finding is also in agreement with Yoade (2024), who pointed that students taught with blended learning demonstrated significantly and performed better than those taught with conventional instructional methods. It further stated that a blended learning strategy is more effective to teach Nigerian students in order to improve learning outcomes. This finding is also in line with Olayemi (2024) who submitted that students taught Geometry with blended learning significantly performed better than their counterparts who were taught with conventional method. It further emphasised that the integration of technology with classroom instruction enhanced students to achieve greatly in the subject. Similarly, Fadipe (2025) revealed that blended learning significantly improved the academic performance of secondary school students in Physics. The study further reported that the instructional approach was effective in enhancing students' learning outcomes irrespective of gender.

Furthermore, the present finding corroborates the result of Mohammed, Shuaibu and Salihu (2021), who emphasised that junior secondary schools students taught Social Studies with blended learning achieved significantly higher scores than those taught using traditional teaching methods. The researchers attributed the improved performance to the interactive and engaging nature of blended learning which increased students' participation and motivation to learn. The consistency between the present study and these previous studies provides further evidence that blended learning is an effective instructional approach which enhance students' academic achievement across different subjects and educational settings in Nigeria.

The findings also revealed that there was no significant interaction effect of gender and blended learning on the academic achievement in Islamic religious studies. It is further revealed that blended learning strategy can conveniently be adopted in formal setting. This is in agreement with Ojaleye and Awofala (2018), who reported that there was no statistically significant effect of treatment and gender on students' achievement in Algebra. The finding also consistent with Obadara (2021), who noted that there was no significant gender difference in the effect of blended learning on undergraduate students' academic performance. Similarly, Ugwuoti, Nnoli and Oguezie (2024) reported that the interaction effects of teaching methods and gender did not significantly influence students' achievement. Furthermore, Igwe and Agwu (2025) confirmed that gender and instructional strategies had no significant interaction effect on students' achievement in English Language. The agreement between the present study and these earlier studies suggests that blended learning provides equitable learning opportunities for both male and female students enhance academic achievement irrespective of gender.

The findings further revealed that there was no significant effect of score level on the academic achievement in Islamic religious studies students taught with blended learning. This is due to the fact that blended learning strategy was able to improve the achievement of students across board. It also stressed that the blended learning instruction helped students to have better achievement when effectively used. This is in consonance with the findings of Oyelekan, Igbokwe and Olorundare (2018), who reported that students' ability levels did not significantly influence their achievement following exposure to an innovative instructional strategy. Similarly, Gambari, Yusuf and Balogun (2015) who demonstrated that students from different ability levels benefited comparably from technology-supported instructional approaches. They further concluded that no significant variation in achievement attributable to ability level. Likewise, Awofala (2011) found that students' achievement gains were not significantly influenced by their ability levels when exposed to learner-centred instructional strategies. These findings suggest that effective instructional approaches enhance learning outcomes across different categories of learners.

Finally, the findings also indicated that there was no significant effect of gender and score level on the academic achievement in Islamic religious studies when taught using blended learning. This findings further elucidated that blended learning strategy helps both male and female students in Islamic studies to achieve significantly. This also concured with the finding of Olayemi (2024), who submitted that there was no significant difference in the achievement of male and female students exposed to blended learning. Similarly, Fadipe (2025) discovered that blended learning significantly enhanced both male and female students' academic achievement in Physics. The finding also agrees with Igwe and Agwu (2025) who concluded that gender and instructional strategy had no significant interaction effect on students' achievement in English Language.

Conclusion

This study investigated the relative effect of blended learning on private senior secondary school students' achievement in Islamic Studies in Ilorin, Kwara State, Nigeria. Based on the findings, it is concluded that blended learning is a more effective instructional strategy than the conventional teaching method in improving students' academic achievement in Islamic Studies. Students exposed to blended learning demonstrated significantly higher achievement than those taught using the conventional method. Furthermore, the

effectiveness of blended learning was not significantly influenced by gender or students' score level, indicating that the instructional strategy was beneficial across different categories of learners. The study therefore concludes that the integration of blended learning into the teaching of Islamic Studies can enhance students' academic achievement and promote more effective teaching and learning in private secondary schools.

Recommendations

The following recommendations and suggestions were made as follows:

1. Islamic Studies teachers should not only adopt blended learning strategies but also make deliberate efforts to redesign their lesson delivery to include a balance of face-to-face instruction and digital learning activities. Teachers should integrate videos, slides, online quizzes, and interactive discussions to make Islamic Studies more engaging and learner-centered.
2. Teachers should be encouraged to use blended learning method in their daily teaching activities in school in order to promote academic achievement of the students.
3. Government and educational authorities should support schools by funding digital education initiatives and ensuring that both public and private schools are equipped to implement blended learning effectively.
4. Curriculum planners should integrate blended learning approaches into the Islamic Studies curriculum so that it becomes part of the official instructional strategy rather than an optional method.
5. Students should be encouraged to develop self-directed learning skills, especially in using online resources effectively.
6. Parents and guardians should also be sensitised on the importance of blended learning so that they can support students at home by providing access to digital devices and platforms.
7. Educational stakeholders should ensure that schools should adopt policies that would promote equitable access to digital learning tools so that students from all backgrounds can benefit equally from blended learning.

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مقالة بحثية

الأثر النسبي للتعلّم المدمج في التحصيل الدراسي لدى طلاب المدارس الثانوية الخاصة في مادة الدراسات الإسلامية بمدينة إيلورين، نيجيريا

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المُلخَص

يهدف البحث إلى التعرف على أثر التعلّم المدمج على تحصيل طلاب المدارس الثانوية الخاصة في مادة الدراسات الإسلامية في مدينة إيلورن، ولاية كوارا، نيجيريا. اعتمدت الدراسة المنهج شبه التجريبي ذا التصميم القلي-البعدي للمجموعتين غير المتكافئتين. وتم اختيار عينة قصدية مكونة من 43 طالبًا وطالبة من الصف الثاني الثانوي من مدرستين خاصتين في إيلورن. وتكونت المجموعة التجريبية من 19 طالبًا، في حين تكونت المجموعة الضابطة من 24 طالبًا. تم جمع البيانات باستخدام "اختبار التحصيل في مادة التربية الإسلامية" (IRSPT). واستخدم المتوسط الحسابي والانحراف المعياري للإجابة عن أسئلة الدراسة، في حين استخدم اختبار "ت" للعينات المستقلة وتحليل التباين المصاحب (ANCOVA) لاختبار الفرضيات عند مستوى دلالة 0.05. وأظهرت النتائج أن الطلاب الذين درسوا باستخدام التعلّم المدمج حققوا أداءً أكاديميًا أعلى بشكل دال إحصائيًا (المتوسط = 78.11، الانحراف المعياري = 6.65) مقارنة بالطلاب الذين درسوا بالطريقة التقليدية (المتوسط = 64.42، الانحراف المعياري = 13.46)، مع وجود فرق دال بين المجموعتين (ت(43) = 4.05، د > 0.05). وخلصت الدراسة إلى أن التعلّم المدمج استراتيجية تدريسية أكثر فعالية من الطريقة التقليدية في تحسين تحصيل الطلاب في مادة الدراسات الإسلامية.

الكلمات المفتاحية: التعلّم المدمج؛ التحصيل الأكاديمي؛ الدراسات الإسلامية؛ طريقة التدريس التقليدية؛ النوع.

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