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Effect of Video-Based-Flipped Classroom Approach on Achievement in Qur'anic Textual Concepts among Secondary School Students in Kebbi State, Nigeria

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ABSTRACT

This study investigated the effects of the video-based flipped classroom on students' academic achievement in textual studies of the Qur'an in selected secondary schools in Kebbi State. Three (3) research questions and corresponding hypothesis were formulated to guide the study. A quasi-experimental research design involving pre-test, post-test, non-equivalent, and non-randomized comparison groups was adopted. The study population comprised students offering Qur'anic textual studies, and a purposive sampling technique was employed to select 66 participants, with 34 students in the experimental group and 32 in the control group. An achievement test on Qur'anic textual studies was used as the instrument for data collection. The instrument was validated by experts and pilot tested to obtain a reliability coefficient of 0.89 using test re-test method. Data collected were analysed using mean scores and standard deviations (SD) for research questions, while hypotheses were tested using t-test statistics at the 0.05 level of significance. The research findings revealed that students taught using video-based flipped classroom achieved significantly higher post-test score outperforming the conventional method group with significant difference in their post-test scores (p-value=0.016). It was recommended that government agencies, educational institutions, and departments of Islamic studies should promote the integration of video-based flipped classroom models in Qur'anic education. This can be achieved by providing necessary technological facilities, teacher training, and multimedia resources to facilitate effective adoption.

KEYWORDS: Video-Based, Flipped Classroom, Academic Achievement, Textual Studies of Qur'an.

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INTRODUCTION

Education is a fundamental aspect of human development, shaping individuals' intellectual, moral, and social capacities. Over the years, advancements in technology have profoundly influenced the way teaching and learning is conducted, leading to the emergence of innovative teaching approaches. One such approach, the flipped classroom model, has garnered significant attention for its potential to transform traditional teaching methods. Through reversing the conventional sequence of in-class instruction and homework, the flipped classroom shifts the focus toward active, collaborative, and student-centered learning (Bergmann & Sams, 2012). This model has been further enriched through the integration of video-based content, which provides visual and auditory stimuli to enhance learners' understanding and engagement (S. B. Bello et al., 2024). The flipped classroom approach has been implemented across various disciplines, including the sciences, humanities, and religious studies, with promising results.

Kebbi State had been a major center of Islamic knowledge since nineteenth century, as Shaykh Uthman and Shaykh Abd Allah established their schools in Gwandu town which serve as the formation of teaching Islamic knowledge and also textual studies of Qur'an, as they considered knowledge as the basis for their religious movement, with an emphasis the importance of acquisition of knowledge (Bello, 2018). However, the Qur'anic textual studies as a critical component of Islamic education, it involve the interpretation, analysis, and memorization of the Qur'an's verses. These studies demand a deep understanding of the Arabic language, contextual meanings, and the broader spiritual and ethical teachings embedded in the text. Traditional methods of teaching Qur'anic studies often rely on lecture-based instruction, which may limit students' active participation and critical thinking. The traditional teacher-centred approach often used in Qur'anic instruction, which emphasizes rote memorization over comprehension and critical textual engagement. This approach, while valuable for presentation tends to limit learners' understanding of Qur'anic meanings, linguistic structures, and historical contexts (Saeed & Akbar, 2021).

Notwithstanding, the video-based flipped classroom presents a compelling solution to some this challenge as it provides students with pre-recorded video lessons (Abdurrahman et al., 2023). This approach allows learners to absorb foundational knowledge at their own pace outside the classroom. Subsequently, classroom time can be devoted to interactive activities, such as group discussions, problem-solving exercises, and practical applications of the learned concepts. This shift not only empowers students to take ownership of their learning but also fosters a deeper understanding of the Qur'anic text and its teachings.

Academic achievement, particularly in the context of textual study of Qur'anic education, encompasses multiple facets, including students' ability to comprehend and retain information, effectively integrate knowledge into larger patterns, think critically, and communicate their understanding. Dabbagh (2011) emphasizes that academic performance represents the result of students' efforts, blending motivation and conduct to achieve a particular level of accomplishment. This aligns with Adediwura and Tayo (2007) assertion that numerous factors influence students' performance, such as parenting, socio-economic background, immediate environments, and classroom settings in early grades, which significantly impact academic success.

The effectiveness of the video-based flipped classroom in enhancing students' academic achievement has been well-documented in various educational contexts. Studies have shown that this approach promotes active learning, improves retention of knowledge, and cultivates critical thinking skills (Odewumi & Yusuf, 2018; Abanikannda, 2020; Özmen & Altun, 2014; Gertrude & Nwanneka, 2021). Furthermore, the use of video-based content provides a multisensory learning experience that caters to diverse learning styles, making it particularly effective for complex and abstract subjects. In the context of Qur'anic textual studies, the incorporation of video-based materials can offer visual representations of linguistic structures, contextual explanations, and recitation demonstrations, thereby enriching students' learning experiences.

This study aims to investigate the effect of the video-based flipped classroom on students' academic achievement in learning the textual studies of the Qur'an. Specifically, it seeks to assess how this innovative approach impacts students' comprehension, retention, and overall engagement with the subject matter. The study aims to provide valuable insights for educators, policymakers, and researchers interested in enhancing the quality of Qur'anic education, by examining the potential benefits and challenges associated with implementing this model.

Objective of the study

1. To evaluate the pre-test and post-test scores of students taught textual studies of the Qur'an using video-based flipped classroom.
2. To evaluate the pre-test and post-test scores of students taught textual studies of the Qur'an using conventional method of teaching.
3. To examine the difference between the academic achievement of students' taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method of teaching.

Research Questions

1. What is the difference between the pre-test and post-test scores of students taught textual studies of the Qur'an using video-based flipped classroom?
2. What is the difference between the pre-test and post-test scores of students taught textual studies of the Qur'an using conventional method of teaching?
3. What is the difference between the academic achievement of students' taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method of teaching?

Hypotheses

HO_1: There is no significant difference between pre-test and post-test scores of students taught textual studies of the Qur'an using video-based flipped classroom.

HO_2: There is no significant difference between pre-test and post-test scores of students taught textual studies of the Qur'an using conventional method of teaching.

HO_3: There is no significant difference between academic achievement of students' taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method of teaching.

METHODOLOGY

The study adopt a quantitative research approach utilizing a quasi-experimental design. This design allows the comparison of two groups: Group (A) an experimental group exposed to a video-based flipped classroom approach and Group (B) a control group taught using conventional method of teaching in some secondary schools within Kebbi State as shown in figure 1. Quantitative methods enable objective measurement of academic achievement, focusing on numerical data analysis (Sani, 2017).

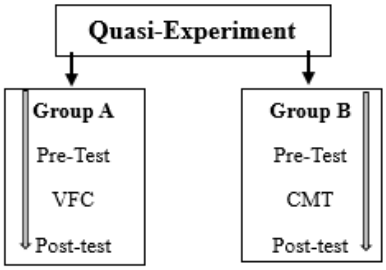

Figure 1: Research Design

Note: VFC- Video-based Flipped Classroom and CMT-Conventional Method of Teaching

The population consist of secondary school students or students in Kebbi State offering courses on Qur'anic textual studies. A purposive sampling technique was employed in selecting the schools as shown in table 1. The justification for the schools selection was based on their adequate available resources, ensuring consistent educational environment and minimized variability in the study context. Students of intact classes was used to represent the experimental group and control group. Also, intact classes was used to avoid disrupting the academic calendar, allowing the research to be conducted within the natural flow of the students' learning process. However in the design, sample of the study are pre-tested in order to determine the equivalence of the groups.

Table 1: Samples for the study

SNo	Groups	Number of Samples
	Group A- Video-base flipped Classroom	34
	Group B- Conventional Method of Teaching	32
	Total	66

(Source: Field Study, 2025)

Instrument used for data collection was achievement test of Pre-test and post-test assessments to measure students' academic achievement in Qur'anic textual studies. The tests focus on comprehension, interpretation, and analytical skills related to textual content. The test items undergo validation by experts in Qur'anic studies and education to ensure content reliability and accuracy (Abdullahi, 2015). The internal consistency of the test instrument was evaluated using Pearson's Moment Correlation Coefficient (PMCC) through test re-test method, a reliability coefficient of 0.89 was obtained. The data obtained was to answer the research questions was analysed using descriptive statistics, while the hypotheses was tested using t-test at 0.05 level of significance.

RESULTS

A descriptive statistics of mean and standard deviation were used to answer the research questions, while hypotheses were tested using inferential statistics of paired sample t-test and independent sample t-test of 0.05 level of significance.

Research Question 1:

What is the difference between the pre-test and post-test scores of students taught textual studies of the Qur'an using video-based flipped classroom?

Mean and standard deviation (SD) were used to analysed pre-test and post-test scores of video-based flipped classroom group as shown in table 2 below:

Table 2: Mean Scores of Pre-test and Post-test of Video-based Flipped Classroom Group

SNo	Test	No. of Student	Mean Score	SD	Mean Difference
	Pre-Test	34	19.71	6.13	21.82
	Post-Test	34	41.53	8.97	

Table 2 presents the mean scores and standard deviations of students taught textual studies of the Qur'an using the video-based flipped classroom approach. The pre-test mean score and standard deviation were 19.71 and 6.13 respectively, while post-test mean score and standard deviation were 41.53 and 8.97 respectively. The mean difference of 21.82 indicates a remarkable improvement in students' academic achievement after being exposed to the video-based flipped classroom.

Research Question 2:

What is the difference between the pre-test and post-test scores of students taught textual studies of the Qur'an using conventional method of teaching?

Mean and standard deviation (SD) were used to analysed pre-test and post-test scores of conventional method group as shown in table 3 below:

Table 3: Mean Scores of Pre-test and Post-Test of Conventional Method Group

SNo.	Test	No. of Student	Mean Score	SD	Mean Difference
	Pre-Test	32	15.75	4.73	19.31
	Post-Test	32	35.06	12.16	

The table 3 shows the mean scores and standard deviations of the students taught textual studies of the Qur'an using the conventional method of teaching. The pre-test mean score of 15.75 (SD=4.73) and post-test mean score of 35.06 (SD=12.16) indicate that there was a noticeable improvement in students' academic performance. The mean difference of 19.31 signifies that while the conventional method enhanced learning outcomes to some extent.

Research Question 3:

What is the difference between the academic achievement of students' taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method of teaching?

Mean, standard deviation (SD) and mean difference were used to analyse post-test scores of video-based flipped classroom and conventional method groups as shown in table 4 below:

Table 4: Mean Difference of Students' Achievement of Video-based flipped classroom and Conventional Teaching Method

SNo	Test	No of Student	Mean Score	SD	Mean Difference
	Post-Test VBF	34	41.53	8.97	6.47
	Post-Test CMT	32	35.06	12.16	

Table 4 presents the comparison of post-test mean scores between students taught textual studies of Qur'an using video-based flipped classroom and those taught using the conventional method. The video-based flipped classroom group recorded a post-test mean score of 41.53 (SD=8.97), while the conventional method group obtained a mean score of 35.06 (SD=12.16). The mean difference of 6.47 reveals that students exposed to the video-based flipped classroom performed better that their counterparts taught through the traditional method.

Hypothesis 1:

There is no significant difference between pre-test and post-test scores of students taught textual studies of the Qur'an using video-based flipped classroom.

A paired sample t-test was conducted on pre-test and post-test scores of video-based flipped classroom group as shown in table 5 below:

Table 5: Analysis of Paired Sample t-test of Pre-test and Post-test scores in Video-based Flipped Classroom

SNo	Test	N	Mean	SD	Df	R	T	P-Value
	Pre-Test	34	19.71	6.13	33	0.912	-12.76	0.000
	Post-Test		41.53	8.97				

****Significant at 0.05 (Rejected)**

Table 5 shows the paired sample t-test result comparing pre-test and post-test mean scores of students taught textual studies of the Qur'an using video-based flipped classroom. The analysis yielded a t-value of -12.76 with P-value of 0.000 at a 0.05 level of significance. Since the P-value (0.000) is less than 0.05, the result indicates a statistically significant difference between the pre-test and post-test mean scores. This implies that the video-based flipped classroom strategy had a positive and significant effect on students' academic achievement in Qur'anic textual studies. Therefore, the null hypothesis (HO_1) stating that there is no significant difference between pre-test and post-test scores of students taught using the video-based flipped classroom is rejected.

Hypothesis 2:

There is no significant difference between pre-test and post-test scores of students taught textual studies of the Qur'an using conventional method of teaching.

A paired sample t-test was conducted on pre-test and post-test scores of conventional teaching method group as shown in table 6 below:

Table 6: Analysis of Paired Sample t-test of Pre-test and Post-test Scores in Conventional Teaching Method

SNo	Test	N	Mean	SD	Df	R	T	P-Value
	Pre-Test	32	15.75	4.73	31	0.878	-10.33	0.000
	Post-Test		35.06	12.16				

**Significant at 0.05 (Rejected)

Table 6 presents the result of the paired sample t-test comparing pre-test and post-test mean scores of students taught Textual Studies of the Qur'an using the conventional method. The computed t-value was -10.33 with a P-value of 0.000 at the 0.05 level of significance. Since the P-value (0.000) is less than 0.05, the result reveals a significant difference between the pre-test and post-test mean scores of students in the conventional group. This implies that although the traditional teaching method improved students' achievement, its effect was not as pronounced as that of the video-based flipped classroom. Hence, the null hypothesis (HO_2) is also rejected.

Hypothesis 3:

There is no significant difference between academic achievement of students' taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method of teaching.

An independent sample t-test was conducted on post-test scores of video-based flipped classroom group and conventional teaching method group as shown in table 7 below:

Table 7: Analysis of Independent t-test of Video-based flipped classroom and PowerPoint Flipped Classroom

SNo	Test	N	Mean	SD	Df	T	P-Value
	Post-Test VBF	34	41.53	8.97	64	2.47	0.016
	Post-Test CMT	32	35.06	12.16			

**Significant at 0.05 (Rejected)

Table 7 shows the independent t-test result comparing the post-test mean scores of students taught Textual Studies of the Qur'an using the video-based flipped classroom and those taught through the conventional method. The computed t-value was 2.47 with a P-value of 0.016 at the 0.05 level of significance. Since the P-value (0.016) is less than 0.05, the result indicates a significant difference between the two groups. This means that students taught with the video-based flipped classroom performed significantly better than those taught with the conventional method. Therefore, the null hypothesis (HO_3), which states that there is no significant difference between the academic achievement of students taught using the video-based flipped classroom and those taught using the conventional method, is rejected.

DISCUSSION OF FINDINGS

Research question one finding reveals that students exposed to textual studies of the Qur'an using the video-based flipped classroom had a higher post-test mean score compared to their pre-test scores. This indicates a significant improvement in their academic achievement after the intervention. Therefore, the null hypothesis one was rejected (p-value = 0.000) because there was a statistically significant difference between students' pre-test and post-test scores. This improvement can be attributed to enhanced cognitive engagement through multimedia learning principles, repeated access to instructional videos, and increased student interaction during in-class activities. This finding supports the work of Bello et al. (2024) who discovered that video flipped classroom enhanced computer programming academic achievement. It also align with study of Abdurrahman et al. (2023), who found that flipped classroom instruction enhances students' performance in mathematics and geometry. Similarly, the finding is consistent with Ibrahim and Haruna (2017), who reported that the implementation of the flipped teaching technique significantly improves academic performance among accounting students. In addition, Makinde (2017) observed that the flipped classroom strategy leads to improved post-test performance among mathematics of secondary school students. Furthermore, Oladimeji et al. (2021) found that students taught using the Flipped Classroom Video Instructional Strategy performed better than their counterparts taught with traditional strategies. Therefore, this study affirms that the use of video-based flipped classroom enhances students' academic performance in the textual studies of the Qur'an.

Research question two finding reveals that there was also an increase in the post-test mean scores of students taught textual studies of the Qur'an using the conventional teaching method compared to their pre-test scores. The corresponding null hypothesis was rejected (p-value = 0.000) based on the paired sample t-test analysis, showing a significant difference between the two tests. This improvement may be attributed to the structured content delivery and reinforcement of lessons through repetition typical of

traditional classroom settings. However, when compared to the video-based flipped classroom, the conventional method was less effective in promoting higher-level understanding and engagement. This shows that while traditional teaching remains valuable, integrating modern approaches like flipped classrooms offers superior benefits in enhancing comprehension and learner autonomy, especially in Qur'anic textual studies that require deep reflection and understanding.

The result of research question three indicates that students taught textual studies of the Qur'an using the video-based flipped classroom performed significantly better than those taught using the conventional method of teaching. The corresponding null hypothesis was rejected (p-value = 0.000), showing a significant mean difference in the academic achievement of both groups. This suggests that the flipped classroom strategy was more effective in enhancing students' understanding, retention, and overall performance. The superior performance of the video-based group may be due to the opportunity for learners to review video lessons repeatedly, allowing deeper understanding and reinforcement of Qur'anic texts. This finding contradicts that of Akingbemisilu (2017), who reported that animation-based flipped classroom instruction led to higher academic achievement than video-based flipped classroom in biology practicals. Nevertheless, it aligns with Attah et al. (2024), who found that flipped classroom enhanced students' academic achievement in learning Mathematics in Secondary schools. Hence, this study underscores the pedagogical value of video-based flipped learning as a powerful instructional tool for improving the teaching and learning of Qur'anic textual studies.

The findings of this study align strongly with Mayer's Multimedia Learning Theory (MMLT), which posits that learning is most effective when information is presented through both visual and auditory channels rather than through words alone (Mayer, 2005). The superior performance of students exposed to the video-based flipped classroom can be explained by the multimedia principle, where video lessons provided dual modes of information processing visual representations of Qur'anic texts and auditory explanations of meanings, thereby enhancing comprehension and retention. According to Mayer (2003, 2024), effective learning occurs when learners actively select, organize, and integrate information from both channels with their prior knowledge, constructing coherent mental models that aid long-term understanding. In this study, students who engaged with video-based materials could process information at their own pace, revisit complex content, and connect new insights with their existing knowledge of Qur'anic studies. This process reflects the active learning and limited capacity principles of MMLT, as learners managed their cognitive load more efficiently while engaging deeply with the instructional content. Thus, the improved academic achievement observed among students taught through the video-based flipped classroom demonstrates the practical relevance of Mayer's theory in guiding the design and implementation of multimedia-supported instruction in Qur'anic education.

CONCLUSION

The findings of this study reveal that both the video-based flipped classroom and the conventional teaching method significantly improve students' academic achievement in the textual studies of the Qur'an. However, the video-based flipped classroom demonstrated greater effectiveness, as evidenced by the higher post-test mean scores and significant mean differences between the groups. The study therefore concludes that the video-based flipped classroom provides a more effective and engaging means of teaching Qur'anic studies by enhancing comprehension, learner participation, and retention. These results affirm the importance of integrating digital pedagogies and multimedia strategies in religious education to improve learning outcomes and align Qur'anic education with contemporary educational innovations.

RECOMMENDATIONS

1. Government, educational institutions, and Islamic studies departments should support and encourage the adoption of video-based flipped classroom strategies in Qur'anic education by providing teachers with the necessary technological facilities, multimedia tools, and institutional platforms for creating instructional videos.
2. Qur'anic and Islamic studies teachers should be trained in digital pedagogy, video lesson design, and flipped learning models to enhance their instructional delivery and promote interactive learning environments.
3. Future studies should explore the long-term impact of the flipped classroom approach on students' moral development, interpretative competence, and spiritual engagement with Qur'anic texts, as well as its applicability across different Islamic educational institutions and contexts.

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