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Video-Based Flipped Classroom: Students' Academic Performance and Retention in Learning Textual Studies of Qur'an in Kebbi State Nigeria

Buhari Bello[1*], Nasiru Bala[2]
Adamu Augie College of Education
Corresponding Author: Buhari Bello; buharibll1@gmail.com

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ABSTRACT

The video-based flipped classroom is flipped classroom strategy where learners are provided with video lessons of concepts to watch at home prior to normal class time. This study investigated the effects of the video-based flipped classroom on students' academic performance and retention in textual studies of the Qur'an in selected secondary schools in Kebbi State. Two research objectives and corresponding hypothesis were formulated to guide the study. A quasi-experimental research design involving pre-test, post-test, post-posttest, 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 possess a higher academic performance with significant difference in their post-test scores (p-value=0.016) and also both groups possess minimal and negative mean loss with no statistically significant difference. 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

INTRODUCTION

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).

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.

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 performance and retention 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 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 performance and retention 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

The objectives of the study are:

1. To determine academic performance of students taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method.
2. To evaluate retention rate of students taught textual studies of the Qur'an using video-based flipped classroom and those taught using conventional method.

Hypotheses

The null hypotheses formulated are:

- HO1: There is no significant difference between academic performances of students taught textual studies of the Qur'an using video-based flipped classroom.
- HO2: There is no significant difference between retention rates of students taught textual studies of the Qur'an using conventional method of teaching.

LITERATURE REVIEW

Concept of Flipped Classroom

The flipped classroom emerged from the early use of online video content, when Bergmann and Sams (2012) began recording lessons using screen-capture tools to support students who missed face-to-face classes, a practice first adopted in 2007 and later shared online to enhance accessibility (Olatunbosun & Ogunyebi, 2019).

Their experience revealed that students needed teachers' physical presence most when facing difficulties, not during basic content delivery, prompting the idea of assigning video lectures as homework and dedicating class time to guided problem-solving (Attah et al., 2024). This shift provided more opportunities for hands-on activities and proved more effective than traditional lecture-homework structures (Bergmann & Sams, 2012). Over time, scholars have described the flipped classroom as the reversal of conventional instructional roles, integrating e-learning with face-to-face strategies (Birgili et al., 2021) and positioning it as a unique model distinct from traditional blended learning (Gagnon et al., 2017). Its value lies in using classroom time for active, interactive learning experiences where deeper understanding is fostered (Gardner, 2017).

Designing and Implementation of Flipped Classroom

The design and implementation of a flipped classroom require deliberate curriculum planning and pedagogical alignment to ensure that students can apply their cognitive understanding to practical problem-solving, supported by facilitators, peers, and a collaborative learning environment (Abdurrahman et al., 2023). Successful adoption depends on clear communication of learning objectives and the underlying pedagogical rationale, particularly for students encountering the method for the first time, as illustrated by efforts to prepare learners through explicit explanations of the flipped approach (McLaughlin et al., 2017). Effective design involves realigning objectives, strategies, and assessment while creating pre-class activities that build foundational knowledge and stimulate discussion, reflection, and engagement during class, alongside continuous evaluation and willingness to adjust instructional innovations (S. B. Bello, 2025). Flipped classroom design rests on four interrelated components of independent learning, engagement, integration, and reflection. All of which must align with course objectives and connect activities, tools, and resources in a coherent learning experience (Indhumathy & Krishnan, 2021). Clear objectives guide implementation, allowing focus on practical aspects such as technological resources, prior learner experience, and available institutional infrastructure, while instructors draw on existing materials and integrate them effectively into course design (Krishnan & Indhumathy, 2020; Bergmann & Sams, 2012).

Effective communication structures are essential because instructional guidance is no longer delivered through traditional lectures, requiring alternative channels that promote reflection, questioning, and shared understanding between teachers and students (Cabi, 2018). This process requires thoughtful evaluation of technological choices, consideration of sustainability and maintenance, and systematic assessment of tools, acknowledging the cognitive demands of integrating multiple elements into a coherent system (Liu, 2019). Ultimately, thorough planning, cross-disciplinary collaboration, and careful attention to publication, distribution, and ongoing integration support the effectiveness and scalability of the flipped classroom model (McGrath et al., 2017).

Theoretical Framework

The study is anchored on constructivism and multimedia learning theories, which together provide a comprehensive lens for examining how flipped classroom strategies influence academic achievement, retention, and satisfaction in Qur'anic textual studies. Constructivism highlights learning as an active cognitive process in which learners construct meaning through engagement, collaboration, and inquiry, shifting the teacher's role from knowledge transmitter to facilitator (Shah, 2019; Taber, 2019). Its core assumptions are active participation, prior knowledge, social interaction, and technology-supported learning, align closely with the flipped classroom model, which promotes student-centred exploration and collaborative problem-solving (Schunk, 2012; Duffy & Orrill, 2004). This perspective supports the study's focus on how constructivist principles strengthen comprehension and retention in Qur'anic textual learning within a flipped environment.

Complementing this, Mayer's Multimedia Learning Theory explains how students process information through dual channels of visual and auditory with limited capacity, requiring active filtering, selecting, organizing, and integrating of new information with prior knowledge to form meaningful mental models (Mayer, 2003; Mayer, 2005; Mayer, 2024). The theory emphasises that multimedia-based instruction enhances understanding and transfer when coherence, reduced redundancy, and spatial contiguity principles are applied, supporting effective learning in technology-mediated environments (Mayer, 2006). Together, these theories justify the study's focus and provide a structured foundation for analysing how flipped classroom strategies facilitate deeper learning and improved outcomes in Qur'anic textual studies at Kebbi State.

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).

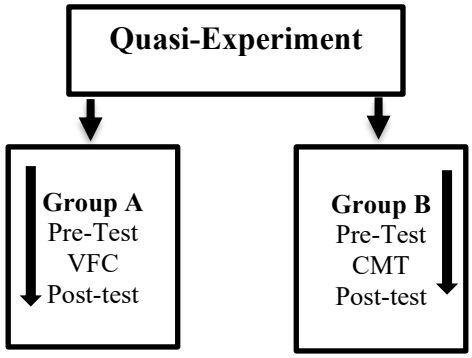

Figure 1: Research Design

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
1.	Group A- Video-base flipped Classroom	34
2.	Group B- Conventional Method of Teaching	32
	Total	66

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

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
1.	Pre-Test	34	19.71	6.13	21.82
2.	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.

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

SNo.	Test	No. of Student	Mean Score	SD	Mean Difference
1.	Pre-Test	32	15.75	4.73	19.31
2.	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.

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
1.	Post-Test VBF	34	41.53	8.97	6.47
2.	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.

Table 5. Analysis of Independent T-Test of Video-Based Flipped Classroom and Conventional Method of Teaching

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

**Significant at 0.05 (Rejected)

Table 5 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.

Table 6. Students' Retention Rates of Textual Studies of Qur'an Taught Using Video Flipped Classroom and Those Taught Using Conventional Method of Teaching

			Mean Scores		Standard Deviation		
S/N	**Group**	**N**	**P-Test**	**PP-Test**	**P-Test**	**PP-Test**	**Mean Loss**
1.	VFC	34	41.52	37.71	8.97	8.15	3.81
2.	CMT	32	35.06	35.19	12.16	7.20	-0.13

Note: Video Flipped Classroom (VFC), Conventional Method of Teaching (CMT), Post-Test (P-Test), Post-Post Test (PP-Test).

Table 7. Independent Sample T-Test Analysis on Post-Test Scores of Video Flipped Classroom and Powerpoint Flipped Classroom

S/N	**Tests**	**N**	**Mean**	**SD**	**Df**	**T**	**P-Value**	**Remark**
1.	Post-Post-Test (VFC)	34	37.71	8.15				
2.	Post-Post-Test (CMT)	32	35.19	7.20	64	1.332	0.188	Not Sig.

In table 7 the Independent Sample t-test conducted shows that there is significant difference in the mean scores of the retention ability of students between those taught computer textual studies of Qur'an using video flipped classroom and those taught using conventional method of teaching at t P=0.188>0.05. Therefore, the retention rate of students taught using video flipped classroom is not significantly different. Thus, the null hypothesis is accepted.

DISCUSSION

Research 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 performance 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.

The 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.

However, the research finding revealed that there was minimal and negative mean loss when comparing delayed post-test with post-test scores. This shows that students taught with Video Flipped Classroom and conventional method of teaching were able to possess good retention ability, even though those taught with conventional method of teaching indicated higher retention rate. Null hypothesis four was analysed using independent-sample t-test and indicated that there was a no-significant difference between the retention ability of the two groups (p=.188); thus, the hypothesis was accepted. The finding align with Adonu et al. (2021), which demonstrates that the implementation of both Video Flipped Classroom and PowerPoint instructional methods leads to enhanced student retention in biology. The finding is also in agreement with Ibrahim and Haruna (2017) who reveal that the implementation of the flipped teaching technique results in enhanced retention ability among students in advanced financial accounting. Furthermore, the findings of Makinde and Yusuf (2016) revealed that the implementation of the flipped classroom approach leads to a significant improvement in students' ability to retain knowledge in the field of mathematics. However, the finding contrasts that of Oladimeji et al. (2021) which supports the utilisation of Video Flipped Classroom as a means of improving the knowledge retention of students studying Electrical Installation and Maintenance Work compared to other strategies.

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.

CONCLUSIONS AND RECOMMENDATIONS

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.

FURTHER STUDY

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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