

# THE EFFECTIVENESS OF FLIPPED CLASSROOM STRATEGY ON THE ACADEMIC ACHIEVEMENT IN ISLAMIC RELIGIOUS STUDIES AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN NIGERIA

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# ABSTRACT

This study aimed to investigate the effectiveness of the Flipped Classroom Strategy on Islamic Religious Studies Subject achievement of Students of Junior Secondary School Class 3 (JSS3) at Egbedore Local Government, Osun State, Nigeria. The study sample consisted of two sections of JSS3 students assigned into the experimental group from Ido-Osun High school, comprising (18) students taught via flipped classroom strategy, and the control group of (20) students from Ojo-Aro Grammar School taught by the traditional method. The experimental design was adopted, and the achievement tests prepared by researchers were administered to both groups for pre- and post-treatment. The findings revealed statistically significant differences of ( $\alpha \le 005$ ) levels in student achievement in favor of the experimental group. Furthermore, results showed statistically significant differences on ( $\alpha$ =005) levels in the experimental group pre-post-achievement in favour of the post-achievement. In light of the study findings, the study recommended using the flipped classroom strategy for teaching Islamic Religious Studies Subject at Junior Secondary School due to its positive effect on student's academic achievement and suggested further research on the flipped classroom strategy on academic achievements in other communities, samples, and subjects.

**Keywords:** Academic Achievement, Islamic Religious Studies, Flipped Classroom Strategy.

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# INTRODUCTION

Undoubtedly, the globe witnessed the rapid growth of educational technology developments and acute information revolution in all life aspects. However, researchers and educators are required to investigate, restructure, develop and implement modern teaching strategies and integrate Information and Communication Technology (ICT) tools into the educational pedagogy to provide an interactive, active educational environment. However, these strategies proved their impacts on education and favorable outcomes in student learning (Semich & Copper, 2018; Chu & Yang, 2017) and their effectiveness and success in the educational process, specifically in Islamic education teaching (Bani-Hamad et al., 2017). However, many researchers revealed the significant effects of student-centered learning strategies (Douglas et al., 2018; Chu & Yang, 2017) such as Flipped Classroom Strategy. The flipped classroom strategy combined learning in which the study and learning are moved outside the classroom. At the same time, the class period is utilized for problem-solving and practical work in cooperation between students and teachers (Gonzalez-Gomez et al., 2016). Flipped Classroom Strategy is a pedagogical model in which classwork and homework are reversed, while instruction delivery occurs outside the classroom, primarily via video obtained from Internet resources (Merrill, 2015). Teachers then use class time more effectively for hands-on activities or other means of encouraging students to practice, apply and demonstrate mastery of the content learned from the pre-class requirements (Farah & Qawasmen, 2018).

However, the successful implementation of the Flipped Classroom Strategy lies on four main pillars. 1. A flexible environment that allows a variety of learning modes enables students to learn when and where they want and is free of tension and nervousness, whereby the students are keen to get every detail of a compact topic (Demirel, 2016). However, the educators who flip their classes are flexible in their expectations of student timelines for learning and their assessments of student learning (Hamdan & McKnight, 2013). 2. Learning Culture. The teacher is required to shift from a teacher-based model to a student-based model, whereby the students are actively involved in the learning process and knowledge construction, and they have the chance to participate in each step of the process in a personally meaningful manner. 3. Intentional Content. The teachers determine what needs to be taught to be explored by the students (Demirel, 2016). Therefore, educators utilize intentional content to maximize classroom time. They adopt active learning strategies, peer instruction, problem-based learning, mastery, or Socratic methods, depending on grade level and subject matter (Hamden & McKnight, 2013). Moreover, they frequently consider how the Flipped Learning approach can help develop students' conceptual understanding and practice fluency. 4. Professional Educators; teachers are one of the critical factors in flipped classroom strategy; they design and adopt the materials and maximize classroom interaction time. In addition, the teachers continually observe their students, provide them with feedback relevant to that moment, assess their work, and connect with their students to improve their instruction. As a result, the teachers remain the essential component enabling Flipped Learning to occur (Flipped Learning Network FLN 2014). However, flipping the classroom is still the role of the teachers (Demirel, 2016).

The welfare of any nation depends on the mental and moral orientation of its citizens within the country. In the same vein, Islamic Religious studies subject is a study that can produce men of good qualities, students of good manners, and positive contributors toward accomplishing the Almighty Allah's commandments. As a result, they develop their own lives and other citizens within their societies along with the will of the Almighty Allah. Therefore, Islamic Religious Studies subject is strongly related to Islamic Religion with which the Almighty Allah is pleased, and it is the only religion acceptable to Him. Therefore, an adequate knowledge of Islamic Religious Studies subject is sacrosanct to all Muslims. Islam is the way of life; it teaches about Allah, that Allah is merciful, all-powerful, and unique (Campo & Juan Eduardo, 2009) and guides humanity through prophets' revealed scriptures and natural signs (Özdemir & İbrahim, 2014). However, students are taught the basic Islamic knowledge to handle their affairs in a more acceptable manner (Abubakar et al., 2018) and to make them, especially Muslim students, religiously conscious. In addition, Islamic Religious Studies subject is very significant; it develops an individual physically, mentally, spiritually, and socially. Consequently, it makes them religiously conscious and helps them acquire knowledge and skills, training in scientific thinking approach, and self-actualization in a social framework for their current and future lives.



# PROBLEM STATEMENT

Most teachers in JSS3 schools at Egbedore Local Government depend on traditional teaching methods through lecturing and information loading, whereby the students memorize and retrieve information and remember it in exams. However, it decreases the significance of Islamic Religious Studies subject among students and their interest in achieving higher achievement. As a result, there is a need for appropriate methods of teaching and learning which can improve students' achievement and performances as well as transmute teaching from teacher-centered learning to student-centered learning, which is expected to develop the students' performances in Islamic Religious Studies. Based on previous studies, Azzain, (2015) and Ghavifekr et al., (2015) stated that urgent action is needed to develop and improve teaching methods at every time and place based on public needs according to available capabilities and possibilities, as well as with international and local direction towards the use of information and communication technology (ICT) in education and teaching methods. Therefore, this is an academic gap identified by the present researcher, who sets out to fill with the present research. However, the study came to find out the effects of flipped classroom strategy on improving Islamic Religious Studies subject academic achievement among JSS3 students at Egbedore local government, Osun State in Nigeria through answering the following research questions:

- 1- Are there any statistically significant differences at ( $\alpha \le 0.05$ ) level in students' performance mean on the post-achievement test in Islamic Religious Studies Subject between experimental and control groups due to the traditional method and flipped classroom strategy?
- 2- Are there any statistically significant differences at ( $\alpha \le 0.05$ ) level in students' performance means on the pre-and post-experimental achievement test in Islamic Religious Studies subject?

# SIGNIFICANCE OF THE STUDY

The present research is essential and significant for the subject it addresses. The flipped classroom strategy is a unique mixture of traditional and active learning techniques and theories. However, the research is one of the pioneering studies conducted in Nigeria to the best of the researcher's understanding and knowledge on identifying the effectiveness of flipped classroom strategy on Islamic Religious Studies subject achievement among JSS3 students. In addition, the research will provide teachers with valuable information about the model for applying flipped classroom strategy in Islamic Religious Studies subject and benefit from its tools and results, and findings, and serve as a reference point for researchers for future on the effectiveness of flipped classroom strategy in other subject areas apart from Islamic Religious Studies subject. Furthermore, it will draw the attention of decision-makers in the ministry of education, significantly, colleges of education in Nigeria to the impact of the flipped classroom strategy and benefit from its finding in developing and improving the level of educational, academic achievement, and outcomes.

# **RESEARCH OBJECTIVES**

The study aims at investigating the effectiveness of the flipped classroom strategy in Islamic religious studies achievement among Nigeria JSS3 students. The comprehensive objectives of the present research are the following:

- 1- Exploring the statistically significant differences at ( $\alpha \le 0.05$ ) level in students' performance means on the post-achievement test in Islamic Religious Studies Subject between experimental and control groups due to the traditional method and flipped classroom strategy.
- 2- Assessing the statistical differences at ( $\alpha \le 0.05$ ) level in students' performance means on the pre-and post-achievement test in Islamic Religious Studies subject.



# LITERATURE REVIEW

Several studies in the literature were conducted to compare flipped classroom strategy and traditional classroom methods in terms of student's performance and achievements such as Qutobi (2022)'s study which investigated the effect of the flipped classroom approach on the student's performance and their perception of the flipped classroom as an active learning strategy. The results revealed the effectiveness of flipped classrooms as an active learning style that enables students to obtain desirable knowledge and improve their academic performance. However, the flipped classroom as an active learning style was more beneficial than the traditional teaching approach, which aligned with Premalatha's (2022) study that explored the impacts of flipped learning on academic achievement in English. The result showed that the flipped learning group scored higher than the control group and that their capacity in English and interest in it were improved by flipped learning.

Moreover, Bani-Hamad et al. (2017) investigated the effect of flipped learning on the Islamic education achievement of tenth graders in the United Arab Emirates and their attitudes toward it. The research results indicated that the experimental group outperformed the control group, and strong attitudes toward flipped learning among the experimental group were observed. Furthermore, Al-Balloshieh (2015) identified the effectiveness of flipped learning in developing Arabic language achievement among basic tenth graders at Addkhiih governorate in Oman and their attitudes towards it. The findings showed the effectiveness of flipped learning in improving learning and positive attitudes towards the flipped class strategy. In addition, Vandana and Haseen (2021)'s study investigated the effectiveness of the flipped learning instructional strategy on academic achievement in Chemistry among 9th-standard students at Private Secondary schools in Bangalore City. The study findings revealed a statistically significant difference in the experimental group and control group's academic achievement in Chemistry in favour of the experimental group, and there was an improvement in the academic achievement of students of the experimental group and their learning progress compared to students of the control group. Consequently, Abuhmaid (2019)'s study assessed the effect of differentiated instruction in flipped learning classrooms on academic achievement among students of Al-Najah Secondary School in Zarga. The result showed significant differences between the experimental and the control students on their achievement test scores in Biology in favour of the experimental students.

On the other hand, Talan and Gulsecen (2019)'s study identified the effect of flipped classroom model on students' achievement, academic engagement, and satisfaction levels compared with blended learning and faceto-face learning environments. The study's findings revealed that the experimental students, regarding academic achievement and engagement, scored higher than the control group and were generally satisfied with the flipped classroom. Furthermore, Al-Jaser (2017) measured the effectiveness of flipped classroom strategy on females' academic achievement and self-efficacy at the College of Education, Princess Nourah bint Abdulrahman University, Saudi Arabia. The study showed that the experimental group outperformed the control group in the post-achievement test. Likewise, the results indicated a positive correlation between the students' postachievement test and their attitudes towards the self-efficacy scale. The flipped learning strategy demonstrated several advantages and benefits including improve students' engagement, performance, and learning (Asad et al., 2022), enrich the learning experience in curiosity, engagement, and enlightenment (Abah et al., 2017), improve students' learning (Li et al., 2018) enhanced learning experience, and improve academic performance (Choi et al., 2015), improve critical thinking (Kong, 2015), improves the readiness level of the students prior to the class, support active participation during face-to-face courses, increases knowledge retention, shortens the learning process, and improves English writing courses (Zhonggen & Wang, 2016) and mathematical thinking skills (AL-Maadi, 2016) and provides them with more opportunities for interaction with their peers and the teacher, contributes to terminating assignments solution in class time, improve their way, and helps remodel large lecture classes into active-learning classes (Danker, 2015).



# METHODOLOGY

# **Research Design**

This study uses an experimental pretest-posttest design to study the effectiveness of flipped classroom strategy in JSS3 Students' academic achievement and compare it with the traditional method in terms of students' scores on an academic achievement test designed by the researcher. The study sample was randomly assigned into two groups, where the experimental group taught via flipped classroom strategy, while the control group taught using the traditional method. The academic achievement test was administered to both groups at pre-test and post-test points.

# **Study Population**

The study population consisted of (265) JSS3 Muslim students at (9) public schools in Egbedore local government area, Osun State in Nigeria, enrolled for the second term of the school year 2020-2021.

# **Study Sample**

The sample of this study comprises (38) Muslim students among JSS3 classes selected randomly among the (55) Muslim students from (3) government secondary schools that have teachers teaching Islamic Religious Studies subject. As a result, eighteen (18) students who form the experimental group are from Ido Osun High school, and twenty students (20), who form the control group, are from Ojo-Aro Grammar School using a random sampling technique, while (2) students from the control group were excluded from post-test analysis due to their absences of more than (4) weeks of treatment. However, (36) students were involved in the post-test analysis. The experimental group was taught Islamic Religious Studies using flipped classroom strategy. In contrast, the control group was taught the same using a traditional approach, and both groups were tested and measured afterward. However, to ensure the accuracy of the study results and avoid any marginal interference between the experimental and the control groups, the researcher controlled the sample's socioeconomic, teacher, age, maturation and instrumentation variables. However, all of them were in public high schools and had the same socioeconomic background, and two teachers were appointed from different schools to teach rather than the researcher to eliminate the invalidity and subjectivity that could be the result of the researcher. Furthermore, the ages of the students were collected from the schools' records before the treatment, counted, and analyzed; however, the samples' age ranged between 13 to 15 years old, which is appropriate for the ages of JSS3 students. Consequently, the same pre- and post-academic achievement was administered and ensured the equivalent of the experimental and control groups in Islamic Religious Studies subjects before the treatment.

#### **Data Collection Procedure**

The study material for the flipped classroom strategy was prepared and analyzed. Then, the researcher prepared the Islamic Religious Studies achievement test following the academic achievement test requirements criteria. Consequently, teachers' books, lesson notes, and classwork notebook were prepared according to flipped classroom strategy and was delivered to the teacher. After that, the researcher gave a 3-day seminar and training for the experimental group's teacher on the Flipped Classroom strategy, preparation, class activities, and evaluation, as well as the experimental group about the tablets, how to operate them, and access to the materials inside. Finally, the experimental group participants assessed the material before the class by watching prerecorded videos and power point prepared and installed by the researcher on tablets, including their textbooks. These types of videos allow students to work on the subject matter in real time and permit them to replay times in numbers until they master the unit; accordingly, undoubtedly, this improves their academic achievement on the subject. On the other hand, the control group participants were taught via the traditional



method. However, the students taught the units, and after teaching each unit, they were required to answer the same question related to the units. Before starting the treatment, a pre-achievement test was administered and implemented for both groups. Then, the teaching commenced and lasted eight weeks from the second term of the 2020/2021 academic session in experimental and control groups. At the end of the implementation and teaching, the academic achievement test was applied to both groups to measure the student's academic achievement. Finally, the collected data were analyzed using the SPSS software, and recommendations were given and suggested.

# **Experimental Materials**

The researcher prepared the experimental materials. The material comprises eight (8) units of the Islamic Religious Studies subject curriculum for the second term of the 2020/2021 session, which was prescribed for Junior Secondary School class 3 students at the government secondary school at Egbedore local government, Osun State, Nigeria. The eight (8) units of the present research aimed at students to acquire relevant knowledge about Islamic Religious Studies and master the skills required to be an effective Muslim student in practicing Islamic teaching and learning, which emphasizes cultivating meaningful learning and using accessible resources to encourage reflection on their learning process. The content of the electronic materials was designed and prepared by the researcher. The developed computing materials consisted of different concepts, facts, activities, assignments, videos, and quizzes that were stored, installed, and organized on tablets aligned with the flipped classroom strategy. The method allows students to work on the subject matter in real-time and permits them to replay times in numbers until they master the unit accordingly and helps students and teachers to access the e-contents outside and inside the class. Furthermore, it helps teachers to implement and activate cooperative and collaborative groups and assign the students to group work. Undoubtedly this strategy improves students' academic achievement and performance.

#### Instruments

The researcher prepared an academic achievement test and administered it for pre- and pro-treatment. The test consisted of (40) multiple-choice objectives questions; each question had (4) options, whereby students chose only one correct answer among the given options, and each question was graded with a mark to make the total marks of the test (40) marks. Afterward, the content and face validity for the instrument was reviewed and approved by 20 experts specialized and experienced in the measurement and evaluation of educational technology, Islamic religious studies curriculum from universities in Nigeria, Kuwait, and Malaysia, and some Islamic religious studies teachers and supervisors in the ministry of education in Nigeria. In addition, the test's internal consistency validity was examined via Person correlation coefficients analysis. However, the correlation of the achievement test was significant at ( $\alpha$ <0.05) and ( $\alpha$ <0.01), see Table 1, which indicated that the correlation coefficients were very high, which means the test was highly valid for the study. Furthermore, the reliability of the achievement test was tested using the Cronbach Alpha coefficient, and findings revealed the Cronbach Alpha of (0.619), see Table 2, which indicates the ability of the test to be consistent, which makes us confident in its application.

Themes		Quran Hadith	&	Tawhid Fiqh	&	Sirah Tahdib	 Total score
Quran & Hadith	Pearson Correlation	1		.449**		.344*	.856**



# THE ONLINE JOURNAL OF ISLAMIC EDUCATION April 2022, Vol. 10, Issue 1

Sig. (2-tailed) .005 .034 .000 Tawhid & Fiqh .367\* .756\*\* **Pearson Correlation** .449\*\* 1 Sig. (2-tailed) .005 .023 .000 Sirah & Tahdib **Pearson Correlation** .344\* .367\* 1 .661\*\* Sig. (2-tailed) .034 .023 .000 .661\*\* Total score **Pearson Correlation** .856\*\* .756\*\* 1 .000 .000 .000 Sig. (2-tailed)

# Table 2: Cronbach Alpha coefficient for students' total scores of achievements and scores of each theme of the achievement Test

Themes	Cronbach's Alpha
Total Achievement	0.619

# **Data Analysis**

Parametric tests were used to analyze the data derived from the research. In this regard, the Statistical Package for Social Sciences (SPSS, version 26) was administered for the treatment of the results of the study; however, the following tests were used:

- Independent sample t-tests were administered to measure the statistically significant differences and the total mean scores in the jss3 students in the Islamic Religious Studies pre- and post-achievement test between the experimental group taught by the flipped classroom and those of the control group taught by the traditional method.
- 2. Pearson correlation coefficient was used to identify the correlation between the Islamic Religious Studies Achievement test items.
- 3. The Alpha Cronbach technique was used to measure the reliability of the Islamic Religious Studies Achievement test
- 4. The paired sample t-test statistics were applied to find the effect size of the statistically significant differences in the experimental group's pre- and post-Islamic Religious Studies achievement test scores and the effect size of the statistically significant differences in post-Islamic Religious Studies achievement tests of control and experimental groups.

# FINDINGS

This section focuses on findings achieved and obtained from pre- and post-achievement scores of the students in the experimental and control groups regarding their academic achievement and performances. The first result

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is related to the first question. (Are there any statistically significant differences at ( $\alpha \le 0.05$ ) level in students' performance means on the post-achievement test in Islamic Religious Studies Subject between experimental and control groups due to the traditional method and flipped classroom strategy?) T-test, means, and standard deviation were adopted in answering this question, and results are displayed in Table 3.

Table 3: Significance of Difference between posttest Achievement Scores of Students in Control and Experimental Groups

Groups	No.	Mean	SD	t-value	Sig.
Experimental	18	26.889	3.027	5.347	0.000
Control	18	19.056	5.428	_	

Table 3 showed a statistically significant difference at ( $\alpha = 0.05$ ) level, between the experimental and control group, with mean scores on post-achievement tests in favour of the experimenters. By these results, one can assume that the flipped classroom strategy impacts the students' achievements in post-Islamic religious studies, as students' means' scores have significant differences between experimental and control groups.

Table 4: The Effect Size of the flipped classroom on the Experimental group Post Islamic Religious Studies
Achievement

Scale	t-value	Cohen's d	Effect volume
Total Achievement	5.347	1.782	Large

Table 4 showed the "d" values results indicated a large effect size of using the Flipped classroom in the postapplication of the Islamic Religious Studies Achievement.

Second: Result related to the second question: Are there any statistically significant differences at ( $\alpha \le 0.05$ ) level in students' performance means on the pre-and post-experimental achievement test in Islamic Religious Studies subject? T-test, means, and standard deviation were adopted in answering this question, and results are displayed in Table 5.

Table 5: Significance of Difference between pre- and post-achievement Scores of Students in the ExperimentalGroup.

Group	Test	Ν	Mean	SD	t. value	Sig.
Experimental	Pretest	18	20.056	5.995	4.094	0.001
	Posttest	18	26.889	3.027		

Table 5 shows the t-test analysis result of the experimental group taught by the flipped classroom strategy. The result indicated a significant statistical difference in the means score between two measurements (pre-post) Islamic Religious Studies achievement test since the t-value was below the cut-off level of ( $\alpha \le 0.05$ ).



Table 6: The Effect Size of flipped clo	assroom strategy on experimental	pre-Islamic Religious Studies
achievement test compared with pre-pos	t Islamic Religious Studies achieveme	ent test.

Group	Scale	t-value	Cohen's d	Effect volume
Experimental	Pre-post	4.094	0.965	Large

Table 6 shows the results of "d" values showed a large effect size of using Flipped classroom strategy on the postexperimental group's Islamic Religious Studies compared with a pre-test.

# DISCUSSION

The results of the first study question tested the statistically significant differences between the mean scores of experimental and the control groups in Islamic Religious Studies achievement showed statistically significant differences at ( $\alpha \le 0.05$ ) level between the two groups in favor of flipped classroom strategy group. By these results, one can assume that the flipped classroom strategy impacts the students' achievement in post-Islamic Religious Studies subject. In addition, it was discovered that the effect size of the strategy was large. However, it can be concluded that the students in the experimental group improved in their Islamic Religious Studies achievement at the end of the study compared to the students in the control group. These findings could be attributed to the nature of the Flipped Classroom Strategy, which provided a sequence of instruction that placed students at the centre of their prior experiences and emphasized a student-centered learning environment. The strategy helped students develop higher order thinking skills and promote self-sufficiency and collaborative learning. In addition, it develops the students' sense of authority, responsibility, and self-confidence in learning. However, it saved the teacher's time for more practical concerns, such as modeling and monitoring. The findings of the first question agreed with the findings of most of the previous studies, such as Premalatha (2022), Bani-Hamid et al. (2017), Vandana and Haseen (2021), Al-Balloshieh (2015), AlJaser (2017), (Asad et al., 2022) and AL-Maadi, (2016).

The results of the second study question tested the statistically significant differences between two measurements (pre-post) mean scores of experimental groups' Islamic Religious Studies achievement. The result revealed the statistically significant differences at ( $\alpha \le 0.05$ ) level between the pre & post scores of the experimental group in favour of the post-Islamic Religious Studies achievement test. However, the result could be attributed to using a method that urges students to study according to their will and desires and free out the rules that restrict their study. Flipped learning also makes students more excited about the learning process compared to the traditional teaching method, which restricts students to the rules dictated by the educator and thus kills the spirit of seriousness, thus reducing their academic achievements. Additionally, the results could be attributed to the flexibility of the flipped Classroom Strategy environment. The flipped classroom strategy allows the teacher to physically rearrange the learning space to accommodate the subject unit and involve group learning or independent learning in which the students are free of tension and nervousness and free to get help from their peers or consult the teacher whenever needed. The results agreed with most previous studies, such as Li et al. (2018), Bani Hamad et al. (2017) and Abah et al. (2017).

# CONCLUSION

Based on the current study's findings, the researcher derived and concluded that the Flipped Classroom Strategy was more effective and superior to the traditional method of teaching Islamic Religious Studies subject. The strategy provides students with a better learning atmosphere and environment, which positively affects their achievement and performance in Islamic Religious studies subject and provides opportunities for them to



discover and explore ways to understand new concepts. Furthermore, the Flipped Classroom Strategy provided interactive and cooperative activities concentrating on creation and inquiry in the classroom. The Flipped Classroom Strategy transformed the student into a researcher for his information resources, reinforced self-learning, and built experiences, communication, and cooperation skills among students. The Flipped Classroom Strategy allowed them to reflect on their understanding and take the rights of their learning through the different stages of the strategy. Therefore, students felt relaxed and comfortable with the strategy which led to more accessible learning and acquisition of the subject matter. A future study might be designed on different populations, samples, disciplines, and different Information Communication Technology tools that could be used in the flipped classroom strategy. Therefore, workshops, seminars, and training programs on flipped classroom strategy might be organized for teachers.

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