



## **The Effectiveness of the Flipped Classroom Strategy on the achievement in Islamic Religious Studies Among Junior Secondary School Students at Egbedore Local Government, Osun State, Southwest Nigeria**

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### **ABSTRACT**

The present study aimed to investigate the effectiveness of the Flipped Classroom Strategy on students' achievement in the Islamic Religious Studies at JSS3 school at Egbedore Local Government, Osun State in Nigeria. The study sample comprised two classes of JSS3 students assigned to the experimental group from Ido-Osun High school, which comprised (18) students taught via the flipped classroom strategy. The control group consisted of (20) students from Ojo-Aro Grammar School taught by the traditional method. The study adopted an experimental design, and an achievement test prepared and developed by researchers was administered to both groups for pre-and post-treatment. The findings revealed statistically significant differences at  $\alpha \leq 0.05$  in students' achievement in favor of the experimental group. Furthermore, results showed statistically significant differences on  $(\alpha \leq 0.05)$  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 effects on student achievement. They also 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.*

## 1. INTRODUCTION

Indeed, the globe witnessed a rapid growth of educational technology developments and acute information revolution in all life aspects. However, researchers and educators must investigate, restructure, and develop modern teaching methods and strategies. However, they are expected to incorporate Information and Communication Technology (ICT) into the pedagogy to provide an interactive and active environment for learning. However, these modern strategies demonstrated their impacts and effects on students' learning outcomes (Semich & Copper, 2018; Chu & Yang, 2017) and improved students' performances and success in the learning process, specifically in Islamic education. (Bani-Hamad, Alarood, and Alnaqbi, 2017). However, many researchers revealed the significant effects of student-centered learning strategies (Douglas et al., 2018; Chu & Yang, 2017), among them the flipped classroom strategy. Flipped learning is combined learning in which the learning is moved outside the classroom; simultaneously, the class period is utilized for problem-solving and practical work in cooperation between students and teachers. (Gonzalez-Gomez; Jeong; Rodríguez; & Cañada Cañada 2016). The Flipped Classroom Strategy is an instructional method in which classwork and homework are exchanged and inverted. At the same time, instruction delivery occurs outside the classroom, primarily through video obtained from the Internet (Merrill, 2015). After that, the teacher utilizes the class period more effectively for various activities encouraging students to practice, apply, demonstrate, and master the content learned from the pre-class requests (Farah & Qawasmen, 2018). However, Damirel (2016) revealed that the successful implementation of the Flipped Classroom Strategy lies on four main pillars. 1. A flexible environment that allows diversity in learning that enables students to learn in their choice of time and place and free tension and nervousness, whereby the students are keen to get every detail of a compact topic. However, the teachers who flipped their classes are flexible in their expectations of student timelines for learning and student assessments (Hamdan & McKnight, 2013). 2. Learning Culture. The teachers must shift the learning from

teacher-centered learning to student-centered learning. Therefore, the students will actively involve 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 materials that need to be taught and explored by the students. Therefore, educators utilize intentional content to maximize classroom time. They adopt active learning methods, cooperative learning, problem-solving learning, and skillful or Socratic methods, depending on student level and subject matter. (Hamden & McKnight, 2013). Moreover, the teachers frequently consider how the flipped learning approach can develop students' theoretical understanding and confidence. 4. Professional education; Teachers are critical factors in flipped classroom strategy; they design and adopt the materials and maximize classroom interaction time. In addition, they constantly observe their students' activities and behaviours, provide feedback relevant to that moment, assess their work, and connect with their students to improve their instruction. As a result, the teachers are the crucial component enabling the flipped learning strategy (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 is holy 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, Abdullah, Ali, & Kabir, 2018) and to make them, most 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 logical thinking approach, and self-actualization in a social framework for their current and later lives.

## **2. RESEARCH PROBLEM**

Most teachers in JSS3 schools at Egbedore Local Government administer traditional methods in their teaching, whereby the students memorize and retrieve materials and remember them for exams. However, the method reduces the significance of learning 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 and 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; Ghavifekr; Afshari & Amla Salleh (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, in line with international and local direction towards the use of information and communication technology (ICT) in education and teaching. Therefore, this is an academic gap identified by the researcher, which sets out to fill with the present research. However, the study aimed at investigating the effects of flipped classroom strategy on improving Islamic Religious Studies subject academic achievement among JSS3 students at Egbedore local government, Osun State, southwest of Nigeria through answering the following research questions:

1. Are there statistically significant differences between the experimental and control groups students' achievement in the post-test of the Islamic Religious Studies Studies in favour of the experimental group?

2. Are there statistically significant differences in the experimental students' achievement in the pre and post-test of the Islamic Religious Studies in favour of the post-test?

### 3. RESEARCH OBJECTIVES:

The study investigated the effectiveness of the flipped classroom strategy on achievement in Islamic Religious Studies among JSS3 students at Egbedore Local Government in Osun State, Southwest Nigeria. The comprehensive objectives of the present research are the following:

1. Exploring if there are statistically significant differences between the experimental and control groups' students' achievement in the post-test of the Islamic Religious Studies in favour of the experimental group.
2. Assessing if there are statistically significant differences in the experimental students' achievement in the pre and post-test of the Islamic Religious Studies in favour of the post-test.

### 4. SIGNIFICANCE OF THE STUDY

The research is essential and significant for the pedagogy it addresses. The flipped classroom strategy is an exclusive mixture of traditional and active learning methods. However, the study is one of the revolutionary studies conducted in Nigeria according to the researcher's understanding and knowledge to identify the effectiveness of flipped classroom strategy on achievement in Islamic Religious Studies subject 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' future studies 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.

## **5. LITERATURE REVIEW**

Various studies compared flipped and traditional classroom strategies to students' performance and achievements. (Qutobi, 2022) investigated the effects 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 that flipped classrooms as an active learning style that enables students to obtain appropriate knowledge and improves their academic achievement. However, the flipped classroom was more beneficial than the traditional teaching approach, aligned with Premalatha's (2022) study, which explored the impacts of flipped learning on academic achievement in English. The findings 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. In addition, Vandana & Haseen (2021) 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 and their learning progress compared to students of the control group. Consequently, Abuhmaid (2019) study assessed the effect of differentiated instruction in flipped learning classrooms on academic achievement among students of Al-Najah Secondary School in Zarqa. 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 & Gulsecen (2019)

study identified the effect of flipped classroom model on students' achievement, academic engagement, and satisfaction levels compared with blended learning and face-to-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, AlJaser (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' post-achievement test and their attitudes towards the self-efficacy scale. Moreover, Bani-Hamad, Alarood & Alnaqbi (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 indicated that the experimental group surpassed the control group, and the attitude of the experimental group is more vital towards flipped learning among the experimental group were observed. Furthermore, Al-Ballosheh (2015) identified the effectiveness of flipped learning in developing Arabic language achievement among basic tenth graders at the Addkhih 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.

The flipped learning strategy demonstrated several advantages and benefits. The strategy improves students' engagement, performance, and learning (Asad, Ali, Churi, & Mereno-Guerrero (2022), and students' learning (Li, Gao, Liu, & Sun, 2018), enriches the learning experience in curiosity, engagement, and enlightenment (Abah, Anyagh, & Age (2017), 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 more opportunities for interaction among themselves and their teachers, contributes to terminating assignments solution in class time, improve their way. Furthermore, the flipped classroom strategy enhances the learning experience, improves academic performance (Choi et al., 2015), and critical thinking (Kong, 2015), and helps remodel large lecture classes into active-learning classes. (Danker (2015).

## **6. METHODOLOGY**

### **6.1 Research Design**

The study adopted the experimental pre-post-test design to discover the effectiveness of flipped classroom strategy on academic achievement in Islamic Religious Studies among JSS3 Students, compared to the traditional method. The study sample was randomly assigned into experimental and control groups. Therefore, the experimental group was taught through flipped classroom strategy, while the control group was taught through the traditional method. An academic achievement test was used to test the experimental and control groups' academic achievement.

### **6.2 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 in the second term of the school year 2020-2021.



### 6.3 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 of the experimental group are from Ido Osun High school, while twenty students (20) from the control group are from Ojo-Aro Grammar School using a random sampling technique, while (2) students from the control group excluded from post-test analysis due to their absences more than (4) weeks of treatment. However, (36) students were involved in the post-test analysis. The experimental group was taught Islamic Religious Studies via 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 certify the study findings' accuracy and avoid any marginal intervention between the experimental and control groups, the researcher controlled the sample's socioeconomic, teacher, age, and maturation and instrumentation variables. However, they all were in public high schools and had the same socioeconomic background. Two teachers were appointed from different schools to teach rather than the researcher to eliminate the invalidity and subjectivity that could result from the researcher. Therefore, the Islamic teacher at Ido Osun High school was assigned to the experimental group, while the Islamic teacher at Ojo-Ara Grammar school was appointed to the control group. 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.

#### **6.4 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 notebooks were prepared in line with flipped classroom strategy and were delivered to the teacher. After that, the researcher gave a 3-day seminar and training for the experimental group's teacher on the nature of 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; and help to improve 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. After the implementation and teaching, the academic achievement test was applied to experimental and control groups to investigate the students' academic achievement. Finally, the researcher analyzed the data using the Statistical Package for the Social Science (SPSS version 26 and suggested some recommendations.

## 6.5 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 southwest of Nigeria. The eight (8) units of the present research aimed at students to acquire relevant knowledge about Islamic Religious Studies and master the required skills to be an effective Muslim student in practicing Islamic teaching and learning, which emphasizes cultivating meaningful learning. Also, helping use accessible resources encourages 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.

## 6.6 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.

Table 1: Person correlation coefficients of Islamic Religious Studies Achievement test

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

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

### 6.7. Data Analysis

1. 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:
2. 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.
3. Pearson correlation coefficient was used to identify the correlation between the Islamic Religious Studies Achievement test items.
4. The Alpha Cronbach technique was used to measure the reliability of the Islamic Religious Studies Achievement test.
5. 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.

### 7. FINDINGS

This section focuses on findings and results from the experimental and control groups' post-achievement tests. The first result is related to the first question. **(Are there statistically significant differences between the experimental and control**

**groups' students' achievement in the post-test of the Islamic Religious Studies in favour of the experimental group?)**

The researchers adopted an independent sample T-test in the analysis of the question, and results are demonstrated in table 3

Table:3 significance of the difference between post-test 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 revealed a statistically significant difference at ( $\alpha = 0.05$ ) level, between the experimental and control groups, 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 significantly differ 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 shows the "d" values results indicated a large effect size of using the Flipped classroom in the post-application of the Islamic Religious Studies Achievement.

The second result related to the second question: (**Are there statistically significant differences in the experimental students' achievement in the pre and post-test of the Islamic Religious Studies in favour of the post-test?**)

T-test, means, and standard deviation were adopted in answering this question, and results are displayed in table (5)

Table 5: Significance differences between pre-and post-achievement Scores of Students in the Experimental Group.

Group	Test	N	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 ( $\alpha \leq 0.05$ ).

Table 6: The Effect Size of flipped classroom strategy on experimental pre-post Islamic Religious Studies achievement 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 significant effect size of using Flipped classroom strategy on the post-experimental group's Islamic Religious Studies compared with a pre-test.

## 8. 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 ( $\alpha \leq 0.05$ ) 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. 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, promoting 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), Asad, Ali, Churi, & Mereno-Guerrero, (2022), Vandana & Haseen (2021), Bani-Hamid, Alarood & Alnaqbi (2017), AlJaser (2017), (AL-Maadi, (2016) and Al-Ballosheh (2015).

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 ( $\alpha \leq 0.05$ ) 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 rearrange the learning space to accommodate the subject unit physically 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, Gao, Liu, & Sun (2018), Bani Hamad, Alarood, & Alnagbi (2017). Abah, Anyagh, & Age. (2017).

## 9. CONCLUSION

Based on the findings, the researchers derived and concluded that the Flipped Classroom Strategy is more effective and enhances the traditional teaching method in teaching Islamic Religious Studies subject. The strategy provides students with a better learning atmosphere. Therefore, it positively affects and improves their achievement in Islamic Religious studies subject and provides opportunities for them to discover and explore ways to understand new concepts. Furthermore, the Flipped Classroom Strategy provides cooperative and interactive activities among the students. The Flipped Classroom Strategy transforms students into researchers for information resources, reinforces self-learning, and builds experiences, communication, and cooperation skills among students. The Flipped Classroom Strategy allows them to signify 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.

## **10. SUGGESTIONS AND RECOMMENDATIONS**

The teachers should be encouraged to change their traditional methods of teaching into methods, strategies, and teaching approaches to be more interactive based on the student's involvement in the teaching and learning process. Consequently, adequate, and functional instructional materials and ICT facilities for learning and teaching should be provided for teaching Islamic Religious Studies and other subjects. In addition, an E-textbook, and E- workbook might be provided for students in a more integrated method in case of an unexpected outbreak and challenges in the future, like that of the COVID-19 pandemic challenges that affected the education systems throughout the world. Whereby, Islamic Religious Studies textbooks should be cross-checked to prevent wrong information and extremist ideologies. Furthermore, 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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