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Efficacy of Flipped Classroom Instructional Strategy on Students' Academic Achievement in Economics in Enugu State, Nigeria: Implication for Curriculum and Educational Evaluators

[1]Francis E. Ikeh, [2]Callistus C. Eke, [1]Felicia C. Ugwu, [3]Obiora Ilokanuno, [4]Mercy I. Ani*

[1]Department of Science Education, University of Nigeria, Nsukka, Nigeria

[2]School of General Studies, Imo State Polytechnic, Omuma, Imo State, Nigeria

[3]Curriculum Studies, Imo State Polytechnic, Omuma, Imo State, Nigeria

[4]Department of Educational Foundations, Alex Ekwueme Federal University, Ndufe Alike Ikwo, Ebonyi State, Nigeria

*Corresponding Author

Abstract

This study investigated the efficacy of flipped classroom instructional strategy on students' academic achievement in Economics, with its implication on curriculum and educational evaluators. The study employed a quasi-experimental research design, specifically; non-equivalent pretest-posttest control group design. The population of the study comprised 4534 senior secondary school (SSS II) students in Nsukka education zone of Enugu State. A sample size of 98 students from two schools was purposefully chosen to participate in the study. The data collection instrument, the Economics Achievement Test (EAT), was validated by specialists in Educational Economics as well as in Measurement and Evaluation. The Economics Achievement Test (EAT) produced a reliability coefficient of 0.93, determined using the Kuder-Richardson Formula 20 (KR-20). A pretest was administered to participants in both groups before the treatment began, followed by a posttest after the six-week intervention period. Mean and standard deviation were employed to address the research questions, while the formulated hypotheses were tested using analysis of covariance (ANCOVA) at the 0.05 level of significance. The results showed that students who were taught Economics using the flipped classroom instructional strategy outperformed those taught through the traditional lecture method. Additionally, the findings indicated that gender had no significant effect on students' achievement in Economics. Based on the findings of the study, it was recommended among others that flipped classroom instructional strategy should be implemented by educators, particularly those teaching Economics, in order to improve students' academic achievement in the subject.

Keywords: Flipped Classroom, Instructional Strategy, Achievement, Economics, Gender.

Introduction

One of the electives subjects that must be studied at the Senior Secondary School (SSS) level in Nigeria according to the new National Policy on Education is Economics. It is one of the senior secondary school subjects that necessitate evaluation to determine students' foundational knowledge, skills, and comprehension of concepts related to economic issues within any society. Several researchers have given different definitions of Economics. The reason for these disparate definitions is that Economics examines human behavior, and human behavior varies. Economics, according to Mankiw (2001), is the study of how society distributes its scares resources. Economics, according to Egunjobi and Egwakhide (2010), is the study of human endeavors with regard to production, distribution, exchange, and consumption. Orji (2002) defined economics as the study of choice and scarcity. As a result, the primary concerns of Economics are resource scarcity and alternative usage options. Because of its many benefits for students, Economics has a stronger place in the secondary school curriculum.

Understanding the basic principles and ideas of economics, as well as identifying, appreciating, and striving to enhance the state of the economy for the benefit of society as a whole, are all made easier by studying the subject (Obemeata, 1991). In order for students to meet the curriculum's goals or objectives, the teacher in the field of Economics provides them with learning opportunities and activities (Ekweoba, 2004). The study of Economics offer insights and predictions to guide decision-making in both businesses and government entities. Anyanwocha (2010) stated that Economics is a stimulating and intellectually engaging discipline that motivates individuals to enhance their understanding of the most effective ways to utilize scarce resources while minimizing waste. Additionally, Akunya (2021) stated that Economics focuses on how individuals, businesses, and governments effectively manage limited resources to achieve the greatest possible satisfaction of human needs.

Despite the goals and importance of studying Economics, students' performance in the subject has not been encouraging. This is apparent in the Chief Examiner's report from the West African Examination Council (WAEC) for the May/June session (2010, 2013, 2014 and 2015) reveals poor academic achievement of students in Economics. For example, the failure rate of 54.61%, 50.07%, 44.57 and 48.21% were recorded in 2010, 2013, 2014 and 2015respectively. The low academic achievement of students in Economics has been ascribed

to various factors, including the students' attitude issues (Okafor, 2002), teachers' cognitive and socioeconomic issues (Adeniyi, 2004), policy makers' administrative issues (Okafor, 2002), and the teaching methodology (Okafor, 2002 & Usman, 2008), use of ineffective method of teaching (Ezenwosu & Nworgu, 2013; Okoyefi, 2014).

In addition to the factors attributed to students' poor performance in Economics, Ricardo (2006) further noted that Economics like most school subjects is usually taught using the traditional approach in which facts are transmitted from teachers to passive students. This approach is teacher-centered approach and it does not allow students to experience learning by working out problems by themselves. According to Jegede and Awodun (2013), education has become more of a "chalk-talk" approach, with the instructor being seen as a repository of knowledge and the pupils as mindless drones. Therefore, in order to improve successful teaching and learning, there is need to employ technology-based instructional strategies. This is because of the increasing availability of the internet, computers, smartphones, televisions, videotapes, and other educational applications has made technology a rapidly expanding delivery tool in all educational institutions at all levels.

One educational tool that uses digital technology to encourage students to engage in active learning is the flipped classroom. Flipped classrooms are instructional strategies where students engage in hands-on activities in the classroom while watching a recorded lecture or video course outside of class. Receipts from lectures are viewed at home and assignments are completed in class in the flipped classroom, sometimes referred to as the reverse classroom (Adonu, Nwagbo, Ugwuanyi & Okeke, 2021). According to Nawi, Jawawi, Matzin, Jaidin, Shahrill, and Mundia (2015), the flipped classroom instructional strategy is a student-centered strategy that combines traditional classroom activities with customized web-based learning activities. These activities typically entail the usage of online videos, such as those on YouTube. Flipped classroom instructional strategy, according to Bergmann and Sams (2015), is a pedagogical strategy with an underlying technology element. The flipped classroom model allows for the integration of various student-centered learning theories and methods, including problem-based learning, cooperative learning, peer-assisted and collaborative learning, active learning, and the consideration of different learning styles (Bishop & Verleger, 2013).

In light of this, Saunders (2014) asserts that flipped classrooms encourage active engagement through tailored education. By customizing lessons and assigning assignments that require students to apply the knowledge and skills they have learned from viewing YouTube

videos online to actual circumstances, it gives teachers the chance to meet the unique learning needs of each student (Yousefzadeh & Salimi, 2015). As demonstrated by Kostaris, Sergis, Sampson, Giannakos and Pelliccione (2017); Aidinopoulou and Sampson (2017), the flipped classroom model can assist teachers in improving the teaching and learning environments for their students. It can also enhance students' cognitive achievement (Kong, 2014), support the development of skills (Tanner & Scott, 2015), and boost overall motivation (Baepler, Walker, & Driessen, 2014; Sahin, 2015).

As an innovative instructional strategy, the flipped classroom involves having students do their schoolwork whenever and wherever they choose before class, as opposed to the traditional face-to-face manner (Talan & Gulsecen, 2019). The authors further opined that teachers typically use digital resources to construct their lesson plans and give their students access to them ahead of time. This will however, allows students to access the relevant instructional materials together with their teachers' guidance, and the materials are distributed to them prior to classes. The flipped classroom attempts to address students' cognitive differences by having them identify and pose to their teachers and classmates through the electronic media the topics that are unclear, difficult, and cannot be fully assimilated. Abeysekera and Dawson (2014) and Chen et al. (2014) suggest that students who attend class are more likely to participate actively and productively in the teaching-learning process, as they have increased time to focus on activities and practical applications related to the subject matter.

Through the use of flipped classroom instructional strategy, students are given opportunity to learn contents that are not taught in a traditional classroom setting (Kim, Park & Joo, 2014).The idea of a "flipped classroom" modifies the preparation of instruction rather than the content that is taught. The flipped classroom model does not replace the instructor; instead, it gives them the opportunity to work more intimately and directly with the students, utilizing a world that differs from the one with little information available prior to the 1990s (Egara & Mosimege, 2023). From the foregoing, considering the importance of technological advancements educational system which flipped classroom strategy is one of, therefore, it is important to examine the impact of the flipped classroom instructional strategy on the academic achievement of secondary school students in Economics in Enugu State, Nigeria.

However, a relevant issue that faces the application of learner-centered strategies in the classroom is their equal influence on male and female pupils. This brings up the subject of

gender and academic achievement in Economics. The psychosocial component of being male or female is known as gender. Keightley (2011) claimed that gender is the study of masculinity and femininity as they are assigned to the various sexes in society. Men and women are distinguished from one another by a variety of traits that are given to them as either masculine or feminine. According to Bronfenbrenner (2005), gender is defined as the social distinctions and interactions between men and women. Similar to race or class, gender is a social construct that is not determined by biology (Offorma, 2004).

The variation in academic performance based on gender is a significant concern for educators. Ikwuka and Okoye (2022) investigated the differences in the effects of gender and flipped classroom formats on the academic performance of CEP students in Basic methodology. Their study revealed that gender had no significant impact on students' performance when the flipped classroom approach was implemented, based on research conducted in secondary schools within the Edo South Senatorial Zone. Eraikhuemen (2003) found a substantial difference between male and female students' academic achievement in mathematics, whereas Ukwungwu (2001) found that boys outperformed girls in Physics. Mbaba (2010) discovered that there was no discernible difference between male and female students' performance in introductory technology. In a 2016 study, Gambari, Bello, Agboola and Adeoye investigated the impact of flipped classroom technique improved students' comprehension of the mammalian skeleton system in Minna, Niger State, and found that both genders benefited equally from it. The gender disparities in students' achievement in Economics were also examined in this study. This is due to the conflicting and contradictory findings from a number of researches regarding academic achievement of students.

Theoretical Framework

The theoretical framework of the study is anchored on Jerome Bruner's constructivist theory of learning propounded in 1966. According to Jerome Bruner's constructivist theory, learning is an active process in which students create meaning based on their prior experiences. Constructivism's core principles include: establishing real-world environments or real-world situations that use context to make learning relevant; emphasizing practical solutions to real-world issues. In problem-solving techniques, the instructor acts as a mentor or facilitator. Through the construction of new concepts, these cognitive structures enable the learner to go beyond the provided information. In this situation, the learner draws on prior knowledge and

experiences, organizing them to make sense of current understanding and to solve new problems by integrating previously acquired information with anticipated new insights. The theory however, promoted curiosity, exploration, initiative, inventiveness, and self-discovery among learners. This theory is applicable to the present study since the flipped instructional strategy emphasizes helping, supporting, and letting students come to their own understanding of the major ideas.

Research Questions

The study was directed by the following research questions;

1. What is the effect of flipped classroom instructional strategy on achievement mean scores of students in Economics?
2. What is the mean achievement scores of male and female students mean achievement in Economics?
3. What is the interaction effect of instructional strategies and gender on students' academic achievement in Economics?

Hypotheses

The following null hypotheses were generated and tested at 5% alpha level.

1. There is no significant difference in the mean achievement scores of students exposed to flipped classroom instructional strategy and those exposed to conventional (lecture) method.
2. There is no significant difference in the mean achievement scores of male and female students in Economics.
3. There is no significant interaction effect of instructional strategies and gender on students' academic achievement in Economics.

Method

The research was conducted using a quasi-experimental design. Specifically, pre-test post-test non-equivalent control group design. According to Nworgu (2015), a quasi-experimental design refers to an experiment in which randomly assigning subjects to experimental and control groups is not feasible. This design was deemed suitable because the researchers utilized existing classes as the experimental and control groups without randomly assigning

participants, in order to maintain the regular school structure. The design has recently been used by researchers in similar studies (Ikeh, et al, 2020; Ikeh, et al, 2021; Egara, Eseadi, & Nzeadibe, 2022). The study's population consisted of 4,534 Senior Secondary Two (SS II) Economics students within the Nsukka Education Zone of Enugu State, Nigeria. Sample size of 98 SS II Economics students was used for the study. Purposive sampling technique was used in drawing the sampling size. The rationale for purposive sampling was to select schools with adequate and functional Information and communication technology (ICT) laboratory and constant electricity. The data collection instrument used was the Economics Achievement Test (EAT), which was developed by the researchers. The EAT is a 40-item multiple choice test with 4 options lettered A-D from where the students are expected to select the correct option. The instrument was scored on the basis that each correct response attracted one (1) mark while incorrect response attracted zero (0) mark. This implies that the maximum score obtainable for the instrument is 40 and the minimum score is 0. Three research experts face validated the instrument for data collection as well as the lesson plans/notes developed for the study. Two of the experts are from Education Economics unit of Department of Social Science Education and one from Measurement and Evaluation unit of Department of Science Education, all from Faculty of Education, University of Nigeria, Nsukka. Additionally, content validity of the instrument was ensured through a well-developed table of specifications (test blueprint). The reliability of the instrument was assessed using the Kuder-Richardson Formula 20 (KR-20), yielding an internal consistency coefficient of 0.93, which indicates a high level of reliability.

Experimental Procedure

Before commencing the treatment, the Post Primary Management Board, Enugu State's Nsukka Zonal office, gave its consent. Additionally, consent was asked of and received from the two schools included in the study's sample. However, the regular Economics teachers who worked as research assistants for the study were trained by the researcher. The training lasted for one week on the use of flipped classroom instructional strategy and conventional (lecture) method in teaching the Economics concepts (Demand and supply, financial institution, public finance, Labour force, Alternative Economics system, Theory of cost and Inflation drawn from SS2 syllabus). The Economics teachers in both groups received lesson plans and notes as a resource. The flipped classroom instructional technique was used to produce the lesson plan and notes for the experimental group, which included activities utilizing video resources and

materials. The traditional method was used to produce the lesson plan/note for the control group. The students completed a pretest prior to beginning the treatment. In order to prevent memory effects and give the students a fresh look, the instrument was reorganized before the four-week treatment began, and the posttest was given to them. The collected data were analyzed using mean and standard deviation to address the research questions, while Analysis of Covariance (ANCOVA) was employed to test the stated hypotheses at the 0.05 significance level.

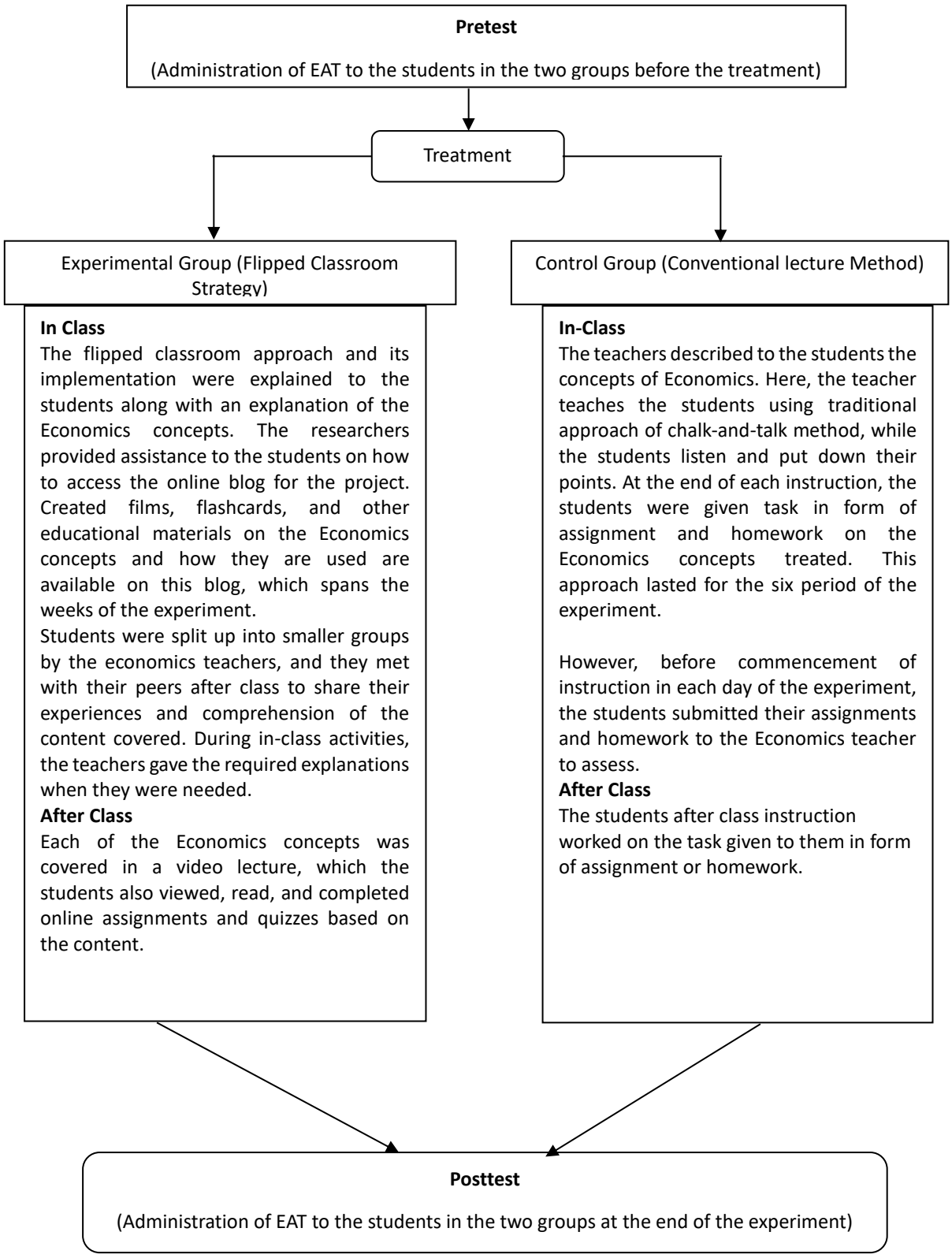
The results are presented according to the research questions and hypotheses that guided the study.

Research Question 1: What is the effect of flipped classroom instructional strategy on achievement mean scores of students in Economics?

Table 1: The mean and standard deviation of the pretest and posttest scores reflecting students' academic achievement in Economics for both the experimental and control groups

Groups		**Pre-test**		**Post-test**		**Mean Gain Scores**	**Mean Gain Difference**
	N	**Mean**	**SD**	**Mean**	**SD**		
Experimental Group	51	16.33	2.83	31.82	3.53	15.49	8.94
Control Group	47	15.94	2.54	22.49	3.66	6.55	

Result in Table 1 shows the mean achievement score of students exposed to the two groups (experimental and control group). The students in the experimental group (flipped classroom instructional strategy) obtained an average pretest score of 16.33 (SD =2.8) and a mean posttest score of 31.8 (SD =3.5), resulting to a mean difference of 15.5. However, students in the control group scored an average of 15.9 (SD=2.5) on the pretest and had a mean achievement score of 22.5 (SD=3.7), showing a mean difference of 6.6. As a result, students in the experimental group (flipped classroom instructional strategy) showed greater mean achievement scores than their counterparts in the control group.



H0$_1$: There is no significant difference in the mean achievement scores of students exposed to flipped classroom instructional strategy and those exposed to conventional (lecture) method.

Table 2: ANCOVA analysis of the effect of the flipped classroom instructional strategy on students' academic achievement in Economics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2212.462[a]	4	553.116	44.354	.000	.656
Intercept	1287.952	1	1287.952	103.281	.000	.526
Pretest	65.600	1	65.600	5.261	.024	.054
Method	2032.480	1	2032.480	162.985	.000	.637
Gender	12.560	1	12.560	1.007	.318	.011
Method * Gender	.814	1	.814	.065	.799	.001
Error	1159.742	93	12.470			
Total	76662.000	98				
Corrected Total	3372.204	97				

a. R Squared = .656 (Adjusted R Squared = .641)

Result of the analysis in Table 2 shows that instructional strategy is a significant factor on students' academic achievement in Economics; *F (1, 93) = 162.985, p = .000*. Therefore, the null hypothesis stating that there is no significant difference was rejected. This is due to the fact that the exact p-value of .000 is lower than the established significance level of 0.05. Consequently, the researchers concluded that a significant difference exists in the mean achievement scores of Economics students taught using the flipped classroom instructional strategy compared to those taught through the conventional lecture method, with the advantage favoring students in the flipped classroom group. The result also revealed that the effect size (partial eta squared) was 0.637, indicating that 63.7% variation in students' academic achievement in Economics was attributed to the flipped classroom instructional strategy.

Research Question 2: What is the mean achievement scores of male and female students mean achievement in Economics?

Table 3: Mean and standard deviation of male and female students' achievement in Economics

Gender		Pre-test		Post-test		Mean Gain Scores	Mean Gain Difference
	N	Mean	SD	Mean	SD		
Male	42	16.26	2.77	27.83	5.80	11.57	0.64
Female	56	16.05	2.65	26.98	5.99	10.93	

Result of the analysis in Table 3shows the mean achievement scores of male and female students in Economics. The mean pretest score for the male studentswas16.3 (*SD* =2.8), and the mean posttest score was 27.8 (*SD* =5.80), with a mean difference of 11.6. The mean pretest score for female students was16.1 (*SD* =2.7), and the mean posttest score was 27.0 (*SD* =6.0), with a mean difference of 10.93. Thus, it was noted that female students had slightly higher mean achievement scores than their male counterparts, with a mean difference of 0.64.

H0$_2$: There is no significant difference in the mean achievement scores of male and female students in Economics.

The result of the analysis in Table 2 was also used to test Hypothesis 2. The result shows no significant influence for gender $F(1, 93) = 1.007$, $p = .318$. Thus, given that p-value of 0.318 is greater than the significance level set at $p > .05$, the null hypothesis of significant difference was rejected. The researchers therefore, conclude that there is no significant difference in the mean achievement scores of male and female students in Economics.

RQ3: What is the interaction effect of instructional strategies and gender on students' academic engagement in Economics?

Table 4: Mean and standard deviation of interaction effect of instructional strategies and gender on students' achievement in Economics

Groups	Gender	N	Pretest		Posttest	
			Mean	SD	Mean	SD
Experimental Group (Flipped Classroom)	Male	22	16.41	2.81	32.36	3.33
	Female	29	16.28	2.90	31.41	3.68
Control Group (Conventional lecture method)	Male	20	16.10	2.79	22.85	3.22
	Female	27	15.81	2.37	22.22	4.00

Result of the analysis in Table 4 shows the interaction effect of instructional strategies and gender on students' achievement in Economics. The result shows that the mean pretest score for the male students exposed to flipped classroom instructional strategy was 16.4 (*SD* =2.8), and the mean posttest score was 32.4 (*SD* =3.3), while their counterpart exposed to the control group (conventional lecture method) had pretest score of 16.1 (*SD=2.8*) and mean posttest score of 22.9 (*SD=3.2*). However, the mean pretest score for the female students exposed to flipped classroom instructional strategy was 16.3 (*SD* =2.9), and the mean posttest score was 31.4 (*SD* =3.7), while their counterpart exposed to the control group (conventional lecture method) had pretest score of 15.8 (*SD=2.4*) and mean posttest score of 22.2 (*SD=4.0*). The results do not indicate an ordinal interaction effect between instructional strategies and gender on students' achievement in Economics.

H0$_3$: There is no significant interaction effect of instructional strategies and gender on students' academic achievement in Economics.

The result of the analysis in Table 2 was also used to test Hypothesis 3. The result shows no significant interaction effect of instructional strategies and gender F (1, 93) = .065, p =.799. Thus, given that the p-value of 0.799 is greater than the significance level set at p>.05, the null hypothesis of significant interaction effect was rejected. The researchers therefore, conclude that there is no significant interaction effect of instructional strategies and gender on students' academic achievement in Economics. The interaction effect was also interpreted below using the graph in figure.

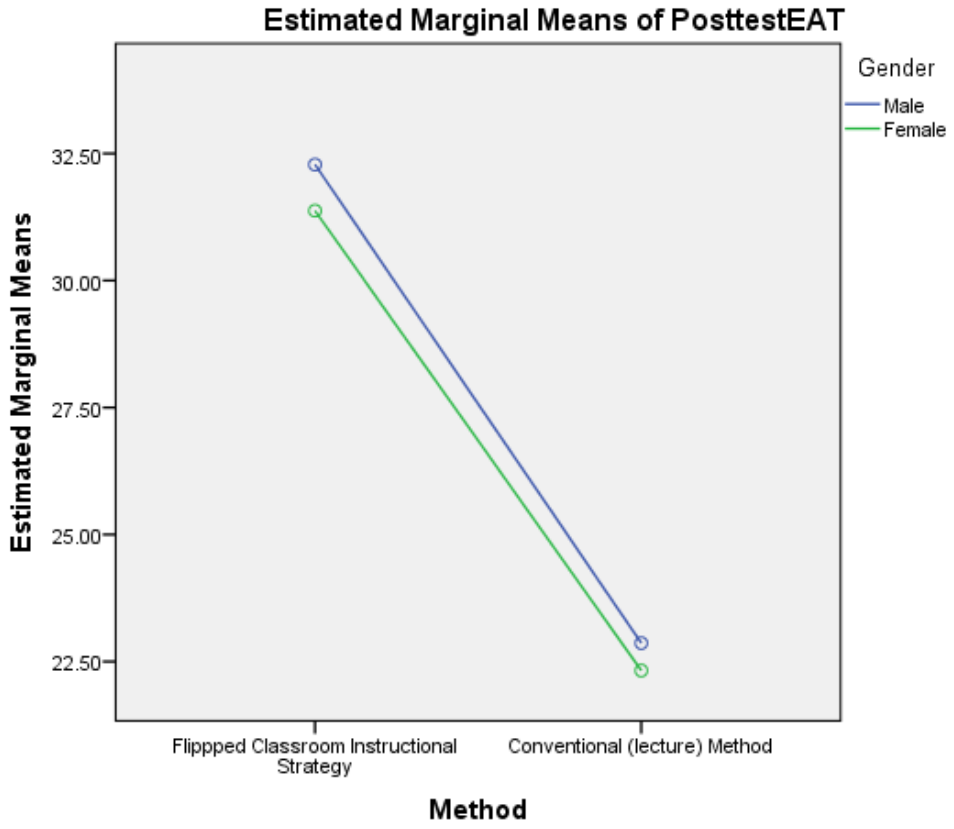


Figure 1: *Graph of the interaction effect of instructional strategies and gender on students' academic achievement in Economics*

Figure 1 shows that there is no interaction effect of instructional strategies and gender on students' academic achievement in Economics. This is indicated by the separate lines for the male and female students' achievement in Economics in the respective instructional strategies (flipped classroom instructional strategy and conventional (lecture) method.

Discussion of Findings

Effect of flipped classroom instructional strategy on mean achievement scores of students in Economics

The study's findings showed that students in the experimental group, who were taught using the flipped classroom instructional strategy, achieved higher average scores than those in the control group. Further analysis using ANCOVA revealed a significant difference in the mean achievement scores of Economics students exposed to flipped classroom instructional

strategy and those exposed to conventional (lecture) method in favour of the students exposed to flipped classroom instructional strategy. One possible explanation for the higher mean achievement score observed in Economics classes using the flipped classroom instructional strategy could be because the strategy promoted greater diversity in the classroom and provided support for students with varying learning styles. In a flipped classroom, the regular classroom activities are frequently supplemented by the flipped or inverted class activities. This could be another explanation for the improved accomplishment scores of children exposed to the flipped classroom technique. In light of this, Saunders (2014) posits that flipped classrooms encourage active engagement through tailored education.

The study's finding aligns with that of Egara and Mosimege (2023), who found that students taught mathematics through the flipped classroom method achieved higher scores in both mathematics performance and interest compared to those taught using traditional methods. Similarly, the findings of Sirakaya and Özdemir (2018) supported this result, reporting a significant difference between the groups in academic achievement, motivation, and retention. Also in agreement was the findings of Sirakaya and Özdemir (2018) which reported a significant difference between groups in terms of academic achievement, motivation and retention. The result of this study is consistent with those of Wei et al. (2020), who found that students in the control group who were taught mathematics using the flipped classroom technique did noticeably better than their counterparts who were taught mathematics using the traditional method. The results are consistent with those of Uy (2022), who found that students in the experimental group who were taught math using the flipped classroom approach achieved noticeably higher test scores than their counterparts in the control group.

Influence of gender on students' achievement in Economics

The research findings indicate that gender did not significantly influence students' academic achievement in Economics. This might be explained by the fact that both male and female students in the flipped learning group received equal learning chances. The results validate the findings of Makinde and Yusuf (2017), which investigated how the flipped classroom approach affected students' math achievement and found that when the flipped classroom approach was used, male and female students achieved comparable math achievement levels. This result is consistent with previous research by Quain (2014) and Sarkaet al. (2015), which showed that gender, had no discernible impact on students' attitudes

toward geography. The result also corresponds with Kutigi et al. (2022)'s conclusion, which demonstrated that when the flipped classroom paradigm was applied to oral English subject, learners of both genders performed similarly. Also in agreement was the finding of Egara and Mosimege (2023) which revealed that male and female students who were taught mathematics using the flipped classroom method achieved similar scores.

Interaction effect of instructional strategies and gender on students' academic achievement in Economics

The result of the study showed that there was no significant interaction effect of instructional strategies and gender on students' academic achievement in Economics. This is shown when the lines representing gender (male and female) are drawn against the instructional strategies and do not cross at any point. This is explained by the teaching strategy's constant efficacy across a range of student achievement levels.

This result is consistent with that of Quain (2014) and Sarkaet al. (2015), who found in their separate investigations that gender and teaching style had no discernible interaction effects on students' attitude scores in geography. However, the results are at odds with those of Jana and Patra (2017), who found that students' attitude ratings in geography were significantly influenced by both gender and technique. Omebe and Omiko (2015) found no evidence of a significant interaction between treatment and gender and students' achievement in physics when they examined the impact of instructional resources on students' performance in the subject at secondary schools in Ebonyi State, Nigeria.

Conclusions

The findings compared that, as compared to the traditional (lecture) method, the implementation of the flipped classroom instructional strategy significantly improved students' academic progress in Economics. This suggests that the instructional technique of the flipped classroom can aid students studying economics in improving their academic achievement. The study also finds no evidence of a substantial gender effect on students' academic performance in economics. This indicates that students who used the flipped classroom strategy, regardless of gender, gained the same benefits from the program.

Implications for Curriculum and Educational Evaluators

This study's conclusion has implications for curriculum and educational evaluators because it shows that curriculum planners can fully implement the flipped classroom instructional strategy in learners' curricula when the impact of the strategy on students' achievement is thoroughly examined. As a result, curriculum planners will include the flipped classroom instructional strategy into the new curriculum design and advise all senior secondary school teachers to adopt it when teaching and learning Economics. Notwithstanding, the effectiveness of flipped classroom instructional strategy needs to be further evaluated by the educational evaluators for better enhancement of students' academic achievement in Economics and other subjects. This further evaluation of the strategy may need to involve some variables like location as well as focusing in other levels of education like higher institutions of learning.

Limitations of the Findings

The following restrictions apply to the generalizations made from this study: The students were taught by their regular classroom teachers. However, factors related to the teachers—such as their academic qualifications, gender, attitudes, and personality—were not considered, and these variables could have influenced the study's outcomes. Thus, in order to replicate this work, future research should consider the aforementioned limitations.

Recommendations

Based on the findings of the study, the following recommendations were provided:

1. The flipped classroom instructional strategy should be implemented by educators, particularly those teaching Economics, in order to improve students' academic achievement in the subject.
2. State governments can plan and fund frequent conferences and training workshops to educate educators on how to improve students' achievement in Economics by implementing the cutting-edge flipped classroom instructional strategy. This can be done in partnership with State Ministries of Education.
3. In order to integrate the flipped classroom approach into the national Economics curriculum, curriculum planners and educational policy makers should take into consideration reviewing the curriculum.

4. In order to optimize the use of the flipped classroom instructional strategy and increase students' achievement in Economics, school principals should guarantee that materials and resources related to Information and Communications Technology (ICT) are readily available.

Declarations

Competing Interests: The authors disclosed no conflicting interests.

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