

# Gender Differentials In The Use Of Flipped Classroom Instructional Models In Enhancing Achievement And Retention In Oral-English Contents Of Senior Secondary School In Minna, Niger State, Nigeria

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## Abstract

*This study investigated gender differentials in the use of flipped classroom instructional models in enhancing achievement and retention in Oral-English contents of senior secondary school in Minna, Niger state, Nigeria. The study adopted a quasi-experimental design using pretest, posttest, non-randomized, non-equivalent control group design. The research was guided by two research questions with corresponding two null hypotheses tested at 0.05 level of significance. The target population for the study was all senior secondary school (SSS) students offering English Language in Minna, Niger State. Multi-stage sampling was used to select three schools and 125 students (69 males and 56 females) students. The contents of the Oral-English were developed into video instructional package. Oral-English Performance Test (OPT) was used for data collection which was validated by 10 experts and pilot tested on 45 SSS II students, the data obtained was analyzed using Pearson Product Moment Correlation (PPMC) and a reliability coefficient of 0.96 was obtained. The data collected were analyzed using descriptive statistics of mean and standard deviation to answer the research questions while inferential statistics of Analysis of Covariance (ANCOVA) was used to test the research hypotheses. The findings of the study revealed that: the students taught Oral-English using Flipped Classroom Strategy (FCS) performed better irrespective of gender. The retention level of male and female students taught Oral-English using Flipped Classroom Strategy was high without discrimination. Based on the findings, appropriate recommendations were made.*

**Keywords:** Flipped classroom instructional models, Gender, Oral English, Performance and retention

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## Introduction

The English language, as one of the key courses in both junior and senior secondary schools' curricula, is an integrated subject with the following essential components or elements: vocabulary development, understanding listening and reading structure, spoken English, writing, and literature. The goal is to encourage systematic development of both language skills and literary knowledge, both of which are regarded necessary for efficient use of English in oral and writing communication as well as learning other subjects in the school curriculum (Federal Republic of Nigeria, 2013).

Despite the importance of English in all Nigerian courses, students' performance on the national examination in the subject is not encouraging. Parents, teachers, and other stakeholders have all expressed their opinions on the situation. Nigerian graduates were given a low score in a Word Bank assessment due to insufficient talents in oral and written English expressions (Majgaard & Mingat, 2012). These graduates were taught the English language and how to utilize it at their respective universities, but they were not fluent in the language. As a result, their performance in the topic has remained poor, affecting their performance in other areas. Furthermore, according to Egwuchukwu (2012), low English language performance has a spillover effect on other disciplines.

The poor performance of students in the English language at the secondary school level in Nigeria can be attributed to a variety of issues. The absence of an enabling atmosphere, ill-equipped classrooms, and overcrowding classrooms, according to Lawal (2019) and Olaleye, Ajayi, Oyebola, and Ajayi (2017), have all contributed to this issue. Overcrowding, bad teaching methods, and a lack of language laboratories and other learning materials all contribute to agitation and poor classroom management. Furthermore, Thompson, Morton, and Storch (2013) found that most Nigerian schools were not properly utilizing technology that may improve English language teaching and learning. Furthermore, Egwuchukwu (2012) attributes students' poor performance to curriculum inconsistencies. She contended that a major highlight of English dialect educating and learning in Nigeria is that the educational modules is continually changed in line with modern thoughts and in reaction to the classroom, sociological and political substances of the time. Adeyele and Yusuff (2012). deplored that visit utilize of address strategies in educating and learning in most schools does not give for the arrangement of learning encounters. Moreover, Gambari, Olumba, and Gbodi, (2012) detailed that the address strategy of instructing utilized by auxiliary school instructors is one of the components mindful for mass disappointment within the English dialect. There are distinctive viewpoints of the English dialect advertised in auxiliary schools in Nigeria which incorporate language structure, lexis, and structure, composing, reading, and phonetics. Language structure could be a collection of rules that clarify how a lion's share of individuals talk and type in. It bargains with diverse sorts of work that words do in a sentence.

Language structure may well be said to be the alter those words experience to precise distinctive implications and the right course of action of words in a sentence (Aina, Ogundele, & Olanipekun, 2013). It too thinks about the way words and

morphemes connect to make important sentences. Verbal English is instructed as phonetics. Phonetics concern itself with the generation and classification of discourse sound which moreover bargains with tuning in or hearing and talking. A sound that has not been listened accurately cannot be replicated accurately except by chance (Negari, Azizi, & Arani, 2018). A learner who is insufficient in elocution will have trouble in communicating orally. Tuning in comprehension is additionally an perspective of Verbal English. It includes sound segregation and advancement of ear and memory affiliation; supported tuning in and acknowledgment of discourse sounds such as vowels and consonants (NematTabrizi & Saber, 2016). It is clear from the composition of Oral English that it has not received adequate attention in Nigerian secondary schools. Students' poor performance is due to curricular inconsistencies.

English dialect instructing and learning in Nigeria and Namibia and watched that the educating of Verbal English has been ignored in Nigerian schools since most instructors of English dialect are not commonplace with the fundamental sound frameworks of the English dialect which are consonants, vowels, push, and pitch (Ola-Busari, 2014). It is conceivable that the failure of most instructors to instruct Verbal English may contribute to students' destitute execution in English dialect examination. To back this attestation, Momoh (2013) notes that most instructors lack the fundamental preparing required within the educating of Oral English. One of the etymological components that influence the execution of understudies within the English dialect is the interference wonder experienced by moment dialect learners as a result of the etymological components display or missing within the mother tongue (Sa'ad, & Usman, 2014).

In spite of that, Oribabor (2014) pointed out that fruitful learners ought to be able to deliver their contemplations in a way that will make their messages comprehensibly to local speakers. The wonder of obstructions is the exchange impact of the dominance of components of the primary dialect into the utilize and expression of the English dialect (L2). Exceptionally frequently, the understudy exchanges the articulation, stretch, cadence and pitch designs of the L1 to the dialect generation of the moment dialect (L2) thereby committing genuine mistakes within the English dialect. L1, concurring to dialect classification, is the local or to begin with dialect of a child which is ordinarily his mother tongue or his early childhood language (Thompson, Morton, & Storch, 2013). It is the primary dialect a child employment in communication. The moment dialect, on the other hand, alludes to a non-native dialect. The phrase second language (L2) refers to a person who already speaks a first language. To circumvent the interference of L1, Oral English could be taught through information and communication technology (ICT) (UNESCO, 2004).

Asan and Montague (2014) define information and communication technology (ICT) as "a broad set of technological tools and resources used to transmit, create, disseminate, store, and manage information." With the advent of information and communication technology, different forms of systematic teaching and learning in education were born. ICT has revolutionized all elements of education, allowing for electronic processes such as e-learning, e-teaching, e-journals, e-campus, e-libraries, e-registration, and e-examination. ICT also encourages student-centered

approaches to teaching and learning, such as collaborative learning and the flipped classroom (Sánchez & Alemán, 2011).

The student-centred approach bolstered by guidelines media might upgrade compelling instructing and learning (Gambari & Yusuf, 2015). The flipped classroom demonstrate is one of the later directions procedures that can be investigated to improve students’ execution within the English language. A flipped classroom may be a student-centered task-based and activity-based learning approach that gives a few points of interest to the understudy (Johnson & Renner, 2012). It can help the understudy to upgrade the aptitudes of communication, interpersonal social relationship, participation in sharing and caring, openness, adaptability, flexibility, information maintenance, higher-order basic considering. It could be a strategy in which understudies work together in little bunches towards a common objective (Green, 2012). Understudies, through flipped classrooms, can work together on a assignment, trade their sees, encounters, suppositions, examine and arrange methodologies, activities and comes about (Strayer, 2012). These activities can give study language. By forming a community of learners, you'll have the chance to utilize everyone's unique skills to reach a common objective through collaborative efforts. All group members partake in the attainment of the common goal. The instructor serves as a learning coach, mentor, or facilitator (Johnson & Renner, 2012).

Students may produce their own content, engage in independent problem solving, or work on inquiry-based activities in small groups, putting what they have learned from their preparation into practice. Teachers circulate throughout the classroom, answering questions, probing students for misconceptions, working with small groups, and leading the overall learning experience (Green, 2012). According to Brame (2013), there are four fundamental components that characterize a flipped classroom. These features include a chance for students to get a head start on learning before class, an incentive for students to prepare for class, a way to measure students' comprehension, and in-class exercises that focus on higher-level cognitive functions. These components form the backbone of a flipped classroom, and each one is linked to a key learning concept, making the flipped classroom a potentially effective teaching technique. Flipped classrooms have been used in a variety of topics, including mathematics, chemistry, physics, social sciences, arts and humanities, and English language (Johnson & Renner, 2012).

The Flipped Classroom technique can be used in a variety of ways to teach and learn. Standard Inverted Classroom, Micro Flipped Classroom, Discussion-Oriented Flipped Classroom, Demonstration-Based Flipped Classroom, Faux-Flipped Classroom, Group-Based Flipped Classroom, Virtual Flipped Classroom, and Role-Reversal 2.0 are the eight major types of flipped classrooms identified by Thakare (2018). (Flipping the Teacher). The Normal Flipped Classroom Strategy will be used in this study. In this study, pre-recorded video addresses were utilized to flip the classroom. Video instruction could be a kind of mixed media that transmits verbal and non-verbal with the combination of Sound and Visual materials. It creates progression of thought and offers a reality of encounter that fortifies self-activities on the part of the understudies (Engin, 2014). Within the flipped environment of this nature, the instructor produces an guidelines video bundle that was introduced on portable workstations for the learners to observe exclusively or collaboratively. At the

interim, one may select to halt playing and clarify certain focuses or likely hold up until the conclusion of the lesson. Learners have the opportunity to rehash the lesson over and over again (Strayer, 2012). This activity can give understudies with the opportunity to help, clarify, educate, get it, audit, impact each other and subsequently improve a motivational circumstance for creating a community of learners.

A student's performance demonstrates his or her ability to demonstrate a specific skill or knowledge. As a result of their exposure to the specific program of instruction, pupils' performance changes noticeably. It can also be viewed as an act of achievement (accomplishment), a result obtained by labor, a magnificent or heroic deed, or the quality and quantity of a student's work. According to Waseka, Simatwa, and Okwach (2016), there is a link between good teaching methods and student achievement. According to Oluwatayo and Fatoba (2010), instruction can be organized in such a way that all students in the class can achieve and retain more information.

The ability to recreate the taught knowledge when the need arises over time is known as retention (Palmer, Maranba, & Dancy, 2011). Retention abilities influence students' achievement in numerous subjects. As a result, poor retention is a common issue among Nigerian secondary school pupils. This could be due to teachers' failure to employ instructional media to supplement their instruction. It was discovered that using multimedia educational approaches might pique students' interest and retention (Adegoke, 2010). Students acquired knowledge better, maintained what they had learned, and improved comprehension abilities when taught using appropriate instructional media such as video instructional packages, computer-assisted education, and multimedia, according to Starbek, Eriavec, and Peklai (2010). The media's impact on the performance of students' cut across males and females.

In various research (Achebe, 2008; Gambari, Yaki, Gana, & Ughowwa, 2014; Ozofor, & Onos, 2018; Umoru, & Adekunle, 2019), gender concerns have been connected to academic performance and student retention. Gender differences have long been blamed for disparities in academic and professional achievement. It has been identified as one of the elements affecting pupils' academic success (Owodunni, & Ogundola, 2013). Several studies found that male students fared better in science than female students, while others found the opposite. A few thinks about may not build up any shape of impact being applied by sex on scholastic execution. Certain analysts watched that children at basic school, particularly females do drop behind guys on standardized appraisals (Safo, Ezenwa, & Wushishi, 2013). Guys continuously beat females in rudimentary, center and tall school in science execution (Nosek, Frederick, Sriram, Lindner, Devos, Ayala & Greenwald, 2009).; Snyder, & Dillow 2009). This dissimilarity between male and female accomplishment proceeds at post-secondary instruction level where as it were some women are less likely to major within the science disciplines (Anagbogu, & Ezeliora, 2007; Owodunni, & Ogundola, 2013; Miyake Kost-smith, Finkelstein, Pollock, Cohen, & Ito, 2010).

Students' persistent failure in the English language, particularly in Oral English, is attributed to a lack of language laboratories, a teacher-centered instructional approach, a lack of qualified English language teachers, and a lack of instructional

media at the secondary school level in Niger State and other Nigerian states in general (Yaki, & Babagana, 2016; Gambari, Kutigi & Fagbemi, 2014). Students' performance in the English language in the West African Examinations Council (WAEC) and National Examinations Council (NECO) examinations is less than 50% on an annual basis (WAEC, 2018). As a result, this study looks into the gender differences in the usage of flipped classroom teaching approaches in senior secondary school in Minna, Niger State, Nigeria, to improve accomplishment and retention in oral-English content.

### **Statement of the Problem**

The English language is a professional language in Nigeria. It is the language of guidance in colleges specifically on the top stage of number one college, secondary college and beyond. It is obligatory as a pre-considered necessary for moving into college to take a look at engineering, medicine, accounting, and economics in addition to different formal disciplines with inside the college. It is available in folds, written and spoken. Oral English belongs to the spoken kind and it's far compulsorily studied via way of means of all college students in secondary college. Its significance made the Federal Government of Nigeria encompass it with inside the college curriculum and made it obligatory for all college students to analyze that allowing them to make sure preferred ability in speech production. The idea underlying the flipped getting to know technique consists of assisting college students to end up energetic rookies and beautify their engagement. Flipped study room has been proven as powerful getting to know techniques for plenty of disciplines, especially for English as a Foreign Language (EFL). It promotes student-targeted techniques that superior college students' fulfillment and retention regardless of their gender.

Despite the significance of the English language in Nigerian colleges, college students' bad overall performance in Senior Secondary Schools Certificate Examination has been a primary concern. Students stumble upon troubles in each talking and writing. Oral English is one of the factors that scholars discover tough to pass, thereby, main to mass failure withinside the problem. These troubles additionally affected the overall performance of the scholars of the Niger kingdom with inside the West African Senior Secondary Certificate Examination (WASSCE) results. The bad overall performance became obtrusive with inside the WAEC and NECO exams of 2013 to 2018 in which many college students couldn't stable admission into universities because of their failure in the English language.

The traditional technique of coaching hired via way of means of English language instructors at senior secondary colleges in Niger State especially and Nigeria at huge has been recognized as one of the troubles inflicting bad overall performance with inside the English language. Non-use of cutting-edge coaching sources in the course of the coaching of English language that might inspire college students to analyze the problem efficiently additionally attributed to the bad overall performance. They want to decide an appropriate approach for fixing this trouble is now not simply suitable but compelling. However, research on the impact of gender on educational techniques are inconclusive, a few research favor male and a few

research favored girls whilst others are neutral. Therefore, this takes a look at investigated gender differentials with inside the use of flipped study room

educational fashions in improving fulfillment and retention in Oral-English contents of senior secondary college in Minna, Niger State, Nigeria.

**Research Questions**

The following research questions were raised to guide the study:

- How do male and female students differ in the performance test scores in Oral-English when taught using Flipped Classroom Strategy (FCS)?
- Do students' gender influence their retention test scores when they are taught Oral-English in Flipped Classroom Strategy (FCS)?

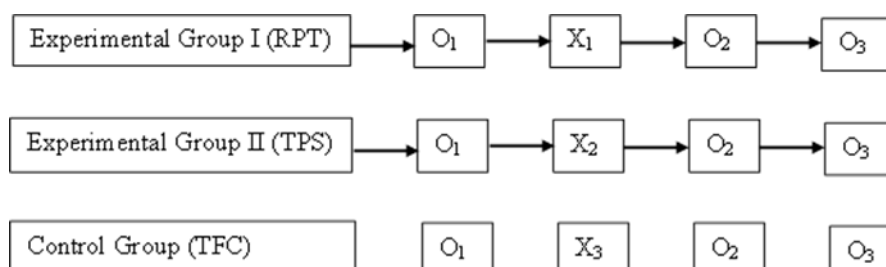
**Research Hypotheses**

- The following null hypotheses were tested at 0.05 level of significance:
- There is no significant difference in the posttest performance of male and female students taught Oral-English in Flipped Classroom Strategy (FCS).
- There is no significant difference in the retention test performance of male and female students taught Oral-English in Flipped Classroom Strategy (FCS).

**Methodology**

**Research Design**

The research design adopted for this study is a quasi-experimental design. It is a pretest, posttest, non-randomized, non-equivalent control group design. Three levels of independent variables (three experimental groups), two levels of moderating independent of gender (male and female), and two dependent variables (performance, and retention) were employed in this study. The three groups were subjected to the pretest, posttest and retention test using Oral-English Video Instructional Package in different flipped classroom settings. Experimental group one was subjected to treatment using Reciprocal Peer Tutoring Flipped Classroom (RPTFC) with Flipped Classroom Oral-English Video Instructional Package (OVIP), Experimental group two was also subjected to treatment using Think-Pair-Share Flipped Classroom (TPSFC) with Flipped Classroom Oral-English Video Instructional Package, while the Control Group was taught using Traditional Flipped Classroom with Oral-English Video Instructional Package. An important component of the quasi-experimental study is the use of pre-testing or the analysis of prior performance to establish group equivalence (Wachanga, Githae & Keraro, 2015). It was not feasible to randomly compose and group students, or to disrupt classes already in existence as the experiment lasted for six weeks. Figure 1 shows the Design Layout of the study.



**Figure 1:** Research Design Layout

The following are the schematic representation of the research layout:

O1 O2 O3  
 O1 O2 O3  
 O1 O2 O3  
 X1 X2 X3

**Where:**

O1, O1 and O1: are pre-test scores for experimental group one, two and three  
 O2, O2 and O2: are post scores for experimental group one, two and three  
 O3, O3 and O3: are retention test scores for experimental group one, two and three  
 X1, X2, and X3: are treatments for experimental groups respectively.  
 The population of this study was made up of all senior secondary school students in Minna Metropolis, Niger State. The target population was the senior secondary school class two (SSII) students whose population was 6,710 for 2018/2019 academic session.

Multi-stage sampling technique was employed. The sample was drawn from 36 co-educational senior secondary schools in Minna metropolis, Niger state. Firstly, purposive sampling technique was employed in selecting the three senior secondary schools and this was done based on criteria such as: equivalence (facilities and manpower), gender composition (mixed schools), infrastructure (computers and computer laboratories), exposure (students and teachers’ exposure to the use of computer for teaching and learning), and candidates’ enrolment (enrolling students for Secondary School Certificate Examination for a minimum of ten years). Ten senior secondary schools met the above criteria, therefore, simple random sampling technique was used in selecting three of the senior secondary schools.

Secondly, in each school, one stream of SSII class was randomly selected from five streams using simple random sampling technique. Intact class was used for the study (students in each class were not randomized).

Finally, students in each class from each school selected were stratified into two strata along gender (male and female) using stratified sampling technique. Table 1 shows the sample distribution of the study.

**Table 1: Distribution of Sample of the Study**

Schools	Male	Female	Total
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School A	19	16	35
School B	19	16	35
School C	31	24	55
Total	<b>69</b>	<b>56</b>	<b>125</b>

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### Research Instruments

Three instruments were used for data collection in this study and these are: Flipped Classroom Oral-English Video Instructional Package (FCOVIP), used for Treatment, Oral-English Performance Test (OPT) used for data collection, and Field Trial Validation Question (FTVQ) for pilot testing of FCOVIP.

Flipped Classroom Oral-English Video Instructional Package (FCOVIP) was used as a medium for instructional delivery in the flipping the classroom settings. It comprised of five lessons from Oral-English language senior secondary school curriculum. These include monophthongs, diphthongs, trip thong, consonants, and consonant clusters. Each lesson was structured in courseware format containing introduction, objectives, main contents, conclusion, summary, and tutor mark assignment. Each lesson was video recorded using a Sony SD 1000 camera, an attached Boom Microphone, a tripod, flood light in acoustic video studio. The recorded video was edited using editing software called Corel Video Studio Pr X3. Each lesson lasted for 40 minutes.

Oral-English Performance Test (OAT) is a researcher developed test instrument drawn from the national curriculum of senior secondary school English language syllabus for SSII students. The test items were prepared according to an approved table of specification of Bloom’s Taxonomy of educational Objectives which comprised: knowledge, comprehension, application, analysis, synthesis, and evaluation. The Oral-English Performance Test (OPT) consist of 40-item multiple choice objective questions with four option A – D, with one correct answer and three distracters. Students were required to indicate the correct answer by ticking the right answer that corresponds to each question. Table 2 shows the specifications based on Bloom’s taxonomy.

This instrument was administered to the students. To reduce the pre-test effects, the questions were reshuffled and administered in a different random order in the posttest and retention test respectively. Each correct answer attracts one mark, after which the overall scores were converted into percentage by the researcher.

Field Trial Validation Questionnaire (FTVQ) is an instrument developed to determine the suitability and reliability of the Flipped Classroom Oral-English Video Instructional Package (FCOVIP). It comprised two sections. Section A dealt with students’ bio data such as name of school, class, and gender. Section B comprised four sub-sections which include: (i) Content of the package which means students level of understanding the package, (ii) Screen design of the package in terms background color, audibility of the package, legibility of the text; (iii) Feedback from the package based on students’ assessment on immediate feedback; (iv) Students’ preferences towards the use of the package compared to conventional method of

learning. Each sub-section contained five statements which the respondents are free to make a choice based on their opinion whether they are strongly agreed, agreed, strongly disagreed or disagreed on each of the item.

The content of Flipped Classroom Oral-English Video Instructional Package Oral-English Performance Test (OPT) were validated by subject specialists involving three senior English Language lecturers, three English Language secondary school teachers, four experts from Educational Technology Department. The Oral-English Video Instructional Package was trial tested on 39 senior secondary school students from a Senior Secondary School in Minna, Niger State which is part of the study population, but not among the sampled schools.

The test blue print indicates that the cognitive levels of Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation are represented by the test items of the instrument. The knowledge area has 8 items, comprehension has 10 items, application has 5 items, analysis has 5 items, synthesis has 6 items and evaluation has 6 items respectively.

A pilot test was conducted to ascertain the reliability and suitability of the Oral-English Performance Test (OPT). The pilot test was carried out using 45 intact class students from a Senior Secondary School in Minna, Niger State. Although, the school is part of the population of this study, but will not be used for the real study. The data obtained from pilot testing was subjected to data analysis using Pearson Product Moment Correlation (PPMC) Coefficient and 0.961 reliability coefficient was obtained which was considered reliable.

#### **Procedure for Data Collection**

The researcher visited the sampled schools two weeks before carrying out the study. During this visit the objectives of the study were discussed with the appropriate authorities. After obtaining permission to carry out the study, in the first week of study, the researcher trained the English teachers who stood as research assistants on how to use the Oral-English Video Instructional Package for Flipped Classroom Instruction. Pre-test was administered to students in the three groups. The 2<sup>nd</sup> to 5<sup>th</sup> weeks were used to administer the treatment using Oral-English Video Instructional Package for teaching the students both in collaborative settings and traditional method of teaching. Oral-English Video Instructional Package was burnt on digital versatile disc (DVD) and presented to students on weekly basis. Students were given time frame to study the video before the class session. During the English language class in each school, students were grouped into three-member team. Teams from each school were exposed to the use of FCOVIP that contained the same concepts but used with different learning strategies. In addition, they were allowed to go home with Oral-English Video Instructional Package at the end of each week for more comprehension and mastery of the concepts in the video. After four weeks of treatment, OAT was administered to all the groups simultaneously to determine

their cognitive performance of the concepts. The pre-test, posttest and retention test were marked according to the marking guide and the result obtained were subjected to analysis by the researcher.

The procedures employed in implementing Flipped Classroom Strategy is given as follows: students learned the concepts using Oral-English and using Video Package as a medium for flipping the class on individual basis at their various homes and at school using computer laboratory at free lecture hours. During the class period, they were subjected to question and answer by teachers after which each of them took written quiz based on the Oral-English Video Instructional Package (OVIP) watched before the class. In this group, students provided answers to the questions without peer’s interactions. The teacher facilitated the class activities and ensured strict compliance with instructions of non-interaction among members while taking the written quiz.

**Procedure for Data Analysis**

The data obtained from the administration of OAT at the pre-test, post-test, and retention test were collated, marked and subjected to data analysis. The research questions were answered using mean and standard deviation while the hypotheses were tested using ANCOVA with Statistical Package for Social Sciences (SPSS) version 21. Sidak post hoc test was used to determine where the differences exist among the variables. The significance of the various statistical analyses was ascertained at 0.05 alpha levels of significance. This choice of ANCOVA was to control errors of initial non-equivalent arising from the use of intact classes as subjects for the study. Graphical representations were also used to indicate the mean gains in scores of the students between pretest, posttest and retention test.

**Results**

**Analyses of Research Questions**

**Research question one:** How do male and female students differ in the performance test scores in Oral-English when taught using Flipped Classroom Strategy (FCS)?

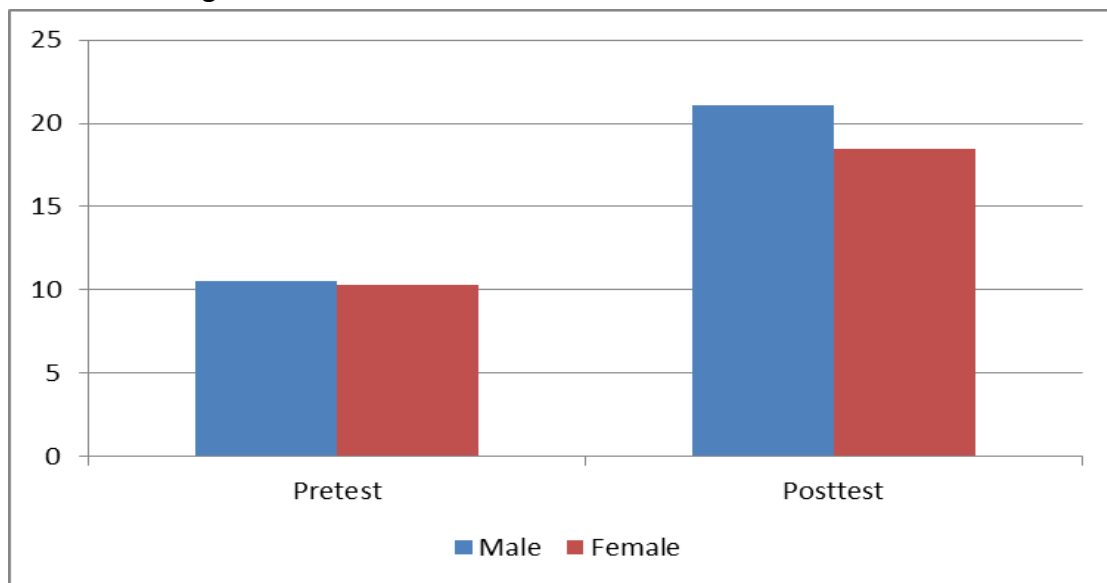
In answering the research question one, mean scores of male and female students in Flipped Classroom Strategy (FCS) group were analysed using mean and standard deviation as shown on Table 2.

**Table 2:** Pretest and Posttest Mean Scores and Standard Deviation of Male and Female Students taught Oral-English with FCS

Group	N	Pretest		Posttest		Mean Gain
		Mean	SD	Mean	SD	
Male	69	10.52	3.19	21.06	5.22	10.54
Female	56	10.29	2.18	18.46	5.06	8.17

**Table 2** shows the mean and standard deviation of the pretest and posttest scores of male and female students taught Oral-English with Flipped Classroom Strategy (FCS).

The result revealed that male students had the mean scores of 10.52 with standard deviation of 3.19 at pretest, and the mean score of 21.06 with standard deviation of 5.22 at posttest was obtained at posttest. The male students in the Flipped Classroom Strategy group had the mean gain of 10.54. Similarly, the mean scores of female students were found to be 10.29 with standard deviation of 2.18 at pretest, and posttest mean score of 18.46 with standard deviation of 5.06 was obtained by female students at posttest respectively. The female students in the Flipped Classroom Strategy group had mean gain of 8.17. This implies that the male students had mean gain higher than female students in the same group. The graphical representation of the male and female students’ performance in this group is illustrated in Figure 2.



**Figure 2:** Graphical Illustration of Performance of Male and Female Students Taught Oral-English Using FCS

**Research question two:** Do students' gender influence their retention test scores when they are taught Oral-English in Flipped Classroom Strategy (FCS)?

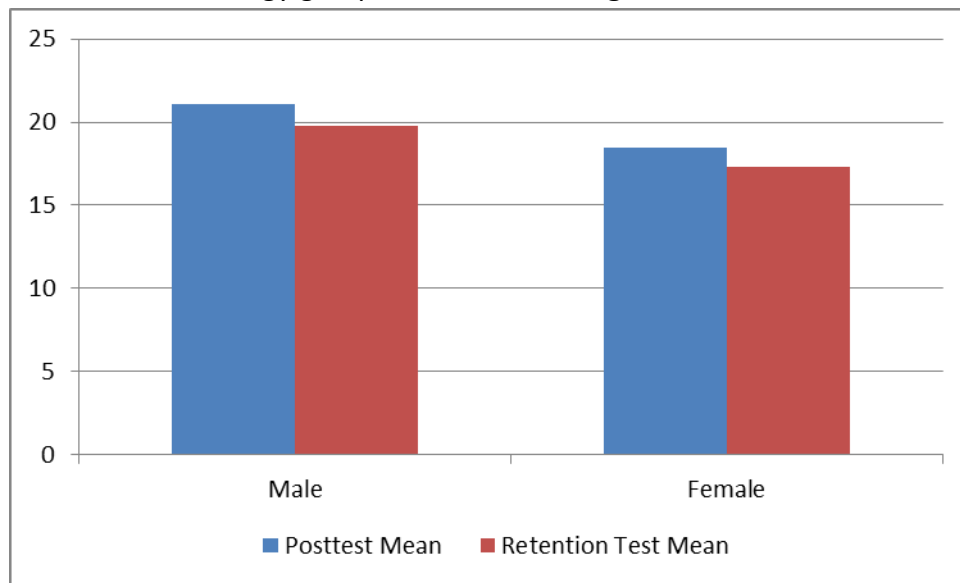
In answering the research question two, mean scores of male and female students in Flipped Classroom Strategy (FCS) group were analysed using mean and standard deviation as shown on **Table 3**.

**Table 3:** The Mean and Standard Deviation of the Posttest and Retention Scores of Male and Female using FCS

Group	N	Posttest		Retention Test		Mean Gain
		Mean	SD	Mean	SD	
Male	69	21.06	5.21	19.80	5.05	1.26
Female	56	18.45	5.06	17.29	5.06	1.16

**Table 3** shows the mean and standard deviation of the posttest and retention test scores of students taught Oral-English with Flipped Classroom Strategy. The result

revealed that male students had mean scores of 21.06 with standard deviation of 5.21 at posttest, and 19.80 as the mean score with standard deviation of 5.05. The male students in the Flipped Classroom Strategy group had mean gain of 1.26. Similarly, the mean scores of female students in the Flipped Classroom Strategy group was found to be 18.45 with standard deviation of 5.06 at posttest, and retention mean score of 17.29 with standard deviation of 5.06 was obtained by female students. Therefore, the female students had mean gain of 1.16. This implies that the male students had higher mean gain than female students in the same group. The graphical representation of male and female students’ performance in Flipped Classroom Strategy group is illustrated in **Figure 3**.



**Figure 3:** Graphical Illustration of Performance of Male and Female Students Taught Oral-English Using FCS

### Testing of Hypotheses

#### Hypothesis one

There is no significant difference in the posttest performance of male and female students taught Oral-English in Flipped Classroom Strategy (FCS).

In testing the hypothesis one, the performance scores of male and female students in the Flipped Classroom Strategy were analysed using ANCOVA as shown on Table 4.

**Table 4:** ANCOVA Results of Performance Scores of Male and Female Students in FCS Group

Source	Type III Sum of Squares	df	Mean Square	F	p-value
Corrected Model	91.881	2	45.941	1.699	.193
Intercept	1394.537	1	1394.537	51.582	.000
Pretest	0.001	1	0.001	.000	.994
Gender	91.700	1	91.700	.3302	.071 <sup>ns</sup>
Error	1405.828	122	27.035		
Total	23338.000	124			

**Corrected Total**    1497.709    125

ns: not significant at  $p > 0.05$

**Table 4** shows the ANCOVA results of the performance scores of male and female students taught Oral-English with Reciprocal Peer Tutoring Flipped Classroom. From the table, there is no significant difference in the mean performance scores of the male and female students at 0.05 level of significance  $F(1,52) = .3302, p > 0.05$ . The results of the analysis indicate that this hypothesis should not be rejected on the basis that the univariate effect of gender was not statistically significant on the posttest mean score of male and female students taught Oral-English using Flipped Classroom Strategy (FCS). On this basis, hypothesis five is therefore not rejected. This implies that male and female students performed equally well when Flipped Classroom Strategy was used in Oral-English.

**Hypothesis two**

There is no significant difference in the retention test performance of male and female students taught Oral-English in Flipped Classroom Strategy (FCS).

In testing the hypotheses two, the retention scores of male and female students in the Flipped Classroom Strategy (FCS) were analysed using ANCOVA as shown in Table 5.

**Table 5:** ANCOVA Results of Retention Scores of Male and Female in Flipped Classroom Strategy

Source	Type III Sum of Squares	df	Mean Square	F	p-value
<b>Corrected Model</b>	1376.524	2	688.262	569.699	.000
<b>Intercept</b>	.508	1	.508	0.420	.520
<b>Posttest</b>	1290.975	1	1290.975	1068.587	.000
<b>Gender</b>	.004	1	.004	.003	.955 <sup>ns</sup>
<b>Error</b>	62.822	122	1.208		
<b>Total</b>	20691.000	124			
<b>Corrected Total</b>	1439.345	125			

ns: not significant at  $p > 0.05$

**Table 5** shows the ANCOVA results of the mean retention scores of male and female students taught Oral-English using Flipped Classroom Strategy (FCS). From the table, there is no significant difference in the mean retention scores of the male and female students at 0.05 level of significance  $F(1,32) = .003, p > 0.05$ . The results of the analysis indicate that this hypothesis should not be rejected on the basis that the univariate effect of gender was not statistically significant on the mean retention scores of male and female students taught Oral-English using Flipped Classroom Strategy (FCS). On this basis, hypothesis eight is therefore not rejected. This implies that male and female students retained the contents of Oral-English equally better

when Flipped Classroom Strategy (FCS) was used in teaching Oral-English at Senior Secondary Schools.

### Discussion

The study revealed that Flipped Classroom Strategy (FCS) enhanced male and female students' performance equally. This finding agrees with that of Iranmanesh and Darani (2018) who revealed that gender had no significant effects on learning English idiomatic and everyday expression among Iranian EFL learners. Similarly, the finding agrees with that of Gambari and Yusuf (2014), Ajaja and Eravwoke (2010) who reported that students' gender had no influence on their performance using collaborative learning strategies. This is supported by the finding of Ustuk (2018) who reported that gender has a fairly limited significant effect on the perceived importance of the strategies. Furthermore, Ichinose and Clinkenbeard (2016) reported that the flipped course experience was especially impactful for women. The findings of this study concerning gender is supported by that of Chen, Yang and Hsiao (2016) who found that females and males performed equally well in their different topics interest. In addition, the findings agree with that of Nematollahi and Maghsoudi (2015) found learners' gender have no impact on EFL learners' vocabulary retention ability. These findings were in line with that of Gambari and Yusuf (2015) who found that gender had no influence on students' performance using Students' Team Achievement Division Cooperative Learning in Physics classroom. Similarly, Gambari, Shittu, Daramola and James (2016) gender had no influence on students' performance in cooperative and individualized groups when taught Geometry using collaborative and individualized learning strategies.

This study also revealed that the retention level of male and female students taught Oral English using Flipped Classroom Strategy was high without discrimination. The finding agrees with that of Atadoga, Mari and Danjuma (2016) also observed that there was no significant difference in performance, attitude and retention between male and female students. Oludipe (2012) reported no significant difference in academic performance of male and female students at the pretest, posttest, and delayed posttest levels respectively. This study further agrees with the findings of Dhindsa and Shahrizal-Emran (2011) and Kost-Smith *et al.* (2010) which showed males and females do not significantly different recall and retention when taught using constructivist approach.

However, the finding contradicts that of the results of Andrew *et al.* (2007) which revealed that females performed and retained better than males with Web-based learning and traditional method. This study also disagrees with the result of Richards-Babb and Jackson (2011) which showed that male students' average success rate improvement was double that of female students. On the same note, it disagrees with the results of Murray (2016) which revealed that male students outperformed female students in the STEM disciplines. Furthermore, it contradicts

the finding of Shakerian, Rezaei, Murnani, and Moeinmanesh (2016) who reported that male learners perform better than the females both in musical group and non-musical group on vocabulary recall and retention.

### Recommendations

In light of the findings of the research, the following recommendations are made:

- The use of Flipped Classroom Strategy is gender friendly, therefore, it should be encouraged in the classroom to enhance male and female performance and retention in Oral-English at senior secondary school level. This will make learning interesting and also improve the male and female students’ participation in Oral-English class;
- Inclusion and use of flipped classroom instruction in teacher education should be urgently encouraged. This will also help in producing teachers who will help the shift from teacher-centered to student-centered approach of learning to enable students take charge of their learning and gather experiences that can help them retain what have been learnt.

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