



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

Effects of Flipped-Classroom Strategy on Performance in English Language Concept among Secondary School Students

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Abstract

The study investigated effects of flipped-classroom strategy on performance in English language concept among secondary school students in Ogbia, Bayelsa State, Nigeria. The study was guided by two objectives, two research questions with corresponding research questions and two hypotheses, respectively. The study adopted quasi-experimental research design, specifically, pre-test post-test control group design. The population for this study comprised all Senior Secondary two (SS2) students in the 30 public secondary schools in Ogbia, Bayelsa State. Simple random sampling technique was used to select two (2) secondary schools for the study while stratified random sampling technique was used in selecting 100 students from two schools made up of 54 males and 46 females. Two intact classes were used to teach with flipped classroom learning strategy and lecture method. A pre test of Speech Writing Performance Test (SWPT) was given to all the students before the treatment. Thereafter, the experimental group was subjected to treatment. To establish the reliability of the instrument, Pearson product moment correlation method was employed and the reliability coefficient 0.72 was obtained. Data analysis was subjected to mean scores, standard deviation and analysis of variance (ANOVA) at 0.05 level of significant. The findings revealed that flipped classroom instructional strategy is more effective than lecture method. Also, the findings indicated that gender has no influence on students' performance in technical writing using flipped classroom. Based on the findings, it was recommended that the curriculum developers should consider adopting flipped classroom learning strategy to prescribe activities for topics in English language.

Keywords: Flipped Classroom, Learning Strategy, English Language, Lecture Method and Technical Writing.

Introduction

A good and quality education is the bedrock of sustainable development for any nation. The value of education cannot be over emphasized as the link between education and a nation's development is very strong. Human capital development is necessary for a sustainable development in education, economy, politics, and industries (Ijoko, 2021). The Federal Government of Nigeria (FGN, 2013) as cited in Ijoko, Ugboja and Emah (2024) stated that secondary education is the form of education children receive after primary education and before the tertiary education. The policy further explained that the aim of the secondary education within our overall national objectives should be: preparation for useful living within the society and preparation for further education. Writing is the art of giving order to our thoughts or ideas which is represented in how words are chosen and combined into meaningful expressions. Isnin, (2017) defines writing as a term with two conceptual meaning: grammatically, writing is a noun referring to something that can be identified by its written form. Secondly as a verb, writing refers to an activity of inscribing some marks on a surface that enables the writer to form letters, words and meaningful expressions. The art of writing therefore helps the writer to articulate his/ her mental thought on an issue. Lambert (2012) indicates that writing is one of the major learning tools as it activates the thinking capacity of the individual. He stresses that writing organises and clarifies our thoughts. Writing can be formal or informal. In informal writing, the writer does not follow the laid down steps or principles for writing, but he simply puts down ideas which may be used for a more formal writing.

It is a cognitive and social activity involving neuropsychological and physical processes and the use of writing systems to create persistent representations of human language. A system of writing relies on many of the same semantic structures as the language it represents, such as lexicon and syntax, with the added dependency of a system of symbols representing that language's phonology and morphology. The outcome of this activity, also called "writing", and sometimes a "text", is a series of physically inscribed, mechanically transferred, or digitally represented linguistic symbols.



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

Writing systems do not themselves constitute languages (with the debatable exception of computer languages); they are means of rendering language into a form that can be read and reconstructed by other humans, separated by time and space. While not all languages use a writing system, those that do can complement and extend the capacities of spoken language by creating durable forms of language that can be transmitted across space (e.g. written correspondence) and stored over time (libraries or other public records). Writing can also have knowledge-transforming effects, since it allows humans to externalize their thinking in forms that are easier to reflect on, elaborate on, reconsider, and revise.

Scholars have discussed the standard of education in Nigeria for many years, with a few recognizing the decline in the written communication skills of the students. Effective writing is critical to educational activities, and must be taught throughout a student's formal education as writing cannot be learned informally like speech. Mastery of writing requires controlled and consistent practical work. Usman (2016) noted that the art of writing can only be measured through writing itself. Writing as a productive skill is a means of expressing one's feelings. According to Adawo (2013), many Nigerian university graduates lack the necessary technical skills as they do not have adequate acquisition of English language fundamentals, particularly in written communication. Writing skill is one of the live wires of educational activities. Songui, Yang and Park (2021) maintain that the art of writing is a useful learning activity which promotes higher order thinking. But he also observed that there are limited research works that prove its effectiveness. The impact of poor writing skills as reported by Endut, Yusoff and Kamarudin (2016) are that poor academic writing has been identified as the major hindrance for students not to score high marks in examination. And in a bid to identify the source of the problem, some researchers associate the ineffective writing to a lack of reading culture among the students.

Rose (2004) and Munro (2003) as cited in Chokwe (2013) observed that reading and writing are often referred to as complementary academic skills in education. Rose (2004) maintained that for learners to develop efficient writing skill, they will be made to acquire good reading habit from the early stage of their formal education. The researcher observed that when students have effective reading and writing skills, they are more able to face any academic writing demand in institutions of higher learning. Jurecic (2006) as cited in Chokwe (2013) noted that students are required to do more reading and writing in relation to all areas of human activity, but regretted that teaching in secondary schools or colleges is currently challenging due to the influence of the media (television, handset, movies, video games) and other likely environmental factors. The author supported the idea of guiding students to use writing to explore ideas, develop positions, deliberate on problems, argue and think out new thoughts about the world.

Stressing on the influence of the media on students' ineffective writing, Rose (2004) pointed out that today's tech-savvy kids do not have much chance of developing strong writing skills because they are more engaged in consuming audio-visual information than they are in getting information through reading. Reading and writing are quite related as they influence each other and without these two skills students may lose the basics of permanent literacy. That was why Carnegie Mellon University (2022) observed that writing is a complex intellectual activity which involves many skills such as reading, spelling, grammar, word power, comprehension, writing skills, including proper punctuations. And, that any lack or inadequate exposure in the needed skills will hinder the student's writing ability. Moses and Mohamad (2019) noted that students who cannot recognize a text's major ideas will be unable to provide a structured written response on what they read.

Technical writing is a recognized writing specialty that addresses the needs of scientifically and technologically based professions for precise, accurate, and timely communications internally and externally, or the public the professions serve. Internally, these specialized writers ensure that communications present the necessary information in clear and precise terms to people in various roles. Both in the writing they do and with the support they provide other professionals within their organizations, they make sure that each person within the organization has the information they need and for the coordination of organizational task by making sure all necessary tasks are assigned and carried out in a timely and accurate way. Through various media and genres, technical and medical writers elicit the goodwill and cooperation of the public served while also informing the public of the services and products offered, instructions needed for best outcomes, and other useful information. Technical and medical writers also make sure appropriate and accurate records are kept for



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

internal and external accountability and regulation. An important part of their roles is to prepare reports for government approval and monitoring (Harris, 2020).

Isnin (2017) observed that technical writing is a challenging skill, and many students struggle with it, but avoiding it can negatively impact their academic and career prospects. Moses and Mohamad (2019) investigated whether technology-enhanced flipped classroom instructional strategy could contribute positively to teaching technical writing at the senior secondary school level, prepare students for higher education and the modern world economy. Flipped classroom instructional strategy engage students and enhance their learning outcomes, creates engaging and interactive learning environment; and better preparing students for the demands of the modern world (Afrilyasanti, Cahyono & Astuti. 2016).

A flipped classroom is an instructional strategy and a type of blended learning, which aims to increase student engagement and learning by having students' complete readings at home and work using problem solving strategy. This pedagogical style moves activities, including those that may have traditionally been considered homework, into the classroom. With a flipped classroom, students watch online classes, collaborate in online discussions, or carry out research at home, while actively engaging concepts in the classroom, with a mentor's guidance (Abeysekera & Dawson, 2015).

Flipped classroom instructional strategy according to Long (2019), is a strategy in which a student is first exposed to new material outside of class, usually in the form of online presentation. When a student attends class in a brick-and-mortar setting, the class time is used to apply the material in the form of problem-solving and discussion. A flipped classroom is an instructional strategy and a type of blended learning that reserves traditional learning method (Ijoko et al., 2024). According to Ugboja and Ijoko (2023) and Ijoko (2024), the classroom is an effective teaching and learning environment when designed to be attractive, effective and for maximum logistic use. It is observed that the nature of a classroom promotes particular teaching theories, encourages a variety of learning styles and helps to manage behavioural problems. Similarly, it is agreed that a mentally stimulating and challenging classroom can motivate a child learning; encourage achievement and effort; provide an inviting environment where they can foster love for learning. The classroom is not the only place where learning takes place. According to Okoro (2010) learning is classified under hidden and unplanned curriculum. Mezieobi (2007) emphasized that learning experience that is real must involve placing the learners and their learning in a real environment that is relevant to their prior knowledge and the knowledge they acquire. Olukpe (2016) added that students gain deep understanding of concepts through the use of flipped classroom instructional strategies which enable them transfer their theoretical knowledge to situations in the world outside the classroom.

It is also observed that socialization is a very important fact that influences a student's development and learning. A student who does not interact well with others tends to become isolated both in the social setting and within the classroom. This leads to limited sharing of ideas or co-operation among peers. Students may learn well individually but lack the necessary skills needed for group work, and inability to mix with others will prevent him or her from developing socially and acquiring academic skills that are relevant to both the present and the future. Such skills include effective oral communication, co-operation, working together, taking responsibility and reporting skills. Anderman (2007) observed that small group work can encourage student driven learning rather than the lecture method. This is because as students participate in specific community projects, which are curriculum related, assist students to develop an understanding of the benefits of the project for both the learner and the community members.

Conversely, in traditional classroom instruction, the teacher is typically the leader of a lesson, the focus of attention, and the primary disseminator of information during the class period. The teacher responds to questions while students rely directly on the teacher for guidance and feedback. Many traditional instructional models rely on lecture-style presentations of individual lessons, limiting student's engagement to activities in which they work independently or in small groups on application tasks devised by the teacher. The teacher typically takes a central role in class discussions, controlling the conversation's flow. Typically, this style of teaching also involves giving students the at-home tasks of reading from textbooks or practicing concepts by working, for example, on problem sets.

The flipped classroom intentionally shifts instruction to a learner-centered model, in which students are often initially introduced to new topics outside of school, freeing up classroom time for the exploration of topics in greater depth, creating meaningful learning opportunities. With a flipped classroom, 'content delivery' may take a variety of forms, often featuring



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

video lessons prepared by the teacher or third parties, although online collaborative discussions, digital research, and text readings may alternatively be used.

The flipped learning approach involves a teaching methodology that is a reverse of the traditional classroom model. In the traditional model, students receive lectures in class and then do homework outside of class, while in the flipped learning approach, students watch recorded lectures or complete guided readings outside of class and then use class time for active problem-solving, demonstrations, experiments, and discussions. The flipped learning approach is based on the premise that students learn best when they are actively engaged in the learning process, rather than passively receiving information from a teacher (Ugboja & Ijoko, 2023). By using class time for active learning, students have the opportunity to apply what they have learned, receive immediate feedback, and have opportunity of collaborating with their peers.

Due to its relevance, the flipped learning approach has gained popularity in recent years due to its potential to improve learning outcomes and increase student engagement. It also allows for more individualized instruction, as students can work at their own pace and receive personalized feedback from their instructors. However, the flipped learning approach also presents some challenges. For example, instructors must spend time creating high-quality, engaging learning materials that students can access outside of class. Also, students must be motivated and self-directed enough to complete the assigned work outside of class and come prepared to participate in active learning activities during class time.

Despite the challenges it presents, the flipped learning approach has proven to be effective in improving learning outcomes in various subject areas, including language learning. The flipped classroom has gained popularity and reputation due to its communicative-based, learner-centred approach to teaching and learning. Its name and definition vary across different contexts. Based on all these above, this study seeks to investigate flipped classroom instructional strategy on teaching technical writing aspect of English language in Yenagoa, Bayelsa State.

The teaching of writing skills in English Language at the senior secondary school level in Nigeria has been observed to receive the least attention in the classroom, despite being a critical aspect of language study. Secondary school students' writing is more of expressive type of writing which lacks specific audience consideration. The overwhelming number of students in a class taught by a single teacher with inadequate time frame and over dependence on the traditional teaching method are some of the challenges that hinder effective teaching of writing skills at the secondary schools. This has resulted in a decline in the written communication skill abilities of the majority of Nigerian students, leading to a high level of unemployable secondary school leavers. Therefore, this study investigates the effect of using flipped classroom instructional strategy over traditional lecture methods in teaching technical writing aspect of English Language at the senior secondary school level, to enhance students' writing skills

Purpose of the Study

The purpose of this study is to investigate effects of flipped-classroom strategy on performance in English language concept among secondary school students in Ogbia, Bayelsa State, Nigeria. Specifically, the objectives of the study are to:

1. Determine the difference in the mean scores of students taught technical writing using flipped classroom instructional strategy and those exposed to lecture method.
2. Determine the mean scores of male and female students taught technical writing using flipped classroom instructional strategy.

Research Questions

The following research questions guided the study:

1. What is the difference in the mean scores of students taught technical writing using flipped classroom instructional strategy and those exposed to lecture method?
2. What is the difference in the mean scores of male and female students taught technical writing using flipped classroom instructional strategy?

Hypotheses

The following null hypotheses tested at 0.05 level of significance guided the study.

H₀₁: There is no significant difference in the mean scores of students taught technical using flipped classroom instructional



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

strategy and those exposed to lecture method

H₀₂: There is no significant difference in the mean scores of male and female students taught technical writing using flipped classroom instructional strategy.

Research Methodology

The study adopted pre-test post-test quasi- experimental research design. The population of the study comprised of all 2,410 senior secondary two (SS2) students in the 30 public senior secondary schools in Ogbia, Bayelsa State. This was carried out by drawing two (2) schools by simple random sampling technique. The names of the 30 schools were written in pieces of paper and two (2) of them were drawn without replacement. Thereafter, a stratified random sampling technique was used to re-group the students into strata since a school has more than one arm. Meanwhile, the final result was a sample size of 100 students made up of 54 males and 46 females for the study. The instrument for data collection for the study was a researcher made test entitled Speech Writing Performance Test (SWPT). The face and content validity of the instruments were validated by two experts in the Department of Foundations, Arts and Social Science Education, Federal University Otuoke. Also, their suggestions, modifications were all taken into consideration before the administration of the instrument. The reliability of the instrument was correlated using Pearson product moment correlation and the reliability coefficient of 0.72 was obtained. However, the test instrument was given to the two groups as pre-test. Thereafter, the experimental group was subjected to treatment. The student in the experimental group was exposed to lesson developed using flipped classroom instructional strategy. Then, the same test items were reshuffled and administered as post-test in order to find out the academic performance of the students. The mean and standard deviation was used to answer the research questions while Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 alpha levels.

Presentation of Results

Research Question One: What is the difference in the mean scores of students taught technical writing using flipped classroom instructional strategy and those exposed to lecture method?

Table 1: Mean, standard deviation, and mean gain of students' academic performance in technical writing using flipped classroom instructional strategy and lecture method

Method	Pre- test			Post – test		Actual Score
	N	\bar{x}	SD	\bar{x}	SD	
flipped classroom strategy	50	44.70	7.98	85.20	7.14	40.50
Lecture Method	50	40.40	7.75	63.20	6.91	22.80

Field work (2025).

Table 1 showed that students taught technical writing with flipped classroom instructional strategy had a mean score and a standard deviation of 44.70 and 7.98 during the pre-test while students that were taught technical writing using lecture method had a mean and standard deviation of 40.40 and 7.75. After the intervention, the post-test was conducted, and students taught with flipped classroom instructional strategy had a mean score of 85.20 and standard deviation of 7.14 while those taught using lecture method had a mean score of 63.20 and standard deviation of 6.91. The mean gain for students taught with flipped classroom instructional strategy was 40.50 while students taught using lecture method was 22.80. This indicated that students taught with flipped classroom instructional strategy performed better than the students taught with lecture method

Research Question Two: What is the difference in the mean scores of male and female students taught technical writing using flipped classroom instructional strategy?

Table 2: Mean, standard deviation, and Mean gain of male and female students' performance in technical writing using flipped classroom instructional strategy.

Gender	Pre- test			Post – test		Actual Score
	N	\bar{x}	SD	\bar{x}	SD	
Male	26	44.42	7.53	85.96	7.35	41.54
Female	24	45.00	8.60	84.38	6.96	39.38

Field work (2025).



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

Table 2 showed the analysis of male and female students' performance taught technical writing using flipped classroom instructional strategy. Male students taught with flipped classroom instructional strategy at the pre-test had the mean score of 44.42 and standard deviation of 7.53 while female students exposed to flipped classroom instructional strategy had the mean score of 45.00 and standard deviation of 8.60. Male students taught with flipped classroom instructional strategy at post-test had the mean score of 85.96 and standard deviation of 7.35 with mean gain of 41.54, while female students exposed to flipped classroom instructional strategy had the mean score of 84.38 and standard deviation of 6.96 with mean gain of 39.38. This indicated that the difference was in favour of male students.

Hypotheses

Hypothesis One: There is no significant difference in the mean scores of students taught technical using flipped classroom instructional strategy and those exposed to lecture method

Table 3: Summary of ANOVA of students' academic performance based on methods

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	12244.511 ^a	2	6122.255	126.582	.000	.723
Intercept	21136.922	1	21136.922	437.021	.000	.818
Pretest	144.511	1	144.511	2.988	.087	.030
Methods	11931.542	1	11931.542	246.693	.000	.718
Error	4691.489	97	48.366			
Total	567500.000	100				
Corrected Total	16936.000	99				

Field work (2025).

Table 3 showed that the analysis of variance in the performance mean scores of students taught technical writing using flipped classroom instructional strategy and those taught using the lecture method yielded an F (1,97) of 246.693 with associated exact probability value of 0.001. Since the associated probability (0.001) was less than 0.05, the null hypothesis was rejected. Thus, there was a significant difference between the mean scores of students taught technical writing with flipped classroom instructional strategy and those taught with lecture Method.

Hypothesis Two: There is no significant difference in the mean scores of male and female students taught technical writing using flipped classroom instructional strategy.

Table 4: Summary of ANOVA of students' academic performance based on gender

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	32.591 ^a	2	16.295	.311	.734	.013
Intercept	11189.911	1	11189.911	213.322	.000	.819
Pretest	1.178	1	1.178	.022	.882	.000
Gender	30.930	1	30.930	.590	.446	.012
Error	2465.409	47	52.456			
Total	365450.000	50				
Corrected Total	2498.000	49				

Field work (2025).

Table 4 showed that the analysis of variance in the performance mean scores of male and female students taught technical writing with flipped classroom instructional strategy yielded an F (1,47) of 0.590 with associated exact probability value of 0.446. Since the associated probability (0.446) was greater than 0.05, the null hypothesis was accepted. Thus, there was no significant difference between the mean performance scores of male and female students taught technical writing with flipped classroom instructional strategy.

Summary of Findings

Based on the results of the analysis of data presented, the findings of the study are presented below:

1. The performance mean scores of students taught technical writing using flipped classroom instructional strategy was higher than the performance mean scores of students taught using lecture method.



Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

2. Male students taught technical writing using flipped classroom instructional strategy performed better than their female students.
3. There was significant difference between the mean performance score of students taught technical writing using flipped classroom instructional strategy and lecture method.
4. There is no significant difference between the male and female students' academic performance when taught technical writing using flipped classroom instructional strategy.

Discussion of Findings

Students' Performance in Technical Writing Using Flipped Classroom Instructional Strategy and lecture method

The results from analysis in table 1 showed that students exposed to flipped classroom instructional strategy improved better than those exposed to lecture method. This is because flipped classroom instructional strategy provided an opportunity for students to actively participate face-to-face and online in the learning process making technical writing easier, interesting and retainable. Meanwhile table 3 confirmed that there was a significant difference between the mean scores of students taught technical writing with flipped classroom instructional strategy because they improved better than those exposed to lecture method. This finding concurred with Kolawole (2017) who reported that the use of flipped classroom instructional strategy improved better than those exposed to discussion method. This is because flipped classroom instructional strategy significantly improved student's ease of learning. Similarly, Norazmi, Dwee, Suzilla & Nurzarina (2017) study on exploring student engagement in writing using the flipped classroom approach reported that the use of flipped classroom instructional strategy improved better than those exposed to discussion method.

Male and Female Students' Performance in Technical Writing Using Flipped Classroom Instructional Strategy

The finding in table 2 disclosed that flipped classroom instructional strategy had more effect on male students' academic performance in technical writing than on female students. The finding that flipped classroom instructional strategy had more effect on male students' academic performance in technical writing than female students could be as a result of the fact that male students' put into practice a lot of interpersonal and communicative skills when learning in their group than their female counterparts in the classroom. However, table 4 showed that there was no significant difference between the academic performances mean scores of male and female students taught technical writing using flipped classroom instructional strategy. This is in line with the findings of Ijoko et al., (2024). This implies that, flipped classroom instructional strategy is not gender sensitive in relation to students' academic performance.

Conclusion

This study is an effort to improve technical writing aspect of English language such as essay writing or speech writing. Therefore, flipped classroom instructional strategy is capable of having positive effects on senior secondary school students' academic performance in writing skills. There was no significant difference in the mean score of male and female students taught technical writing using flipped classroom strategy. This means that what happened is as a result of chance.

Recommendations

Based on the results of this study, the following recommendations are made:

1. Flipped classroom learning strategy is effective in improving students' performance in technical writing aspect of English language. Therefore, emphasis should be given to equipping students with the necessary skills in using the strategy for better writing skills.
2. Flipped classroom strategy is not gender biased in teaching of writing skills. Therefore, the use of innovative teaching techniques should be encouraged in schools for content delivery.

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Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

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Effects of Flipped-Classroom Strategy on ... Ijoko, G. A. (2025)

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