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EFFECTS OF FLIPPED CLASSROOM AND PEER TUTORING INSTRUCTIONAL METHODS ON SECONDARY SCHOOL STUDENTS' ENGLISH LANGUAGE ACADEMIC ACHIEVEMENT IN ANAMBRA STATE, NIGERIA

Chinyere Celina Okoye, Obiageli Ifeoma Ikwuka (Ph.D)
&
Lilian-Rita Akudolu (Prof).
Department of Educational Foundations, Faculty of Education
Nnamdi Azikiwe University, Awka

ABSTRACT

English Language is a core and compulsory subject as well as medium of instruction at primary, secondary and tertiary education levels in Nigeria. Over the years, students have witnessed poor achievement in the subject and this may become a threat to the actualization of its objectives. To find answer to this growing problem, this study investigated the effects of flipped classroom and peer tutoring instructional methods on secondary school students' academic achievement in English Language in Anambra State, Nigeria. Three research questions guided the study and four hypotheses were tested. A quasi-experimental pretest, posttest non-randomized control group involving 3x2 factorial design was adopted. Population of the study comprised 4,596 SS2 students. The sample size was 108 SS2 students obtained from three out of 49 co-educational public secondary schools. Simple random sampling technique was used to select the schools. The instrument for data collection was English Language Achievement Test (ELAT), and this was validated by three experts. Reliability of the instrument was ascertained using Kuder Richardson-20 (KR-20) formula which yielded the coefficient values of 0.80 and 0.71. Data collected were analyzed using mean and standard deviation for answering the research questions while Analysis of Covariance (ANCOVA) was used to test the null hypotheses. The findings of the study revealed that students taught English Language using peer tutoring instructional method (PTIM) achieved slightly higher mean scores than those taught using flipped classroom instructional method (FCIM) and that students taught using FCIM and PTIM significantly achieved higher mean scores than those taught using conventional lecture instructional method (CLIM). The researchers concluded that FCIM and PTIM are effective in teaching English Language to secondary school students. They recommended among others that English Language teachers should be encouraged to adopt the use of both FC and PT instructional methods since they have been discovered as efficacious means of instructional delivery in secondary schools.

Keywords: Flipped classroom instructional method, Peer tutoring instructional method, Academic achievement, English Language, Conventional lecture instructional method

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Introduction

English Language has been the world's most commonly used language. It is hard to find a country where English Language learning is not in their education system either as a second or foreign language. In Nigeria education system, English Language is learnt as a second language. It is a core and compulsory subject at both primary and secondary levels. The teaching and learning of English Language in Nigerian schools predates the nation as it started from the colonial era and has since then been used at all levels of education as the language of instruction for virtually all the subjects in the school curriculum except vernacular. English Language is concerned with the formulation and development of learner's communicative competences through grammar, vocabulary, pronunciation, listening, reading and writing that are the hallmarks of admission and functional life in the society (Hanoi, 2018). It provides learners with an essential tool, enabling them to socialize and interact in the globalized and interconnected world, improving the quality of life by providing job opportunities and for life-long learning.

Despite the relevance of English Language in Nigerian education system, secondary school students' achievement in Senior School Certificate Examination (SSCE) of the language in Anambra State is still not satisfactory. For instance, the WAEC Chief Examiner's reports of 2020-2023 showed that the performance of candidates was not encouraging. Research by Khan, Khan and Shah (2021) revealed poor achievement in English Language by students in ESL context. This may be as a result of students' lack of motivation and interest as well as their difficulty in understanding the materials as also noted by Made, Sintadewi, Putu, Artini and Febryan (2020) in their study.

To make English Language learning interesting, easy and enjoyable towards a better learning outcome, appropriate instructional method should be adopted as the objectives of the lesson may demand. In support of this, Ikwuka (2019) and Farooqi, Igbal and Ahmed (2020) asserted that for knowledge acquired to be accelerated, appropriate instructional method (s) is/are should be adopted by the teacher. In this context, it seems that the method predominantly used for teaching and learning of English Language at secondary schools is inadequate to bring about the desired improvement in students' achievement. To improve students learning, there is need to explore innovative instructional methods such as Flipped Classroom and Peer Tutoring that have the capability of engaging and involving students actively in the instructional process.

Bergmann and Sams (2012) described flipped classroom as an inverted or reversed method of teaching in which students asynchronously learn the contents of the lesson, which was pre-recorded by the teacher through technology outside

the classroom; and later engage in group learning activities inside the classroom with their mates for more understanding. The use of flipped classroom instructional method for instructional process allows students to engage in both independent and collaborative learning with their peers for deeper understanding and lasting memory of the lesson contents towards a positive learning outcome. On the other hand, Nwabah and Belade (2020) described peer tutoring as an instructional method in which students act either as teachers or students as the case may be, teach their fellow students and learn from each other under the guidance of a professional teacher. Peer tutoring instructional method has the possibility of decreasing students' learning anxiety, increasing their learning engagement, participation and understanding, thereby making it easier for them to understand and retain the lesson contents (Zheng and Zhang, 2020). In peer tutoring instructional method, students learn and understand a great deal of information as they are free and open in interacting with their peers (Okereke, Ademiluyi & Adeagbo, 2020). The researchers therefore anticipate that appropriate application of flipped classroom and peer tutoring instructional methods in teaching English Language to secondary school students could lead to improved students' achievement.

Several studies have examined the effect of flipped classroom instructional method, peer tutoring instructional method respectively on students' achievement and found out different results. For instance, the study by Ipem, Eguzo and Onwudiwe (2020) on the effect of FCIM on junior secondary school students' achievement in Social Studies revealed that FCIM is very effective in enhancing junior students' achievement more than the CLIM. Similarly, Ezenwabachili and Okoli (2021) indicated that students' academic achievement improved significantly in Biology when taught with FCIM than the traditional method. Contrarily, Cabi (2018) asserted that there was no significant difference between the achievement of students taught computer course using flipped classroom model and those taught with traditional blended-learning method. In the study of Babayo, Tumba and Ezugu (2023) on the effect of peer tutoring and play-way methods on students' academic achievement and retention in telecommunications in Colleges of Education in North-East, Nigeria, it was revealed that students' academic achievement significantly improved with peer tutoring method more than that of those taught with both play-way and lecture teaching methods.

On the contrary, Ndirika and Ubani (2017) revealed that that there was no significant difference in the mean achievement scores of students taught Biology using peer tutoring and conventional teaching methods. Flipped classroom and peer tutoring instructional methods are efficacious tools for instruction and students' active participation. They are such that students are exposed to learning by first engage in independent learning at home

and collaborative learning in the classroom with their peers and the teacher as a facilitator or mentor.

Achievement is an important variable in learning. It is the extent to which a learner has attained the objective of a given subject content which is usually measured through a standardized or teacher-made tests, quizzes, continuous assessment, assignments or examinations (Ikwuka & Okoye (2021)). In this study, achievement is the level of one's understanding, mastery, engagement and accomplishment in English Language which was measured using English Language Achievement Test (ELAT). Achievement test therefore is used to measure secondary school students' success or failure in a specific subject in the school curriculum. According to Ifeanyi and Ugwu (2022), success in a subject brings joy to the students while failure becomes a concern not only to the students but also to all the stakeholders in education. However, students' achievement in various subjects using flipped classroom instructional method and peer tutoring instructional method with either conventional method or another instructional method respectively have been investigated by previous researchers and the results obtained were inconclusive. Given the inconclusiveness of the results, this study sought to determine the effects of flipped classroom and peer tutoring instructional methods on academic achievement of secondary school students in English Language in Anambra State, Nigeria.

Research Questions

What are the pretest and posttest mean achievement scores of students taught English Language using flipped classroom instructional method (FCIM), peer tutoring instructional method (PTIM) and those taught using conventional lecture instructional method (CLIM)?

Hypothesis

There is no significant difference between the pretest and posttest mean achievement scores of students taught English Language using flipped classroom instructional method (FCIM), peer tutoring instructional method (PTIM) and those taught using conventional lecture instructional method (CLIM).

Research Method

This study adopted a quasi-experimental pre-test, post-test non-randomized control group design. Population of the study comprised 4,596 SS2 students in the 62 public secondary schools in the five Local Government Areas in Awka Education Zone of Anambra State. The sample size for the study was 108 SS2 students from three intact classes drawn from three out of the 62 public secondary schools in Awka Education Zone. Simple random sampling technique was used to select the schools that participated in the study. The instrument for data collection was researchers' developed 50-items multiple choice questions on English Language Achievement Test (ELAT) selected from four English Language concepts, which were the focus of the study. The ELAT was validated by three experts, two from Nnamdi Azikiwe

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University, Awka and one experienced English Language teacher from one of the selected secondary schools. The reliability of the instrument was determined using Kuder Richardson-20 (KR-20) formula, which yielded the coefficient indexes of 0.80 and 0.71 respectively. Data collected were analyzed using mean and standard deviation for answering of research question, while Analysis of Covariance (ANCOVA) was used to test the null hypothesis at 0.05 level of significance. Post-hoc test was also used to find out where the differences in the achievement of the three groups lie. The decision rule was that if the calculated value is greater than the significant value, the null hypothesis is rejected, otherwise, the null hypothesis is not rejected.

Presentation of Results

Table 1: Pretest and Post-test Mean Achievement Scores of Students taught English Language using Flipped Classroom Instructional Method, Peer Tutoring Instructional Method and those taught with Conventional Lecture Instructional Method

	Pretest Scores		Posttest Scores		
Methods	Mean	SD	Mean	SD	Mean Difference
FCIM	41.73	7.321	71.81	7.039	30.08
PTIM	41.87	9.276	72.47	9.522	30.60
CLIM	42.04	7.758	58.15	7.879	16.11

Data in Table 1 show that the pretest mean achievement scores of students taught English Language with FCIM (Experimental group I) is 41.73, that of those taught with PTIM (Experimental group II) is 41.87 while that of those taught with CLIM (Control group) is 42.04. At the end of the experiment, the post-test mean achievement scores of students taught English Language with FCIM increased to 71.81, that of students taught with PTIM is 72.47 whereas that of those taught with CLIM is 58.15. This indicates that those taught with FCIM has mean difference of 30.08, PTIM has mean difference of 30.60, while CLIM has mean difference of 16.11. This shows that the mean difference of students taught with FCIM and PTIM are higher than those taught with CLIM, while that of the students taught with PTIM is slightly higher than those taught with FCIM.

Table 2: One-way ANCOVA on Difference in Mean Achievement Scores of Students taught English Language using Flipped Classroom Instructional Method, Peer Tutoring Instructional Method and those taught using Conventional Lecture Instructional Method

Source	Type III Sum of Squares	Df	Mean Square	F	Sig	Decision
Corrected model	9148.231[a]	3	3049.410	116.996	.000	

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Intercept	3970.109	1	3970.109	152.320	.000
Pretest	4185.578	1	4185.578	160.587	.000
Group	5329.901	2	2664.950	102.245	.000
Error	2710.686	104	26.064		
Total	493861.000	108			Significant
Corrected total	11858.917	107			

Note R Squared =.771 (Adjusted R Squared =.765)

Data in Table 2 reveal that there is a significant difference in the pretests and posttests mean achievement scores of students taught English Language with FCIM, PTIM and CLIM ($F(2, 104) = 102.245$, $R^2 = .771$, $p = .000 < .05$). The null hypothesis of no significant difference among the three groups is therefore rejected in favour of FCIM and PTIM. However, since significant difference is found among the three groups, a post-hoc analysis procedure is further carried out on the posttest in order to find out where the significant difference lies.

Table 3: Post Hoc- Multiple Comparison of FCIM, PTIM and CLIM

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	Decision
FCIM	PTIM	-.66	1.991	.947	Not Significant
	CLIM	13.66*	1.838	.000	Significant
PTIM	FCIM	.66	1.991	.947	Not Significant
	CLIM	14.32*	1.947	.000	Significant
CLIM	FCIM	-13.66*	1.838	.000	Significant
	PTIM	-14.32*	1.947	.000	Significant

Data in Table 3 show that the posttest mean achievement scores of English Language students in FCIM, PTIM and CLIM are significant at 0.05 level of significance. The difference in mean achievement scores lies between students taught with FCIM and CLIM (SE = 1.838, $p = .000$) as well as between PTIM and CLIM (SE = 1.991, $p = .947$), but no significant difference lies between FCIM and PTIM (SE = 1.838, $p = .000$).

Discussion

The finding of the study revealed that students taught using FCIM and PTIM achieved significantly higher than those taught using CLIM. The significant difference in their achievement may be attributed to the fact that the two methods are collaborative methods where students had the opportunity to cooperate, discuss, interact and learn from one another. The result of the study was in agreement with the findings of Ipem et al. (2020), Ezenwabachili and Okoli (2021) and Babayo, Tumba and Ezugu (2023) which stated that students exposed to flipped classroom instructional and peer tutoring instructional methods respectively achieved significantly better than their counterparts taught using conventional

lecture instructional method. The finding further disagreed with that of Cabi (2018) who posited that there was no significant difference in the achievement of students taught using flipped classroom and those taught using conventional instructional method. The finding is also in disagreement with that of Ndirika and Ubani (2017) who also posited that there was no significant difference between students taught English Language using peer tutoring strategy and those taught using conventional instructional method.

In addition, the finding of the present study showed that students in the experimental group II, who were taught English Language using PTIM achieved slightly higher than those taught using FCIM, though not significant. This could be connected to the observation of Okereke, Ademiluyi and Adeagbo (2020) that in peer tutoring, students learn and understand a great deal of information as they are free and open in interacting with their peers. This could also be attributed to students' active participation and involvement in the instructional process.

Conclusion

Based on the findings of the study, it was concluded that FCIM and PTIM are effective in improving secondary school students' achievement in English Language. The methods therefore proved to be effective for teaching English Language concepts to secondary school students.

Recommendations

The following recommendations were made based on the findings of the study:

1. Secondary school teachers particularly English Language teachers should be encouraged to adopt the use of FCIM and PTIM in the teaching and learning of English Language as they have been discovered to be efficacious means of instructional delivery in enhancing students' achievement in English Language.
2. Curriculum planners should ensure that FCIM and PTIM methods are included in the curriculum of English Language so as to make learning more student-centered and activity-based in order to enable students' active participation in the instructional process for the enhancement of academic achievement.

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