



INNOVATIVE APPROACHES TO FOUNDATIONAL LITERACY: THE EFFECTS OF FLIPPED CLASSROOM AND FORMATIVE ASSESSMENT ON SECONDARY SCHOOL STUDENTS' WRITING PERFORMANCE IN NIGERIA

Titus Terver Udu

Department of Arts and Social Sciences Education

Benue State University, Makurdi

Email: goldudu2013@gmail.com

Member Cecilia Amishiave

Department of Arts and Social Sciences Education

Benue State University, Makurdi

E-mail: membercecilia@gmail.com

Abstract

If poor writing skills among secondary school is as a result of traditional lecture-based instruction and lack of continue feedback, what difference will it make if a teacher decides to try flipped classroom and formative assessment? The present study attempted to answer this question by investigating the effects of flipped classroom and formative assessment on senior secondary school two students' writing performance in Makurdi, Nigeria. A quasi-experimental design involving three groups (flipped classroom with formative assessment, flipped classroom only, and traditional instruction) was adopted. A sample of 146 Senior Secondary II students drawn from four government schools participated in the study during the 2024/2025 academic session. Data were collected using a Writing Achievement Test (WAT), which assessed content, organization, grammar and mechanics, and coherence. Descriptive statistics and Analysis of Covariance (ANCOVA) were employed for data analysis to respectively answer the research questions and test the corresponding hypotheses. Findings revealed that students taught using the flipped classroom and formative assessment approaches significantly outperformed those taught with the traditional method. Specifically, the flipped classroom group achieved the highest mean gain (53.12), followed by the formative assessment group (22.00), while the traditional group had the least (3.35) mean scores. ANCOVA results confirmed significant differences across groups ($p < 0.05$), with instructional strategy accounting for substantial proportions of variance in writing performance. The findings further showed that gender played a role in students' writing performance when exposed to flipped classroom and formative assessment strategies suggesting that both male and female students benefited significantly from the innovative approaches; however, there were observable differences in their levels of improvement. The study concluded that integrating flipped classroom and formative assessment strategies fosters active engagement, feedback, and improved writing competence among secondary school students. With this result, the study recommended that English language teachers should adopt and institutionalize these innovative, learner-centered approaches to enhance foundational literacy in Nigerian schools.

Keywords: *flipped classroom, formative assessment, writing performance, foundational literacy*

Introduction

The concept foundational literacy refers broadly to the ability to read and write effectively. In the present age, foundational literacy is a critical component of educational success and lifelong learning. In Nigeria, persistent concerns over poor writing skills among secondary school students have been linked to outdated instructional practices, lack of learner engagement, and inadequate assessment frameworks (Umar, 2021; Oyetunde, 2019). Addressing these issues requires innovative approaches like flipped classroom model and formative assessment, which are presumed to make learning more interactive, student-centered, and responsive.

This study examined how the flipped classroom model (FCM) and formative assessment could impact writing performance among secondary school students in Makurdi, Nigeria. The flipped classroom inverts traditional pedagogy by delivering instructional content outside the classroom and engaging students in active problem-solving during class time (Bishop & Verleger, 2013). This paper assumes that when the flipped classroom model is complemented by formative assessment, students may experience greater motivation, engagement, and academic performance.

Writing Performance and Foundational Literacy

The Senior Secondary School Curriculum for English has writing as its major component and writing assessment encompasses grammatical accuracy, coherence, organization, vocabulary use, and creativity (Hyland, 2003). Effective writing instruction must scaffold these elements through meaningful tasks and feedback. Writing serves as an expressive skill helping in the literacy development of students. Grooming students through the various essay-writing types namely letter writing, descriptive, narrative, argumentative and expository essays all serve to help students develop communicative competence, critical and creative thinking. Writing is believed to help students to express their ideas, feelings, attitudes and intentions appropriately to various social contexts. In fact, writing is a form of language in practice. It is both a means of assessment and an avenue to get

students use language practically. It allows students to practically test their ability to choose words and punctuation signs correctly. It makes them practise how to develop unbiased reporting in real life whilst complying with the conventions of grammar and writing on the other hand (Udu & Iorkighir, 2025). Students who develop good writing skills are expected to also perform better across the curriculum because they can organize and present information logically. The inclusion of writing in the English syllabus thus supports broader educational goals.

Unfortunately, classroom experience as well as reports from examining bodies like the West African Examinations Council (2023; 2024) indicated that yearly, final year students earn low scores in aspects of writing that make up the English Language paper in entirety. Major areas that show that students have difficulty with writing include poor organization of their written work, weak sentence variety, poor handwriting, faulty grammatical structures, faulty use of punctuation signs, which often cost them marks for mechanical accuracy, etc. The problem is attributed to poor traditional teaching methods (Udu & Iorkighir, 2025; Oyetunde, 2019; Agwu, 2015).

Statement of the Problem

Despite the importance of writing skills in academic and professional domains, Nigerian secondary school students consistently perform poorly in written English (WAEC Chief Examiner's Report, 2024). Conventional teaching approaches, dominated by lecture and rote memorization, do not foster critical thinking or authentic writing practice. This problem is compounded by infrequent feedback, limited use of assessment data, and the absence of technology-enhanced instruction. Although separate studies exist on the effects of flipped classroom approach, none has on purpose determined the combined effect of formative assessment on students' writing skills in Makurdi area of Benue State thus creating a gap for the present study to fill.

The study targeted to achieve the following specific objectives:

1. To determine the effect of the flipped classroom approach on secondary school students' writing performance.

- 2 . To examine the effect of formative assessment on secondary school students' writing performance.
- 3 . To compare the effect of flipped classroom approach and formative assessment on male students' writing performance.
- 4 . To compare the effect of flipped classroom approach and formative assessment on female students' writing performance.

Research Questions

- 1 . What is the difference in the effect of flipped classroom approach and traditional method on students' writing performance?
- 2 . What is the difference in the effect of formative assessment and traditional method on students' writing performance?
- 3 . What is the difference in the effect of flipped classroom approach and formative assessment on male students' writing performance?
- 4 . What is the difference in the effect of flipped classroom approach and formative assessment on female students' writing performance?

Hypotheses

- 1 . There is no significant difference in the effect of flipped classroom approach and traditional method on students' writing performance.
- 2 . There is no significant difference in the effect of formative assessment and traditional method on students' writing performance.
- 3 . There is no significant difference in the effect of flipped classroom approach and formative assessment on male students' writing performance.
- 4 . There is no significant difference in the effect of flipped classroom approach and formative assessment on female students' writing performance.

Literature Review

Flipped Classroom Model

The flipped classroom model of instruction has become popular due to its positive effects on learning achievement. It is believed to have emerged to counter the traditional classroom where the teacher disseminates the learning scene by lecturing while students merely listen. The flipped classroom is an opposite method

emphasising active learning by allowing students to engage in learning tasks thus conforming to the constructivists' theory advocated by Jean Piaget that students integrate new information with prior knowledge, engage with tasks, reflect, and make meaning. With instructional input in the form of videos or readings prior to class, the approach makes learning more beneficial. This is because class time is then used for deeper, active work.

According to Tucker (2012), the flipped classroom reverses traditional roles by assigning direct instruction (e.g., video lectures) as homework and using class time for collaborative activities. It promotes learner autonomy, peer interaction, and critical engagement with content, which are essential for developing writing proficiency. Hamdan, McKnight, McKnight and Arfstrom (2014) maintain that the flipped classroom method of instruction rests on four pillars and comes from the acronyms F-L-I-P, which stands for Flexible Environment, Learning Culture Shift, Intentional content, and Professional Educators. A flexible learning environment refers to the adaptability to learning styles as well as teacher accommodation in the classroom. An effective teacher manipulates the classroom by providing learning activities with the best outcomes. Flexibility also applies to assessment and evaluation tool used to evaluate students' learning. According to Agwu (2024), there are two types of flipped classroom designs. These are student-led and instructor-led models. In a flipped classroom, the traditional lecture-style teaching gives way for pre-recorded video lectures or online instructional materials.

Many researchers have examined the effect of flipped classroom model of instruction in different subject disciplines with different outcomes. For instance, by Fens (2017) revealed that there is a significant difference between the performance of students taught medicine related subjects using flipped classroom and those taught using the lecture based classroom in favour of flipped classroom approach.

In another study, Blazquez, Masluk, Gascon, Diaz, Aguilar-Latorre, Magallon and Botaya (2019) found the use of flipped classroom and assessment approaches effective in social studies and sciences. Blazquez et. al. (2019) revealed that students taught using flipped classroom and assessment approaches were actively involved in

the learning process and their academic performance in social work significantly improved. Onwudiwe (2019) also found that there was no significant difference between the effects of flipped classroom and assessment approaches and peer tutoring on students' achievement in Social Studies.

In the area of English language, Lin, Hwang, Fu and Chen (2018) used a mixed method approach to compare the writing performance, writing errors, and reflective content of the students who learned with the proposed approach and those learning with conventional contextual game-based learning. The analysis showed that flipped contextual game-based instruction was able to enhance the students' English writing performance. The study further reported that students with the flipped learning approach had fewer writing errors than those learning with the conventional approach, suggesting that students in the experimental group benefitted more from the intervention.

In one other study, Udu and Unwaha (2024) investigated the effect of flipped classroom approach on gender and students' performance in reading comprehension in Ankpa Local Government Area of Kogi State, Nigeria. The study reported that students in the experimental group performed better than those in the conventional group and there was no statistically significant difference in the mean performance scores of male and female students taught reading comprehension using FCA. The success of the study triggered the recommendation that the flipped classroom approach could be used for teaching reading.

Formative Assessment

In the teaching-learning cycle, assessment of learning forms a crucial link between what was planned to be taught/learnt and what is actually taught/learnt. In fact, assessment serves to determine learning progression, problems encountered and the next reasonable course of action. The type of assessment described here is formative assessment (Lam, 2018) and points to three different things: (i) where the learner is going; (ii) where the learner is right now; and (iii) how to get there. This is based on Wiliam and Thompson's (2007) 5-stage activities leading to feedback. These according to Lam (2018)

include:

1. clarifying and sharing learning intentions and criteria for success; (teacher)
2. engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding; (teacher)
3. providing feedback that moves learners forward; (teacher)
4. activating students as instructional resources for one another; (peer) and
5. activating students as the owners of their own learning (student) p. 21

From the widely-held belief that formative assessment strategy plays a crucial role in supporting the student learning (Karaman, 2021), different studies have determined the effect of formative assessment on students' school achievement in the different subject areas. In the field of mathematics, Kültür and Kutlu (2021) examined the effects of formative assessment practices of 51 high school students in the 10th grade to determine their academic achievement and attitudes towards mathematics. The qualitative results analysis showed that formative assessment practices were found to be beneficial in terms of contributing to learning processes and encouraging students to express themselves in the classroom while quantitative results analysis showed that formative assessment practices on students' attitudes towards mathematics and mathematics achievement was statistically significant.

Karaman (2021) investigated how formative assessment practices promote student learning in Turkey using 32 studies with a total of 47 effect sizes. The final analysis demonstrated how effective the features of formative assessment interventions were on student learning thus suggesting that formative assessment interventions in classrooms were effective. Salau, Ariya and Oti (2021) found that formative assessment leads to an increased positive attitude towards and improved students' achievement in Social Studies. In Nigeria, Uwah and Amadioha (2024) examined the effect of formative assessment methods on mastery of Mathematics course content by Junior Secondary School students in Obio-Akpor LGA of Rivers State observing that formative assessments have a positive impact and are effective for improving student learning outcomes.

Although different studies have recommended the use of formative assessment to support student-centered classrooms in teaching (Kültür & Kutlu's 2021), studies on the effect of formative assessment on students' achievement in the area of English language remain limited. It has been argued that formative assessment involves diagnostic feedback, peer review, and iterative writing tasks to support learners' development (Black & Wiliam, 2009) and when implemented alongside flipped instruction, could provide immediate insights into students' strengths and weaknesses.

Methodology

This study employed a quasi-experimental design involving three groups: two experimental groups and one control group. The quasi-experimental design was considered appropriate because it allows for comparison between groups where random assignment may not be feasible due to school or administrative constraints. The pretest–posttest control group design helps to measure the effect of the interventions (flipped classroom and formative assessment) on students' writing performance by comparing scores before and after the intervention.

Sample

The study was conducted in Makurdi, Benue State. The researchers employed the use of a purposive sampling technique to select three government-owned secondary schools presumed to be of similar academic abilities. From these, 146 SS II students in three intact classes consisting of 57 students (in the flipped classroom approach) 43 students (formative evaluation) and 46 students (traditional method) were utilized for the study. Pre-tests and posttests took one week each with a four-week instructional intervention coming in between. The researchers designed different lesson plans for flipped classroom, formative evaluation and traditional instruction

Instruments

The researchers adopted past National Examinations Council (NECO) questions as the Writing Achievement Test (WAT). Using a one-hour duration, students were asked to compose a 300–350-word essay on one of four essay types namely descriptive, narrative, expository or argumentative maintaining focus on all four assessment areas namely content, organization, grammar & mechanics, and coherence. This is for a total score of 40 marks. For content domain, essays were expected to be relevant, present depth of ideas, originality and insight. Students who demonstrated full understanding and presented relevant content scored between 8-10 marks. If they only showed adequate understanding they earned 5-7 marks, while limited or irrelevant understanding 0-4 marks. Organization measured logical sequencing, clear introduction and conclusion with well linked paragraphs. Essays with a clear structure containing a useful introduction, body and conclusion earned 8-10 marks, partially structured essays earned 5-7 marks while poorly organized/structured essays earned 0-4 marks. Accurate use of grammar and mechanics pertains to correct use of sentence structure, verb tense accuracy, punctuation, spelling, and agreement. Accurate use earned 8-10 marks, if students committed errors that do not impede meaning they earned 5-7 marks while essays with frequent distracting errors scored 0-4 marks. Coherence and cohesion measure flow of thought, use of transitions (however, moreover, because, etc.), and pronoun reference. Smooth and logical flow of ideas earned 8-10, occasional breaks earned 5-7 while unclear and disjointed thoughts earned 0-4 marks.

Data were analyzed using descriptive statistics and Analysis of Covariance (ANCOVA) to control for pretest differences and assess the effect of the interventions on posttest writing performance.

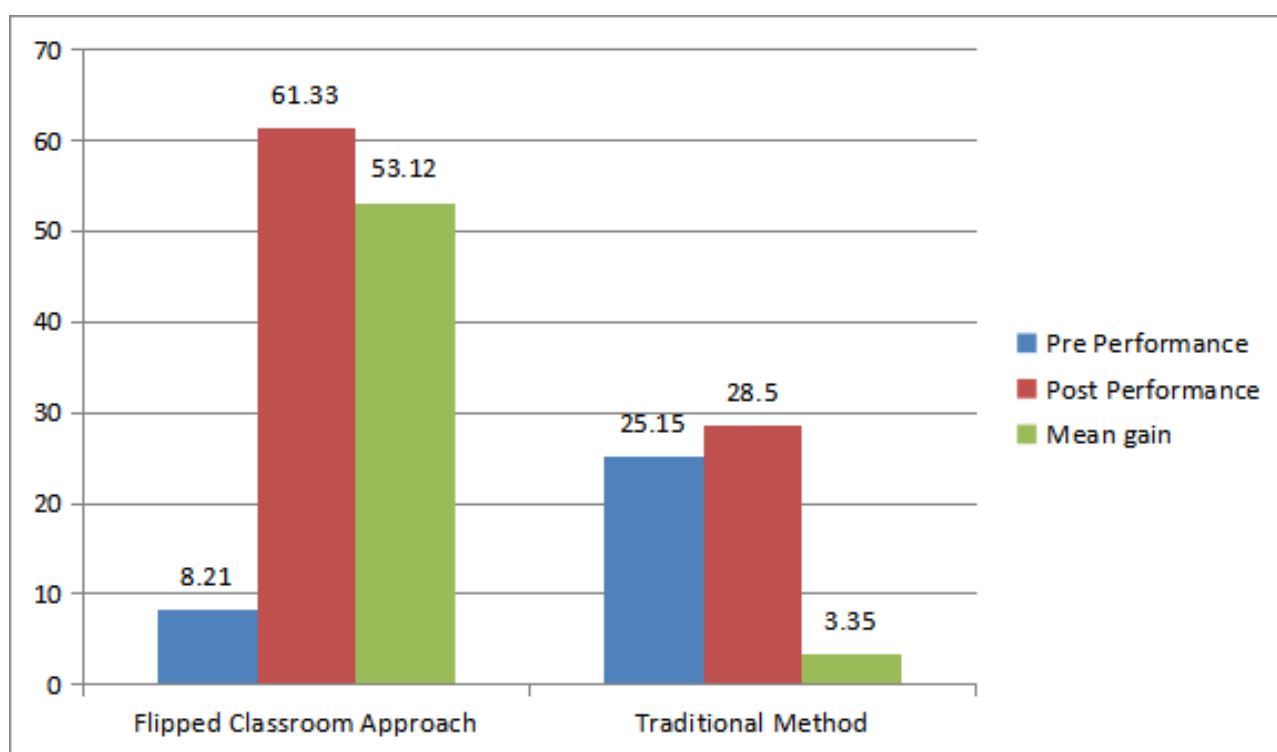
What is the difference in the effects of flipped classroom approach and traditional method on students' writing performance?

Table 1: Mean Effect of Flipped Classroom Approach and Traditional Method on Students' Writing performance

Strategies		Pre performance	Post performance	Mean gain
Flipped Classroom Approach	Mean	8.21	61.33	53.12
	N	57	57	
	Std. Deviation	6.26	10.88	
Traditional Method	Mean	25.15	28.50	3.35
	N	46	46	
	Std. Deviation	11.89	8.68	
Effects difference				37.65

Table 1 shows the mean effects of flipped classroom approach and traditional method on students' writing performance. The table shows that 57 students were taught writing using flipped classroom approach and 46 students were taught writing using traditional method. The further table shows that the mean effects of flipped classroom approach on students' writing performance is 8.21 with a standard deviation of 6.29 in pre-test and 61.33 with a standard deviation of 10.88 in post-test while the mean

effects of traditional method on students' writing performance is 25.15 with a standard deviation of 11.89 in pre-test and 28.50 with a standard deviation of 8.68 in post-test. Table 1 further shows that the mean gain due to the effects of flipped classroom approach is 53.12 while mean gain due to the effects of traditional method is 3.35. The difference in the effects of flipped classroom approach and traditional method on students' writing performance is 37.65 in favour of students in flipped classroom approach class.



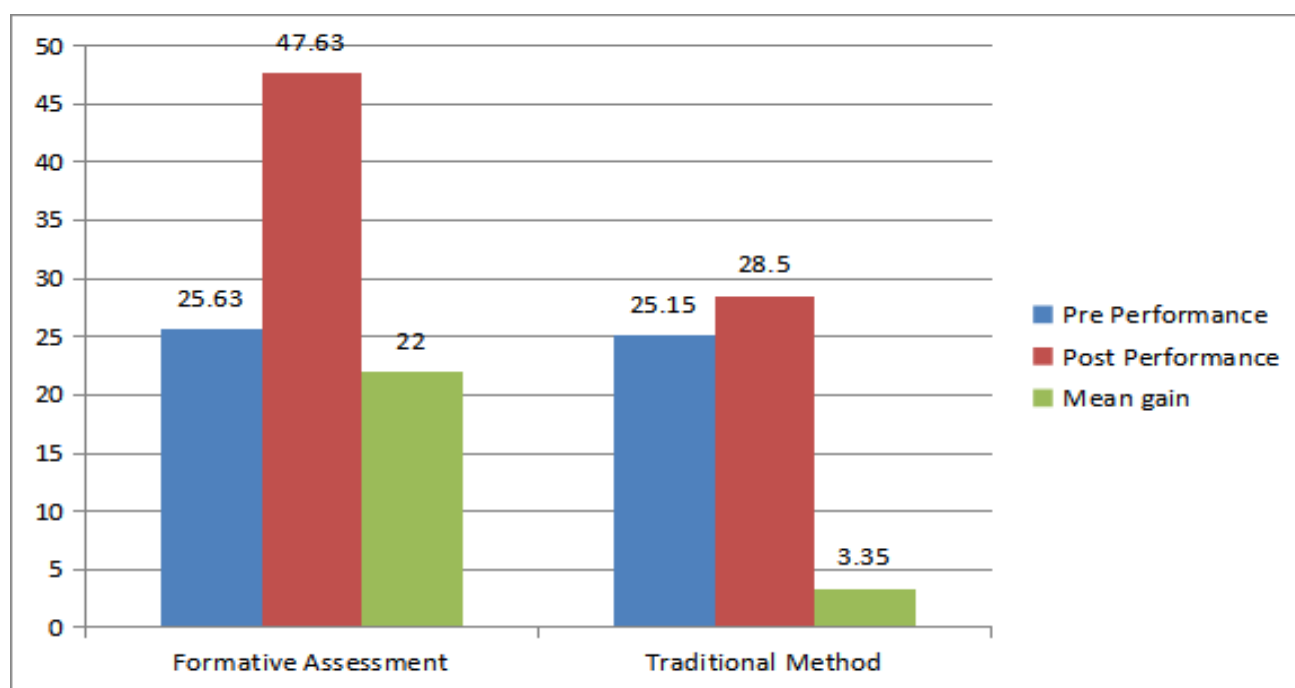
What is the difference in the effect of formative assessment and traditional method on students' writing performance?

Table 2: Mean Effect of Formative Assessment and Traditional Method on Students' Writing performance

Strategies		Pre performance	Post performance	Mean gain
Flipped Classroom Approach	Mean	25.63	47.63	22.00
	N	43	43	
	Std. Deviation	12.07	16.91	
Traditional Method	Mean	25.15	28.50	3.35
	N	46	46	
	Std. Deviation	11.89	8.68	
Effects difference				18.65

Table 2 shows the mean effects of formative assessment and traditional method on students' writing performance. The table shows that 43 students were taught writing using formative assessment and 46 students were taught writing using traditional method. The table shows that the mean effects of formative assessment on students' writing performance is 25.63 with a standard deviation of 12.07 in pre-test and 47.63 with a standard deviation of 16.91 in post test while the mean effects of traditional method on students'

writing performance is 25.15 with a standard deviation of 11.89 in pre-test and 28.50 with a standard deviation of 8.68 in post test. Table 2 further shows that the mean gain due to the effects of formative assessment is 22.00 while mean gain due to the effects of traditional method is 3.35. The difference in the effect of formative assessment and traditional method on students' writing performance is 18.65 in favour of students in formative assessment class.



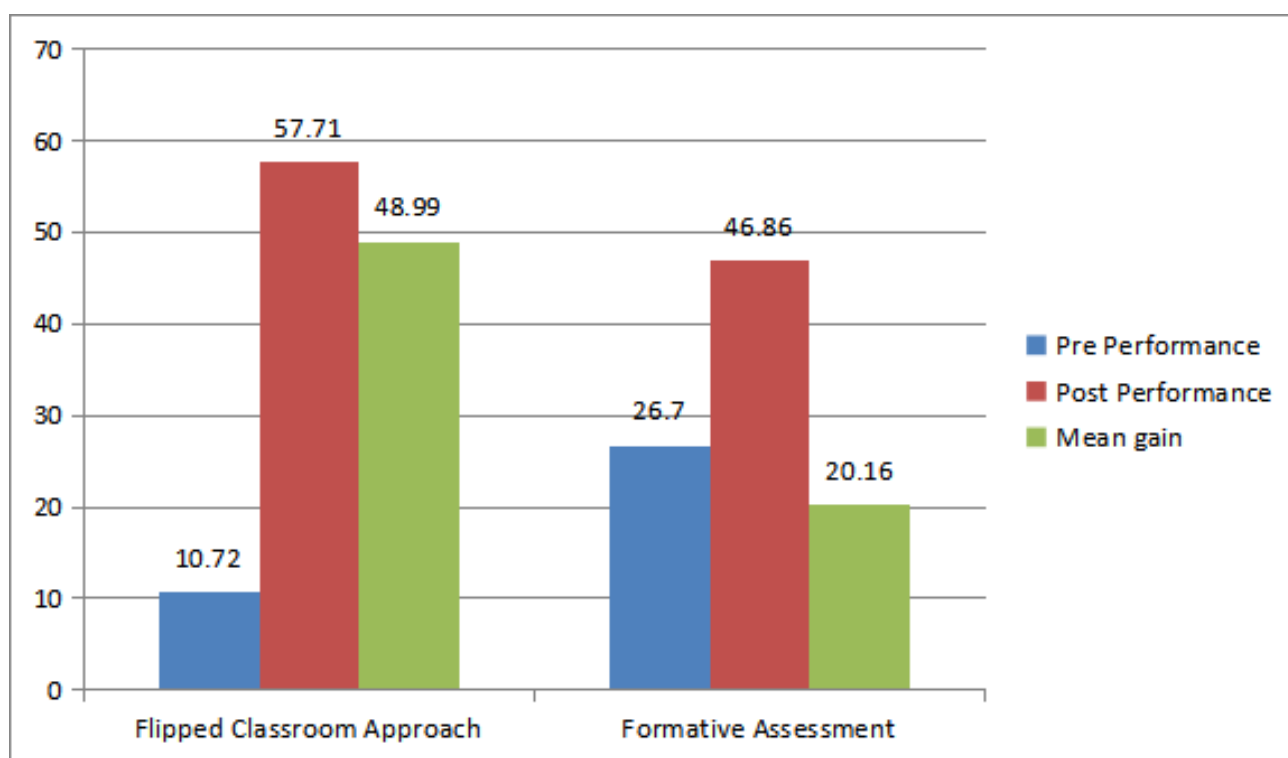
What is the difference in the effect of flipped classroom approach and formative assessment on male students' writing performance?

Table 3: Mean Effect of Flipped Classroom Approach and Formative Assessment on Male Students' Writing performance

Strategies		Pre performance	Post performance	Mean gain
Flipped Classroom Approach	Mean	10.72	57.71	48.99
	N	57	57	
	Std. Deviation	9.46	11.05	
Formative Assessment	Mean	26.70	46.86	20.16
	N	43	43	
	Std. Deviation	11.05	16.86	
Effects difference				28.83

Table 3 shows the mean effect of flipped classroom approach and formative assessment on male students' writing performance. The table shows that 57 male students were taught writing using flipped classroom approach and 43 male students were taught writing using formative assessment. The table shows that the mean effects of flipped classroom approach on male students' writing performance is 10.72 with a standard deviation of 9.46 in pre-test and 57.71 with a standard deviation of 11.05 in post test while the mean effects of formative assessment on male

students' writing performance is 26.70 with a standard deviation of 11.05 in pre-test and 46.86 with a standard deviation of 16.86 in post test. Table 3 further shows that the mean gain due to the effects of flipped classroom approach is 48.99 while mean gain due to the effects of formative assessment is 20.16. The difference in the effect of flipped classroom approach and formative assessment on male students' writing performance is 28.83 in favour of male students in flipped classroom approach class.



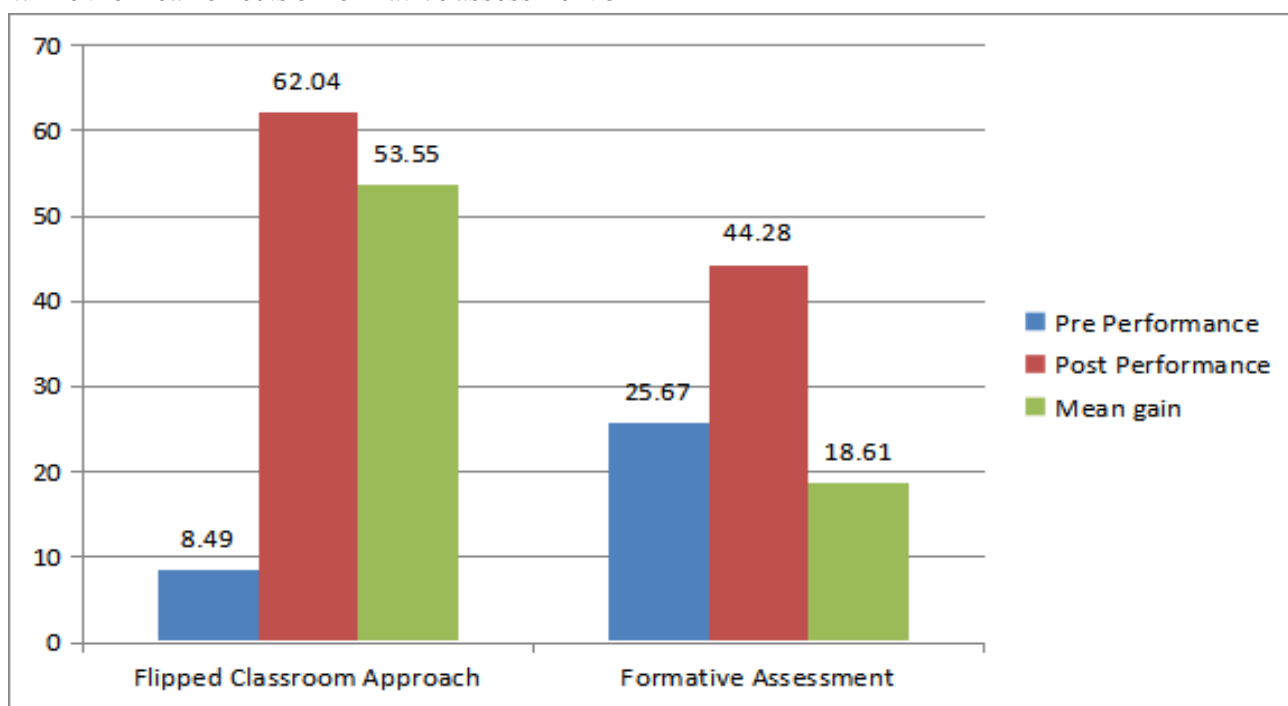
What is the difference in the effect of flipped classroom approach and formative assessment on female students' writing performance?

Table 4: Mean Effect of Flipped Classroom Approach and Formative Assessment on Female Students' Writing performance

Strategies		Pre performance	Post performance	Mean gain
Flipped Classroom Approach	Mean	8.49	62.04	53.55
	N	57	57	
	Std. Deviation	6.28	12.07	
Formative Assessment	Mean	25.67	44.28	18.61
	N	43	43	
	Std. Deviation	11.12	16.75	
Effects difference				34.94

Table 4 shows the mean effect of flipped classroom approach and formative assessment on female students' writing performance. The table shows that 57 female students were taught writing using flipped classroom approach and 43 female students were taught writing using formative assessment. The table shows that the mean effects of flipped classroom approach on female students' writing performance is 8.49 with a standard deviation of 6.28 in pre-test and 62.04 with a standard deviation of 12.07 in post test while the mean effects of formative assessment on

female students' writing performance is 25.67 with a standard deviation of 11.12 in pre-test and 44.28 with a standard deviation of 16.75 in post test. Table 4 further shows that the mean gain due to the effects of flipped classroom approach is 53.55 while mean gain due to the effects of formative assessment is 18.61. The difference in the effect of flipped classroom approach and formative assessment on female students' writing performance is 34.94 in favour of female students in flipped classroom approach class.



H₀₁

There is no significant difference in the effect of flipped classroom approach and traditional method on students' writing performance.

Table 5: ANCOVA of Effect of Flipped Classroom Approach and Traditional Method on Students' Writing performance

Dependent Variable: PostPerf

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	28752.026 ^a	2	14376.013	164.886	.000	.767
Intercept	34911.442	1	34911.442	400.418	.000	.800
PrePerf	1309.416	1	1309.416	15.018	.000	.131
Strategies	21401.174	1	21401.174	245.461	.000	.711
Error	8718.750	100	87.188			
Total	261813.000	103				
Corrected Total	37470.777	102				

a. R Squared = .767 (Adjusted R Squared = .763)

Table 5 shows that $F(1,100) = 245.461$; $p = 0.000 < 0.05$. Thus, the null hypothesis is rejected. This implies that there is significant difference in the effect of flipped classroom approach and traditional method on students' writing performance. Therefore, there is significant

difference in the effect of flipped classroom approach and traditional method on students' writing performance. The partial eta square of 0.711 obtain for strategies means that 71.1 percent of students' mean writing performance is can be attributed to the strategies employ.

H₀₂

There is no significant difference in the effect of formative assessment and traditional method on students' writing performance.

Table 6: ANCOVA of Effect of Formative Assessment and Traditional Method on Students' Writing performance

Dependent Variable: PostPerf

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8157.847 ^a	2	4078.924	22.800	.000	.347
Intercept	24475.555	1	24475.555	136.813	.000	.614
PrePerf	26.337	1	26.337	.147	.702	.002
Strategies	8146.815	1	8146.815	45.539	.000	.346
Error	15385.209	86	178.898			
Total	150317.000	89				
Corrected Total	23543.056	88				

a. R Squared = .347 (Adjusted R Squared = .331)

Table 6 shows that $F(1,86) = 45.539$; $p = 0.000 < 0.05$. Thus, the null hypothesis is rejected. This implies that there is significant difference in the effect of formative assessment and traditional method on students' writing performance. Therefore, there is significant difference in the

effect of formative assessment and traditional method on students' writing performance. The partial eta square of 0.346 obtain for strategies means that 34.6 percent of students' mean writing performance is accounted for by the strategies employ.

H₀₃

There is no significant difference in the effect of flipped classroom approach and formative assessment on male students' writing performance.

Table 7: ANCOVA of Effect of Flipped Classroom Approach and Formative Assessment on Male Students' Writing performance

Dependent Variable: PostPerfM						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	4554.728 ^a	2	2277.364	11.415	.000	.191
Intercept	53992.674	1	53992.674	270.624	.000	.736
PrePerfM	502.009	1	502.009	2.516	.116	.025
StrategiesMF	4083.814	1	4083.814	20.469	.000	.174
Error	19352.662	97	199.512			
Total	317563.000	100				
Corrected Total	23907.390	99				

a. R Squared = .191 (Adjusted R Squared = .174)

Table 7 shows that $F(1,97) = 20.469$; $p = 0.000 < 0.05$. Thus, the null hypothesis is rejected. This implies that there is significant difference in the effect of flipped classroom approach and formative assessment on male students' writing performance. Therefore, there is significant difference in the effect of flipped classroom

approach and formative assessment on male students' writing performance. The partial eta square of 0.174 obtain for strategies means that 17.4 percent of male students' mean writing performance is accounted for by the strategies employ.

H₀₄

There is no significant difference in the effect of flipped classroom approach and formative assessment on female students' writing performance.

Table 8: ANCOVA of Effect of Flipped Classroom Approach and Formative Assessment on Female Students' Writing performance

Dependent Variable: PostPerfF						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8991.539 ^a	2	4495.769	23.330	.000	.325
Intercept	42874.015	1	42874.015	222.484	.000	.696
PrePerfF	1264.120	1	1264.120	6.560	.012	.063
StrategiesMF	7659.554	1	7659.554	39.747	.000	.291
Error	18692.461	97	192.706			
Total	323620.000	100				
Corrected Total	27684.000	99				

a. R Squared = .325 (Adjusted R Squared = .311)

Table 8 shows that $F(1,97) = 39.747$; $p = 0.000 < 0.05$. Thus, the null hypothesis is rejected. This implies that there is significant difference in the effect of flipped classroom approach and formative assessment on female students' writing performance. Therefore, there is significant difference in the effect of flipped classroom approach and formative assessment on female students' writing performance. The partial eta square of 0.291 obtain for strategies means that 29.1 percent of female students' mean writing performance is accounted for by the strategies employ.

Discussion

The study investigated the effects of two innovative approaches to foundational literary namely flipped classroom approach and formative assessment on secondary school students' writing performance in Makurdi, Nigeria. The following constitutes the respective answers to research question 1-4.

1. The difference in the effects of flipped classroom approach and traditional method on students' writing performance is 37.65 in favour of students in flipped classroom approach class.
2. The difference in the effect of formative assessment and traditional method on students' writing performance is 18.65 in favour of students in formative assessment class.
3. The difference in the effect of flipped classroom approach and formative assessment on male students' writing performance is 28.83 in favour of male students in flipped classroom approach class.
4. The difference in the effect of flipped classroom approach and formative assessment on female students' writing performance is 34.94 in favour of female students in flipped classroom approach class

Flipped Classroom Approach and Students' Writing Performance

Findings from Table 1 and Table 5 revealed that students taught through the flipped classroom approach significantly outperformed those taught through the traditional method. The mean gain in writing performance for the flipped classroom group (53.12) was much higher than that of the

traditional method group (3.35). The ANCOVA result, $F(1,100) = 245.461$, $p < 0.05$, further confirmed that there was a statistically significant difference between the two groups in favour of the flipped classroom approach. The partial eta squared of 0.711 indicated that 71.1% of the variation in students' writing performance was attributable to the instructional strategy used.

This result suggests that the flipped classroom approach enhances students' engagement and writing competence more effectively than the traditional method. The result corroborates the findings of Bishop and Verleger (2013) and Zainuddin and Attaran (2016) that flipped learning promotes deeper understanding, improved writing skills, and better learner autonomy compared to conventional instruction. The implication is that when students are exposed to video lectures and pre-class activities, they come to class better prepared for practical writing exercises and feedback, which enhances their writing ability.

Formative Assessment and Students' Writing Performance

From Table 2 and Table 6, it was observed that students taught with formative assessment performed significantly better than those taught through the traditional method. The mean gain for the formative assessment group (22.00) was considerably higher than that of the traditional group (3.35). The ANCOVA result, $F(1,86) = 45.539$, $p < 0.05$, indicated a significant difference in favour of the formative assessment strategy. The partial eta squared value of 0.346 showed that 34.6% of the variance in students' writing performance was due to the instructional strategy.

This finding suggests that continuous feedback, peer review, and self-evaluation inherent in formative assessment foster improvement in students' writing. The result agrees with the findings of Black and Wiliam (2009) and Sadler (2010), who maintained that formative assessment provides learners with diagnostic feedback that helps them to identify weaknesses and make corrections before summative evaluation. The result underscores the role of formative assessment as a learning tool rather than a mere grading instrument, thereby enhancing students' writing performance and motivation.

Flipped Classroom Approach and Formative Assessment on Male Students' Writing Performance

The results in Table 3 and Table 7 revealed that male students exposed to the flipped classroom approach performed significantly better than those taught using formative assessment. The mean gain difference (28.83) and ANCOVA result, $F(1,97) = 20.469$, $p < 0.05$, confirmed a significant difference in favour of the flipped classroom approach. The partial eta squared of 0.174 indicated that 17.4% of the variation in male students' writing performance could be attributed to the instructional approach.

This finding implies that the flipped classroom approach may be particularly effective for male students, possibly because it integrates technology, autonomy, and interactive activities that appeal to their learning preferences. Similar results were reported by Hamdan, McKnight, and McKnight (2013), who noted that male learners tend to engage better in technology-enhanced learning environments that encourage collaboration and independent study. The finding suggests that exposing male students to multimedia instructional content before class can enhance their comprehension and performance in writing tasks.

Flipped Classroom Approach and Formative Assessment on Female Students' Writing Performance

Findings from Table 4 and Table 8 showed that female students in the flipped classroom group outperformed their counterparts in the formative assessment group. The mean gain difference was 34.94, and the ANCOVA result, $F(1,97) = 39.747$, $p < 0.05$, indicated a statistically significant difference favouring the flipped classroom approach. The partial eta squared value of 0.291 implied that 29.1% of the variance in female students' writing performance could be explained by the instructional strategy.

This suggests that the flipped classroom model provides female students with the opportunity to learn at their own pace and participate more actively in writing discussions, which may account for their improved performance. The result supports He, Holton, and Farkas (2018) that female students often thrive in learner-centred environments that encourage

collaboration, reflection, and continuous feedback. The implication is that flipped learning not only enhances writing skills but also bridges gender gaps in literacy development.

Overall, the findings demonstrate that both flipped classroom and formative assessment approaches significantly improved students' writing performance compared to the traditional method, with the flipped classroom approach having the greatest effect across all comparisons. This suggests that innovative, student-centred pedagogies that integrate technology and continuous feedback can substantially enhance foundational literacy skills among secondary school students.

Conclusion

The results of the present study affirm flipped classroom approach and formative evaluation are effective in fostering students' writing performance. The two approaches helped the students to actively participating and collaborate in assigned class tasks more than in traditional classroom set ups. This is ore aligned with 21st-century literacy demands.

Recommendations

The following constitutes the recommendations of the study.

1. Given that the findings showed improved essay writing performance among students exposed to flipped classroom and formative assessment, it is recommended that teachers of English language should integrate these innovative approaches into their writing lessons.
2. Since active participation and collaboration of learners in the lesson enhanced writing outcomes, curriculum planners should integrate learning activities that promote active classroom learning and immediate feedback-driven approaches into English language teaching.
3. The Ministry of Education should sponsor continuous professional development programmes that include training in flipped classroom pedagogy and formative assessment strategies.
4. Schools should provide technological resources and support systems to facilitate the implementation of innovative literacy

practices.

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