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EFFECT OF FLIPPED CLASSROOM MODEL ON ENGLISH EDUCATION STUDENTS' INTEREST AND ACADEMIC ACHIEVEMENT IN CURRICULUM CONTENT IN COLLEGES OF EDUCATION IN NORTH CENTRAL NIGERIA

Nwakile Ifeoma[1]; Eze, Kenneth Oma[1*] & Agbo, Chidi Nathaniel[2]
[1]Department of Arts Education, University of Nigeria, Nsukka
[2]Department of Curriculum and Instruction, Federal College of Education, Eha-Amufu
*__Corresponding Author:__ kenneth.eze@unn.edu.ng

Abstract
The study examined the effect of the Flipped Classroom Model (FCM) on English Education students' interest and academic achievement in curriculum content in Colleges of Education in North Central Nigeria. Two research questions guided the study, and two null hypotheses were tested at a 0.05 level of significance. A quasi-experimental research design, specifically the non-equivalent pretest-posttest control group design was adopted. The study population comprised 1,470 English Education students from public Colleges of Education in North Central Nigeria. Using a multi-stage sampling procedure, 121 students were selected for the study. Two instruments, the Teaching Methods in English Education Achievement Test (TMEEAT) and the English Education Interest Scale (EEIS), were used for data collection. The instruments were validated by experts, and their reliability was established using Cronbach Alpha and Kuder-Richardson Formula 20, yielding reliability indices of 0.94 and 0.88, respectively. The experiment lasted six weeks, during which the experimental group was taught using the Flipped Classroom Model while the control group received instruction through the conventional lecture method. Data collected were analyzed using mean and standard deviation to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at a 0.05 significance level. Findings revealed that the Flipped Classroom Model significantly enhanced students' interest and academic achievement in English Education curriculum content. The results also indicated that students taught using the Flipped Classroom Model demonstrated a higher mean gain in both interest and academic achievement compared to those taught using the conventional lecture method. The study concluded that integrating the Flipped Classroom Model into English Education courses would enhance student engagement and learning outcomes. It was recommended that Colleges of Education administrators incorporate flipped learning strategies into instructional practices, and the Federal and State Ministries of Education should provide necessary training and resources to support the effective implementation of the model.

Keywords: Flipped classroom model, English education students', Interest and academic achievement, curriculum content

Introduction

The effectiveness of teaching strategies has been a crucial focus in educational research. One of the most widely used but increasingly scrutinized methods of instruction is the conventional lecture method, which has been a dominant approach in many classrooms. This teacher-centred method is often characterized by passive learning, where students primarily listen to lectures with minimal active engagement (Ibrahim & Haruna, 2017). Despite its long-standing application, numerous studies have identified its limitations, particularly in fostering deep learning, student motivation, and retention of curriculum content (Makinde, 2017; Roach, 2014; Unal & Unal, 2017). As the demand for

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more interactive and student-centred approaches grows, alternative instructional strategies such as the flipped classroom model have gained prominence. The flipped classroom model seeks to address the limitations of conventional instruction by restructuring learning activities, promoting student engagement, and providing opportunities for active learning through pre-class preparations and in-class discussions (Makinde, 2017).

The flipped classroom model is an instructional strategy that reverses traditional teaching paradigms by delivering instructional content outside of class, typically through digital platforms, and engaging students in active problem-solving during in-person sessions (Dixon, 2017). This approach shifts the role of the instructor from a primary source of knowledge to a facilitator, guiding students through discussions and collaborative exercises (Bhagat, Chang, & Chang, 2016). Studies have shown that the flipped model fosters critical thinking, deeper comprehension, and improved academic performance compared to traditional lecture methods (Elian & Hamaidi, 2018). Particularly in English education, where comprehension, discussion, and analysis are fundamental, the flipped classroom allows students to engage more effectively with curriculum content before attending class, thus maximizing the benefits of face-to-face instruction (Santikarn & Wichadee, 2018).

English Education is one of the courses offered in Colleges of Education. Unlike subjects that rely primarily on memorization, English Education demands active engagement with texts, discussions, and interpretations, making it highly compatible with the flipped classroom approach (Kashada, Hongguang, & Chong, 2017). Research suggests that traditional lecture methods do not provide adequate opportunities for students to develop communicative competence, critical analysis skills, and independent learning habits, which are essential for mastering English curriculum content (Chung & Khe, 2017; Dusenbury & Olson, 2019). By incorporating the flipped model, students have the flexibility to access course materials at their own pace before engaging in classroom activities that reinforce and expand their understanding (Bedi, 2018). Furthermore, the use of digital resources and multimedia content in the flipped classroom could enhance students' interest and academic achievement (Dusenbury & Olson, 2019).

Interest plays a crucial role in students' learning experiences, particularly in English Education, where engagement with texts, discussions, and interpretations is essential. Interest is defined as a psychological state characterized by focused attention, increased effort, and positive emotional involvement in a subject or activity (Jdaitawi, 2019). It can be situational, arising from external influences such as instructional methods, or intrinsic, developing from a learner's personal motivation and curiosity (Dusenbury & Olson, 2019). Traditional lecture-based methods often fail to sustain students' interest due to their passive nature, which limits opportunities for interaction and critical thinking (Aljaraideh, 2019). The flipped classroom model, by contrast, has been shown to increase students' interest by allowing them to engage with learning materials before class, thus fostering a sense of preparedness and motivation for in-class discussions (Santikarn & Wichadee, 2018). In English Education, where active participation is key to language acquisition and comprehension, a teaching approach that stimulates students' interest can lead to improved engagement with curriculum content (Kashada et al., 2017). By integrating multimedia resources and interactive learning experiences, the flipped classroom model provides an engaging instructional framework that enhances students' enthusiasm for learning and fosters sustained interest which could enhance academic achievement (Elian & Hamaidi, 2018).

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Academic achievement, which reflects a student's ability to successfully acquire and apply knowledge, is a fundamental goal of any instructional approach. Academic achievement refers to the extent to which a student has met specific learning objectives, as measured through tests, assignments, and other performance indicators (Ibrahim & Haruna, 2017). Another perspective describes it as the demonstration of cognitive and practical competencies that indicate a student's level of proficiency in a subject area (Sağlam & Arslan, 2018). Studies have shown that conventional lecture-based teaching methods often result in lower academic achievement due to limited student engagement and passive learning experiences (Makinde, 2017; Dusenbury & Oslo, 2019; Nwachukwu et al, 2020). The flipped classroom model, however, has been found to improve academic achievement by promoting self-directed learning, enhancing classroom interaction, and providing opportunities for deeper comprehension of subject matter (Bhagat et al., (2016); Sağlam, D. & Arslan, 2018; Bedi, 2018; Aljaraideh, 2019; Onyenma & Abraham, 2020). Since Colleges of Education are responsible for preparing future educators, adopting instructional strategies that enhance academic achievement especially in curriculumcontent is essential for equipping students with the necessary competencies to become effective teachers (Unal & Unal, 2017).

Curriculum content in Colleges of Education is structured to prepare students for professional teaching roles, equipping them with pedagogical knowledge and subject expertise. However, ineffective teaching methods have been identified as a significant barrier to achieving optimal learning outcomes in teacher training institutions (Sirakaya & Özdemir, 2018). The traditional reliance on lecture-based instruction has contributed to low engagement and poor retention of content, which ultimately affects the preparedness of future teachers (Jdaitawi, 2019). Given the importance of curriculum content in shaping educators' competencies, it is crucial to explore innovative teaching strategies that can enhance comprehension and retention. The flipped classroom, with its emphasis on self-paced learning and interactive classroom experiences, offers a promising solution for improving the effectiveness of curriculum delivery in teacher training programs (Ibrahim & Haruna, 2017). In the context of North Central Nigeria, where Colleges of Education play a vital role in producing qualified teachers, adopting student-centred approaches such as the flipped model could lead to significant improvements in pedagogical training and professional readiness (Onyenma & Abraham, 2020).

The justification for conducting this study in Colleges of Education in North Central Nigeria is rooted in the region's ongoing educational challenges, such as inconsistent teaching methodologies, high student-to-teacher ratios, and limited resources. Recent studies have highlighted that many institutions in this area continue to rely heavily on traditional lecture-based methods, which often lead to low student engagement and suboptimal academic performance (Aljaraideh, 2019; Yusuf & Okebukola, 2024). For instance, a study assessing the influence of flipped classroom models on pre-service teachers' attitudes towards chemistry in North Central Nigeria found that traditional methods were insufficient in fostering positive learning attitudes (Yusuf & Okebukola, 2024). In addition, Yusuf & Okebukola (2024) found that low achievement in curriculum courses such as Teaching Methods in English Education in colleges of education in North Central Nigeria could be due to the utilization of lecture teaching methods for teaching the course.

Furthermore, the increasing demand for well-trained teachers necessitates the adoption of innovative instructional models that not only enhance academic achievement but also cultivate a deeper interest in teaching and learning processes (Chen, 2016). By

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investigating the impact of the flipped classroom on students' interest and academic achievement in curriculum content, this study aims to provide empirical evidence that can inform policy decisions and instructional practices in teacher education (Sağlam & Arslan, 2018). Additionally, as technology integration in education becomes more widespread, understanding how flipped learning can be effectively implemented in Colleges of Education will be instrumental in shaping future teaching methodologies in Nigeria (Gonzalez-Gomez et al., 2016). This is particularly pertinent given the unique socio-economic and cultural contexts of North Central Nigeria, which require tailored educational strategies to address specific regional challenges. It is against this backdrop that the current study seeks to determine the effect of Flipped Classroom Model on English Education Students' interest and academic achievement in Curriculum Content in Colleges of Education in North Central Nigeria.

The conventional lecture method remains the dominant instructional approach in many Colleges of Education in North Central Nigeria, despite growing evidence of its ineffectiveness in fostering active student engagement and deep learning. This teacher-centred approach often promotes passive learning, where students primarily memorize information rather than developing critical thinking and analytical skills necessary for mastery of curriculum content. In English Education, where comprehension, discussion, and interaction are essential, the continued reliance on traditional lecture methods limits students' ability to effectively engage with texts and develop communicative competence. Consequently, students may struggle with retention and application of knowledge, leading to declining academic performance and waning interest in the subject. If this issue remains unaddressed, it could have significant long-term consequences for teacher education and the overall quality of instruction in Nigeria. Colleges of Education are responsible for preparing future educators, yet ineffective teaching methods may result in the production of teachers who lack the pedagogical skills necessary for effective classroom instruction This, in turn, affects learning outcomes at the secondary and tertiary levels, perpetuating a cycle of inadequate teaching and poor student performance. The flipped classroom model presents a viable solution to this problem, as it restructures the traditional learning process by allowing students to interact with instructional materials before class, thereby fostering deeper comprehension, increased motivation, and meaningful classroom engagement. This study seeks to examine the effect of the flipped classroom model on students' interest and academic achievement in curriculum content, providing empirical evidence to support the adoption of innovative teaching strategies that can improve the quality of teacher education in North Central Nigeria.

Purpose of the Study

The general purpose of the study was to determine the effect of Flipped Classroom Model on English Education Students' interest and academic achievement in Curriculum Content in Colleges of Education in North Central Nigeria. Specifically, the study sought to determine the:

1. mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria
2. mean academic achievement scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria

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Research Questions

The following research questions guided the study

1. What are the mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria?
2. What are the mean academic achievement scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

Ho_1: There are no significant differences between the mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria.

Ho_2: There are no significant differences between the mean academic achievement scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional lecture method in Colleges of Education in North Central Nigeria.

Methods

The study adopted non-equivalent pretest, posttest, control group quasi-experimental design. The quasi-experimental design was used since the classes of the students that were used for the study had been organized based on intact classes to provide stability and avoid disruption of class lessons and class arrangement. According to Borg and Gall (2007), it is a suitable alternative to experimental design where randomization is difficult. The study involved two groups: the experimental group and the control group. The experimental group received instruction using the Flipped Classroom Model (FCM), while the control group was taught through the traditional lecture method. The population of the study consisted of 1470 English Education students from the 14 existing public Colleges of education in North-central Nigeria. A total of 121 English Education studentswere selected for the study using multi-stage sampling technique. Firstly, Simple Random sampling technique was used to select two Colleges of Education for the study for the experimental and control groups (Federal College of Education, Pankshin, Plateau State (Experimental group) and Federal College of Education, Kotangora, Niger State). In the second stage, purposive sampling was used to select intact NCE II classes as the course titled Teaching Methods in English Education is a course at that level which yielded 138 students (Federal College of Education, Pankshin, Plateau State (Experimental group - 71) and Federal College of Education, Kotangora, Niger State (Control group – 67). In the last stage, a purposive sampling was used to select a total of 54 students for the experimental group based on their access to digital learning tools such as laptops, desktop computers, or smartphones with internet capable of playing MP4 videos while all 67 students in the control group were involved in the study which yielded a total of 121 English Education students sampled for the study. The instruments for data collection were Teaching Methods in English Education Achievement Test (TMEEAT) and English Education Interest Scale (EEIS) which were validated by three experts, two from the Department of Educational Foundations and Curriculum, and the other a specialist in Measurement and Evaluation in the Department of Educational Psychology and

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Counselling, all from Faculty of Education, Ahmadu Bello University, Zaria. The inputs, corrections and comments by the experts guided the researcher in modifying the final copy of the instrument. The reliability of the instruments was established using Cronbach alpha for EEIS and Kudder-Richardson 20 for TMEEAT. EEIS and TMEEAT yielded a coefficient of 0.94 and 0.88 respectively which showed that the items were reliable. This is in line with Nworgu (2015) who stated that if the coefficient obtained in an instrument is up to 0.70 and above, the instrument should be considered good enough to be used for a study.

A one-week intensive training was given to the research assistants who were the regular course lecturers from the sampled schools teaching English Education in NCE II. The experimental group lecturer was given detailed explanations on what flipped classroom model is, the lesson plan, how to incorporate the flipped classroom model techniques into the lesson and the general requirements of the research. The control group lecturer was briefed on the general requirements of the research since they were required to use conventional method lesson plan to teach. By the end of the training, the researcher organized a micro teaching session for the participating lecturers to ensure that they had mastered the instructional technique expected of them. The study lasted for six weeks using the normal period allocated for Teaching Methods in English Education in the sampled Colleges of Education to avoid altering the school timetable.

Other experimental conditions that were taken into consideration to avoid invalidity. Prior to the commencement of the experiment, the students in the Colleges of Education chosen were assigned to experimental and control group respectively by flip of a coin. Also, the researcher, with the aid of two research assistants (Course Lecturers) subjected the two randomly selected groups to a pre-test on TMEEAT and EEIS. Thereafter, the experimental group was subjected to the treatment (flipped classroom model) and control group to conventional method. The actual experiment was conducted by the research assistants (course lecturers). Experimental groups were taught using lesson plan on flipped classroom method. After the treatment, the post TMEEAT as well as EEIS were administered to both the control and experimental groups. The scripts were collected, marked and scored. Each of the 20 questions on the TMEEAT equalled 5 marks, giving a total of 100 marks. For the EEIS, each of the 15 items has 4 options; positive items were scored as follows; Every time (E) -4 points; Sometimes (S)-3 points; Rarely (R)-2 points; and Never (N)-1 point. The scores were reversed for negative items. A student's score was obtained by summing their score for all the items with the highest possible attainable score being 60 marks. The data was finally analyzed based on the scores using mean to answer the research questions. If the mean of the post test is greater than the pretest, then the flipped classroom model had a positive effect but if the mean of the post test is less than the pre-test, then it has a negative effect. ANCOVA was used to test the hypotheses thus: If the p-value < 0.05, reject H_o and if p-value is ≥ 0.05, accept H_o.

Results

Research Question One: What are the mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method in Colleges of Education in North Central Nigeria?

Table 1: Pretest/posttest mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method

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Group	N	Pre Test		Post Test		Mean gain/Loss	Remarks
		$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	54	22.25	4.58	43.95	4.25	21.70	Increases
Control	67	25.96	4.91	18.97	4.92	-6.99	Decreases
Total	121						

Table 1 shows the pretest and posttest mean scores of English Education students taught curriculum content using the Flipped Classroom Model (FCM) and those taught using the conventional lecture method. The pretest mean interest score of students in the experimental group was 22.25, with a standard deviation of 4.58, while their posttest mean score increased to 42.95, with a standard deviation of 5.25, resulting in a mean gain of 21.70.Conversely, students in the control group had a pretest mean interest score of 25.96, with a standard deviation of 4.91, but their posttest mean interest score dropped to 18.97, with a standard deviation of 4.92, leading to a mean loss of -6.99. The positive mean interest gain of 19.70 in the experimental group suggests that the Flipped Classroom Model enhanced English Education students' interest in curriculum content. In contrast, the mean loss of -6.99 in the control group indicates a decline in interest when taught using the conventional lecture method.

Hypothesis 1: There are no significant differences between the mean interest scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method in Colleges of Education in North Central Nigeria.

Table 2: ANCOVA of the Effects of Flipped Classroom Model on the Mean Interest of English Education Students

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Dec
Corrected Model	6902.633[a]	2	3451.316	55.558	.000	
Intercept	1917.576	1	1917.576	30.868	.000	
Preinterest	.229	1	.229	.004	.952	
Group	6479.348	1	6479.348	104.302	.000	S
Error	2919.687	118	62.121			
Total	50606.000	121				
Corrected Total	9822.320	120				

a. R Squared = .703 (Adjusted R Squared = .690)

Data analyzed in Table 2 reveals that the probability value associated with the calculated F-value (104.302) for the effect of the Flipped Classroom Model (FCM) on students' interest is 0.000. Since this probability value is less than 0.05, the null hypothesis is rejected. This indicates that the Flipped Classroom Model had a significant effect on the interest of English Education students in Colleges of Education in North Central Nigeria. Furthermore, students in the experimental group, who were taught using the Flipped Classroom Model, demonstrated higher interest levels compared to those in the control group, who were taught using the conventional lecture method.

Research Question Two: What are the mean academic achievement scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method in Colleges of Education in North Central Nigeria?

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Table 3: Pretest/posttest achievement mean scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method

Groups	N	Pre Test		Post Test		Mean gain/Loss	Remarks
		$\overline{X}$	SD	$\overline{X}$	SD		
Experimental	54	37.00	9.51	65.00	10.69	28.00	Increases
Control	67	40.67	7.98	51.00	8.36	10.33	Increases
	121						

Table 3 shows the pretest and posttest mean achievement scores of English Education students taught curriculum content using the Flipped Classroom Model (FCM) and those taught using the conventional lecture method. The pretest mean academic achievement score of students in the experimental group was 37.00, with a standard deviation of 9.51, while their posttest mean academic achievement score increased to 65.00, with a standard deviation of 10.69, resulting in a mean gain of 28.00.Similarly, students in the control group had a pretest mean academic achievement score of 40.67, with a standard deviation of 7.98, while their posttest mean score increased to 51.00, with a standard deviation of 8.36, leading to a mean gain of 10.33. The higher mean gain of 28.00 in the experimental group suggests that the Flipped Classroom Model significantly improved students' academic achievement in curriculum content. In contrast, although students in the control group also experienced an increase in academic achievement, the mean gain of 10.33 indicates that the conventional lecture method was less effective in enhancing students' performance compared to the Flipped Classroom Model.

Hypothesis 2: There are no significant differences between the mean academic achievement scores of English Education Students taught curriculum content using flipped classroom model and those taught using conventional method in Colleges of Education in North Central Nigeria.

Table 4: ANCOVA of the Effects of Flipped Classroom Model on the Mean Academic Achievement of English Education Students

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Dec
Corrected Model	3764.668[a]	2	1882.334	9.021	.000	
Intercept	6437.155	1	6437.155	30.849	.000	
Pretest	1412.668	1	1412.668	6.770	.012	
Group	2885.720	1	2885.720	13.829	.001	S
Error	9807.332	118	208.667			
Total	173750.000	121				
Corrected Total	13572.000	120				

a. R Squared = .277 (Adjusted R Squared = .247)

Data analyzed in Table 4 shows that the probability value associated with the calculated F-value (13.829) for the effect of the Flipped Classroom Model (FCM) on the academic achievement of English Education students is 0.001. Since the probability value is less than 0.05, the null hypothesis is rejected. This indicates that the Flipped Classroom Model had a significant effect on the academic achievement of English Education students in Colleges of Education in North Central Nigeria. Furthermore, students taught using the

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Flipped Classroom Model outperformed those taught using the conventional lecture method, as reflected in their higher academic achievement scores.

Discussion

The findings of this study on the effect of the Flipped Classroom Model (FCM) on the interest of English Education students revealed that the Flipped Classroom Model effectively increased English Education students' mean interest in curriculum content. This suggests that students exposed to the Flipped Classroom Model developed greater interest in the curriculum content, whereas students in the control group lost interest over time. This finding aligns with Aljaraideh (2019), who found that students in a flipped classroom environment had higher engagement and motivation than those in traditional lecture-based classes. Similarly, Bedi (2018) reported that the Flipped Classroom Model enhances student engagement, as it allows for active participation and self-paced learning, making students more interested in the learning process. Furthermore, Bhagat et al., (2016) emphasized that students taught using the Flipped Classroom Model showed higher motivation and enthusiasm, as the model provides interactive and student-centred learning experiences. This suggests that the increase in interest observed in this study could be attributed to the interactive and flexible learning environment provided by the Flipped Classroom Model, which contrasts with the passive nature of the conventional lecture method.

The findings from the hypothesis test further support these results. Data analyzed in showed that the null hypothesis is rejected, indicating a statistically significant effect of the Flipped Classroom Model on students' interest. The finding is in line with the study by Ibrahim and Haruna (2017), who reported that students taught using flipped and interactive teaching approaches had significantly higher interest levels than those taught using conventional methods. Similarly, Dusenbury and Olson (2019) found that the Flipped Classroom Model positively influenced students' perceptions of learning, leading to higher engagement and academic interest. The significant difference in interest levels between the experimental and control groups could be attributed to the active learning strategies embedded in the Flipped Classroom Model, such as interactive discussions, peer learning, and problem-solving activities. These findings further support the argument by Elian and Hamaidi (2018) that students in flipped classrooms are more engaged and motivated, as they are given the flexibility to learn at their own pace and actively participate in class activities. Therefore, based on the results of this study and the alignment with previous literature, it can be inferred that the Flipped Classroom Model significantly enhances English Education students' interest in curriculum content in Colleges of Education in North Central Nigeria.

The findings of this study on the effect of the Flipped Classroom Model (FCM) on the academic achievement of English Education students revealed that the Flipped Classroom Model significantly improved students' academic performance in curriculum content. Although the control group experienced an improvement in academic achievement, the higher mean gain in the experimental group suggests that the Flipped Classroom Model was more effective in enhancing students' academic achievement compared to the traditional lecture method. This finding aligns with Dixon (2017), who reported that students in a flipped learning environment demonstrated higher academic achievement due to the active learning and student-centred approach embedded in the model. Similarly, Bhagat et al., (2016) found that the Flipped Classroom Model improved students' conceptual understanding and problem-solving skills more effectively than traditional teaching methods. One possible explanation for the significant improvement in

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academic achievement among students exposed to the Flipped Classroom Model is that flipped learning promotes deeper engagement, self-paced learning, and active participation in the learning process. Unlike the passive nature of the lecture method, the flipped approach allows students to access instructional materials before class, enabling them to engage in higher-order thinking activities during in-class sessions. This aligns with the findings of Elian and Hamaidi (2018), who observed that students in flipped classrooms had greater academic success because they were better prepared and more actively involved in learning activities.

The findings from the hypothesis test further confirm the positive effect of the Flipped Classroom Model on students' academic achievement. The null hypothesis is rejected, indicating a statistically significant effect of the Flipped Classroom Model on students' academic achievement. This finding is in agreement with Jdaitawi (2019), who found that students taught using the Flipped Classroom Model demonstrated significantly higher academic performance than those taught using traditional methods. Similarly, Unal and Unal (2017) reported that students in flipped learning environments consistently outperformed their peers in conventional lecture-based settings due to the enhanced interactivity and collaborative learning opportunities provided by the flipped model. The significant difference in academic achievement between the experimental and control groups in this study suggests that the Flipped Classroom Model fosters an improved learning environment where students actively engage with course materials, apply critical thinking skills, and reinforce their understanding through discussions and problem-solving activities. This is consistent with the argument by Sağlam and Arslan (2018) that flipped classrooms encourage active learning, thereby improving student performance and retention. Therefore, based on the findings of this study and the support from previous literature, it can be concluded that the Flipped Classroom Model significantly enhances English Education students' academic achievement in curriculum content in Colleges of Education in North Central Nigeria.

Conclusion

Based on the findings, this study concludes that the Flipped Classroom Model (FCM) is an effective instructional strategy for enhancing the interest and academic achievement of English Education students in Colleges of Education in North Central Nigeria. The study demonstrated that students taught using the Flipped Classroom Model exhibited significantly higher interest and academic achievement compared to those taught through the conventional lecture method. The interactive and student-centred nature of the flipped classroom approach allowed students to engage more actively with curriculum content, reinforcing their understanding and improving learning outcomes. Furthermore, the study highlights the importance of integrating innovative teaching methodologies that foster active participation, collaborative learning, and critical thinking skills among students. By adopting the Flipped Classroom Model, educators can create a more engaging and effective learning environment that enhances both students' motivation and academic success. Therefore, stakeholders in teacher education programs, including lecturers, educational policymakers, and curriculum developers, should consider incorporating flipped learning strategies to optimize student engagement and learning experiences.

Recommendations

Based on the findings of the study, the following recommendations are made:

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1. Colleges of Education administrators should incorporate the Flipped Classroom Model into the curriculum to enhance student's interest in English Education courses. This will foster a more interactive and student-centred learning experience.
2. The college administration and relevant educational bodies should invest in technological infrastructure, such as smartboards, projectors, and digital learning platforms, to facilitate the effective implementation of flipped learning and improve students' academic achievement.

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