



Relationship between Teachers' Preferred Instructional Methods and Students' Achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State

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Abstract

This study investigated the relationship between teachers' preferred instructional methods and students' achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State, Nigeria. The study adopted a correlational survey research design. The population comprised Upper Basic Education teachers and students in public secondary schools within the study area. A sample of 30 teachers and 300 students was selected using a multistage sampling technique. Data were collected using the Teachers' Instructional Methods Questionnaire (TIMQ) and Students' Achievement Test (SAT). The questionnaire was validated by experts in Curriculum and Instruction, Mathematics Education, and Measurement and Evaluation, while its reliability was established using Cronbach's alpha. Data were analyzed using descriptive statistics, Pearson Product Moment Correlation, and Independent Samples t test at the 0.05 level of significance. The findings revealed a significant positive relationship between teachers' preferred instructional methods and students' academic achievement ($r = 0.659, p < .05$). Students exposed to learner centred instructional methods achieved significantly higher academic scores than those exposed to teacher centred instructional methods ($t = -18.182, p < .05$). However, no significant difference was found in the academic achievement of male and female students ($t = -0.161, p = .872$). The study concluded that instructional methods adopted by teachers significantly influence students' academic achievement. It was recommended that teachers should adopt learner centred instructional methods to improve students' participation, understanding, and academic performance in Upper Basic Education.

Keywords: Instructional methods, learner centred instruction, teacher centred instruction, academic achievement.

Introduction

The quality of education in every nation depends largely on the effectiveness of classroom instruction. Teachers remain the most important school based factor influencing students' learning outcomes because they determine the instructional approaches through which curriculum contents



are delivered. Regardless of the quality of educational policies, curriculum design, or school infrastructure, meaningful learning cannot occur without effective instructional practices. Consequently, teachers' choice of instructional methods has continued to attract considerable attention among educational researchers and policymakers seeking to improve students' academic achievement (Darling-Hammond *et al.*, 2020; Hattie, 2023).

Instructional methods refer to the strategies, techniques, and procedures employed by teachers to facilitate learning and help students achieve intended educational objectives. These methods include lecture, discussion, demonstration, inquiry based learning, cooperative learning, problem solving, project based learning, and technology assisted instruction. The effectiveness of these instructional methods depends largely on their ability to promote active participation, critical thinking, collaboration, and meaningful engagement among learners (Slavin, 2020). Contemporary educational practice increasingly emphasizes learner centred instructional approaches because they encourage students to participate actively in the learning process rather than remaining passive recipients of information. Learner centred instructional methods create opportunities for collaboration, inquiry, classroom discussion, experimentation, and problem solving, thereby enhancing students' conceptual understanding and long term retention of knowledge. In contrast, teacher centred instructional methods, particularly prolonged lecture based instruction, often limit students' participation and opportunities for higher order thinking (Hattie, 2023).

In Nigeria, improving students' academic achievement remains a major concern for educational stakeholders. Despite continuous curriculum reforms, teacher professional development programmes, and increased investment in education, students' performance in internal and external examinations remains unsatisfactory in many public secondary schools. Several researchers have attributed this challenge partly to the predominance of conventional teaching methods that encourage memorization rather than meaningful learning (Darling-Hammond *et al.*, 2020; Slavin, 2020). Upper Basic Education represents a critical stage in Nigeria's educational system because it provides the foundation for senior secondary education and lifelong learning. At this level, students are expected to develop critical thinking, communication, creativity, collaboration, and problem solving skills that prepare them for higher education and future employment. Achieving these educational objectives requires teachers to adopt instructional methods that actively engage learners and accommodate individual learning differences (Ikushagba & Abraham, 2025).

Although numerous studies have examined the effectiveness of individual instructional methods such as cooperative learning, inquiry based learning, and discussion method, relatively



few have investigated teachers' preferred instructional methods and their relationship with students' academic achievement, particularly within rural public secondary schools in Nigeria. Furthermore, empirical evidence from Kabba Bunu Local Government Area of Kogi State remains limited, making it difficult for educational planners to develop context specific instructional improvement strategies. This study therefore investigated the relationship between teachers' preferred instructional methods and students' achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State. Specifically, the study examined teachers' preferred instructional methods, determined the relationship between instructional methods and students' academic achievement, compared the achievement of students taught using learner centred and teacher centred instructional methods, and examined whether gender influenced students' academic achievement.

Statement of the Problem

Students' academic achievement in Upper Basic Education has continued to attract the attention of educators, parents, school administrators, and government agencies because it serves as an important indicator of educational quality. Despite various educational reforms introduced by the government, students' academic performance in many public secondary schools remains below expectations. Several factors have been identified as possible contributors to this situation, including inadequate instructional resources, overcrowded classrooms, insufficient teacher motivation, and ineffective instructional practices. Among these factors, teachers' instructional methods remain particularly important because they directly influence how students acquire knowledge, develop critical thinking skills, and apply classroom learning to real life situations. In many Nigerian public secondary schools, classroom instruction is still dominated by lecture based teaching, which often provides limited opportunities for students' active participation. Consequently, many learners become passive recipients of information, resulting in poor engagement and low academic achievement.

Although previous studies have established the effectiveness of learner centred instructional methods, most of these studies focused on individual instructional strategies or specific school subjects. Few studies have examined teachers' overall instructional preferences and how these preferences relate to students' academic achievement within the context of Upper Basic Education in rural communities such as Kabba Bunu Local Government Area of Kogi State. This gap in knowledge provided the motivation for the present study.

Literature Review



Instructional methods are widely recognized as one of the most influential school based factors affecting students' academic achievement. The effectiveness of teaching depends not only on teachers' mastery of subject matter but also on their ability to employ instructional approaches that actively engage learners in the learning process. Contemporary educational reforms have therefore shifted attention from teacher dominated instruction to learner centred pedagogies that promote critical thinking, collaboration, creativity, and problem solving (Sabo, 2022). This shift is particularly important within Upper Basic Education, where students develop foundational knowledge and competencies required for higher levels of education and lifelong learning. The literature consistently demonstrates that instructional methods influence students' cognitive development, classroom engagement, motivation, and academic achievement. While traditional lecture methods remain useful for introducing new concepts and organizing classroom instruction, excessive reliance on teacher centred approaches often limits learners' participation and independent thinking. In contrast, learner centred instructional methods such as classroom discussion, inquiry based learning, and cooperative learning, demonstration, and problem solving encourage active learner participation and facilitate deeper conceptual understanding (Darling-Hammond *et al.*, 2020; Slavin, 2020).

Recent international evidence strongly supports the effectiveness of learner centred instruction. Hattie (2023), through a synthesis of more than 2,100 meta analyses involving over 400 million learners, identified classroom discussion, cooperative learning, formative assessment, reciprocal teaching, and effective feedback as instructional practices with substantial positive effects on students' academic achievement. The study concluded that instructional quality exerts a greater influence on learning outcomes than many demographic and contextual variables. Similarly, a systematic review by Ikushagba & Abraham (2025) reported that learner centred pedagogy significantly improves students' engagement, communication skills, motivation, and academic performance across different educational contexts. However, the authors emphasized that successful implementation depends on teachers' pedagogical competence, adequate instructional resources, and supportive classroom environments. These findings suggest that learner centred instructional methods should be viewed as context dependent practices rather than universally applicable strategies.

Within the Nigerian educational system, the adoption of learner centred instructional methods remains inconsistent despite curriculum reforms promoting active learning. Many public secondary schools continue to rely predominantly on lecture based teaching because of overcrowded classrooms, inadequate instructional materials, examination driven curricula, and limited opportunities for continuous teacher professional development. Consequently, students



often assume passive roles during classroom instruction, reducing opportunities for collaborative learning, inquiry, and critical thinking (Anum & Ogazi, 2021). Empirical studies conducted in Nigeria have nevertheless demonstrated that learner centred instructional approaches improve students' academic achievement. Studies involving Mathematics, Basic Science, English Language, and Social Studies consistently reported that cooperative learning, discussion, inquiry based instruction, and problem solving strategies significantly enhance students' academic performance when compared with conventional lecture methods. These instructional approaches also improve learners' motivation, participation, self-confidence, and knowledge retention.

Gender has also received considerable attention in studies of instructional effectiveness. Earlier investigations frequently reported differences in academic achievement between male and female students, particularly in Mathematics and Science subjects. However, recent evidence suggests that these differences have become less pronounced as educational opportunities and instructional practices have become more inclusive. Hattie (2023) and Slavin (2020) argued that instructional quality, teacher effectiveness, and classroom climate contribute more substantially to students' achievement than gender alone. Similarly, findings from the Organisation for Economic Co-operation and Development Programme for International Student Assessment indicate that although gender differences exist in some learning domains, effective classroom instruction substantially reduces such disparities.

Although considerable empirical evidence has established the effectiveness of learner centred instructional methods, important gaps remain. Most previous studies have examined isolated instructional strategies rather than teachers' preferred instructional methods as a comprehensive construct. Furthermore, many investigations have focused on individual school subjects or urban educational settings, with relatively limited evidence from rural public secondary schools in Kogi State. There is also a paucity of studies examining the combined influence of teachers' instructional preferences and gender on students' academic achievement within Upper Basic Education. Addressing these gaps provides the rationale for the present study and contributes empirical evidence from Kabba Bunu Local Government Area of Kogi State.

Part III

Methodology

This study adopted a quantitative approach using a correlational survey research design to examine the relationship between teachers' preferred instructional methods and students' academic achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State, Nigeria. A correlational design was considered appropriate because it enables the examination of relationships among naturally occurring variables without manipulating them. The study was



conducted in public Upper Basic schools located in Kabba Bunu Local Government Area of Kogi State. The target population comprised Upper Basic Education teachers and students in public secondary schools within the study area. A multistage sampling procedure was employed. In the first stage, ten public secondary schools were selected through stratified random sampling to ensure representation across the Local Government Area. Subsequently, three teachers were purposively selected from each school based on their responsibility for teaching Upper Basic classes, resulting in a sample of 30 teachers. Thirty students were then selected from each school using simple random sampling, producing a total sample of 300 students.

Data were collected using two researcher developed instruments: the Teachers' Instructional Methods Questionnaire (TIMQ) and the Students' Achievement Test (SAT). The TIMQ consisted of two sections. Section A, elicited demographic information, while Section B, contained twenty eight items measuring teachers' preferences for seven instructional methods: lecture, discussion, demonstration, inquiry based learning, cooperative learning, problem solving, and technology assisted instruction. Responses were measured on a four point Likert type ranging from Strongly Agree (4) to Strongly Disagree (1). The Students' Achievement Test consisted of forty multiple choice items drawn from the Upper Basic curriculum in English Studies, Mathematics, Basic Science, and Social Studies, with each correct response awarded one mark.

The instruments were subjected to face and content validation by experts in Curriculum and Instruction, Educational Measurement and Evaluation, and Mathematics Education. Their observations and recommendations were incorporated before the final administration of the instruments. Reliability of the TIMQ was established using the Cronbach's alpha coefficient following a pilot study conducted among teachers outside the study area. The reliability coefficient obtained satisfied the recommended minimum threshold of 0.70 for educational research.

Prior to data collection, approval was obtained from the relevant educational authorities and school principals. Participation was voluntary, and respondents were informed about the objectives of the study. Confidentiality and anonymity were guaranteed, and all data collected were used exclusively for research purposes. Data analysis was carried out using IBM SPSS Statistics. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize respondents' demographic characteristics and answer the first research question. Pearson Product Moment Correlation was employed to determine the relationship between teachers' preferred instructional methods and students' academic achievement. Independent samples t tests were conducted to compare the academic achievement of students exposed to teacher centred and learner centred instructional methods and to examine gender differences in students' achievement. All hypotheses were tested at the 0.05 level of significance.



Results

Table 1: Demographics representation

	Variable	Frequency	Percentage (%)
Gender	Male	15	50.0
	Female	15	50.0
	Total	30	100.0
Academic Qualification	NCE	10	33.3
	B.Ed.	9	30.0
	PGDE	7	23.3
	M.Ed.	4	13.3
	Total	30	100.0
Preferred Teaching Methods	Lecture Method	5	16.7
	Discussion Method	5	16.7
	Demonstration Method	4	13.3
	Inquiry Based Method	4	13.3
	Cooperative Learning	4	13.3
	Problem Solving Method	4	13.3
	Technology Assisted Instruction	4	13.3
	Total	30	100.0

Source: Field Survey, 2026.

A total of 30 teachers and 300 students participated in the study. All questionnaires and achievement tests administered were successfully retrieved, representing a response rate of (100%). The data were analyzed using descriptive statistics, Pearson Product Moment Correlation,



and Independent Samples t-tests. The results are presented according to the research questions and hypotheses.

The demographic analysis showed an equal distribution of male and female teachers, with each group accounting for (50.0%) of the respondents. Regarding academic qualifications, (33.3%) possessed the Nigeria Certificate in Education, (30.0%) held Bachelor of Education degrees, (23.3%) possessed Postgraduate Diplomas in Education, while (13.3%) had Master's degrees. The findings indicate that all participating teachers possessed professional qualifications appropriate for teaching at the Upper Basic Education level.

Research Question 1: what are teachers' preferred instructional methods?

Table 2: Mean and Standard Deviation of Teachers' Preferred Instructional Methods

Instructional Method	Mean	SD	Decision
Lecture Method	2.66	0.75	Preferred
Discussion Method	2.73	0.73	Preferred
Demonstration Method	2.62	0.66	Preferred
Inquiry Based Method	2.55	0.67	Preferred
Cooperative Learning	2.67	0.75	Preferred
Problem Solving Method	2.52	0.72	Preferred
Technology Assisted Instruction	2.59	0.67	Preferred

Source: Field Survey, 2026.

Descriptive analysis on Table 2, shows that teachers' instructional methods indicated that discussion method recorded the highest mean score (Mean = 2.73, SD = 0.73), followed by cooperative learning (Mean = 2.67, SD = 0.75), lecture method (Mean = 2.66, SD = 0.75), demonstration method (Mean = 2.62, SD = 0.66), technology assisted instruction (Mean = 2.59, SD = 0.67), inquiry based instruction (Mean = 2.55, SD = 0.67), and problem solving method (Mean = 2.52, SD = 0.72). Based on the criterion mean of 2.50, all of the instructional methods attained the threshold for being classified as preferred.



Research Question 2: what are the relationship between teachers' preferred instructional methods and students' achievement?

Research Hypothesis 1: There is no significant relationship between teachers' preferred instructional methods and students' achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State.

Table 3: Pearson Product Moment Correlation between teachers' preferred instructional methods and students' academic achievement

Variables	N	Pearson Correlation (r)	Sig. (2 Tailed)	Remark
Teachers' Preferred Instructional Methods	300	0.659	.000	Significant
Students' Academic Achievement	300			

Source: Field Survey, 2026.

Pearson Product Moment Correlation analysis on Table 3 revealed a significant positive relationship between teachers' preferred instructional methods and students' academic achievement ($r = 0.659$, $p < .001$). This indicates that improvements in instructional methods are associated with improvements in students' academic achievement. The null hypothesis stating that there is no significant relationship between teachers' preferred instructional methods and students' achievement was therefore rejected.

Research Question 3: what are the difference in achievement based on teaching method?

Research Hypothesis 2: There is no significant difference in the academic achievement of students taught using teacher centred instructional methods and those taught using learner centred instructional methods.

Table 4: Mean and Standard Deviation of Students' Achievement by Teaching Type

Teaching Type	N	Mean	SD	t	df
Teacher Centred	50	24.16	2.01		
Learner Centred	250	31.83	2.84	-18.182	298

Source: Field Survey, 2026.

**Table 5: t test Samples Comparing Students' Academic Achievement by Teaching Type**

Teaching type	N	Mean	SD	t	df	Sig. (2 tailed)	Decision
Teacher Centred	50	24.16	2.01				
Learner Centred	250	31.83	2.84	-18.182	298	.000	Reject H_{02}

The Independent Samples t test on Table 4, showed that students taught using learner centred instructional methods obtained higher achievement scores (Mean = 31.83, SD = 2.84) than students taught using teacher centred instructional methods (Mean = 24.16, SD = 2.01)

This implies that the learner-centred mean is substantially higher, the results strongly favor the effectiveness of learner-centred teaching over teacher-centred approaches in this context. Consequently, the null hypothesis on Table 5 shows no significant difference between the two instructional approaches was rejected, because the negative t -value of -18.182 with 298 degrees of freedom indicates a statistically significant difference in student achievement between the two teaching methods

Research Question 4: what is the gender difference in Students' Achievement?

Research Hypothesis 3: There is no significant difference in the academic achievement of male and female students in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State.

Table 6: Mean and Standard Deviation of Students' Academic Achievement by Gender

Gender	N	Mean	SD
Male	150	30.51	3.87
Female	150	30.59	4.04

Source: Field Survey, 2026

Table 7: Independent Samples t-test Comparing Students' Academic Achievement by Gender

Gender	N	Mean	SD	t	df	Sig. (2 Tailed)	Decision
Male	150	30.51	3.87				
Female	150	30.59	4.04	-0.161	298	.872	Retain H_{03}

Level of Significance = 0.05, Source: Field Survey, 2026.



The analysis on Table 6 revealed that male students obtained a mean achievement score of 30.51 (SD = 3.87), while female students obtained a mean score of 30.59 (SD = 4.04). The Independent Samples t test indicated that this difference was not statistically significant, $t(298) = -0.161$, $p = .872$. The null hypothesis on Table 7 was therefore retained, indicating that gender did not significantly influence students' academic achievement.

Discussion of Findings

The findings of this study demonstrate that instructional methods remain an important determinant of students' academic achievement in Upper Basic Education. The significant positive relationship between teachers' preferred instructional methods and students' academic achievement corroborates the findings of John Hattie (2023), who reported that instructional quality represents one of the strongest school based influences on learning outcomes. The finding also supports the work of Slavin (2020), who emphasized that active instructional strategies improve students' engagement, motivation, and academic performance. Similarly, Hammond *et al.* (2020) concluded that classrooms characterized by active learning, collaboration, and formative assessment consistently produce superior learning outcomes.

The finding that students exposed to learner centred instructional methods significantly outperformed those taught through teacher centred instruction reinforces growing evidence supporting active learning approaches. Learner centred methods encourage discussion, collaboration, inquiry, demonstration, and problem solving, thereby promoting meaningful learning and long term retention. This finding aligns with Constructivist Learning Theory, which emphasizes that learners construct knowledge actively through interaction with their environment. It also supports Social Learning Theory, which explains that students learn effectively through observation, modelling, and interaction with teachers and peers.

The absence of a statistically significant gender difference in students' academic achievement indicates that both male and female students benefited similarly from classroom instruction. This finding is consistent with recent educational research suggesting that instructional quality exerts greater influence on students' achievement than gender. It further suggests that when learners receive comparable instructional opportunities, gender differences become minimal.

Overall, the findings underscore the importance of strengthening teachers' pedagogical competence through continuous professional development. Schools should encourage the adoption of learner centred instructional methods that promote active participation, collaborative learning, and effective classroom interaction. Such instructional practices have the potential to improve



students' academic achievement and contribute to the attainment of quality education objectives within Upper Basic Education.

Conclusion

This study examined the relationship between teachers' preferred instructional methods and students' academic achievement in Upper Basic Education in Kabba Bunu Local Government Area of Kogi State, Nigeria. The findings demonstrate that instructional methods remain an important determinant of students' learning outcomes. Specifically, a significant positive relationship was established between teachers' preferred instructional methods and students' academic achievement, indicating that improvements in instructional practices are associated with better academic performance. The study further revealed that students exposed to learner centred instructional methods achieved significantly higher academic scores than those taught using teacher centred approaches. This finding reinforces the growing consensus that active learning strategies promote deeper understanding, greater classroom participation, and improved academic performance. Conversely, no statistically significant gender difference was found in students' academic achievement, suggesting that when learners are provided with comparable instructional opportunities, both male and female students perform similarly.

Recommendations

Based on the findings of this study, the following recommendations are made.

1. Teachers should increase the use of learner centred instructional methods to improve students' participation, critical thinking, and academic achievement.
2. School administrators should organize regular classroom observation, mentoring and professional support programmes to promote effective instructional practices.
3. Government and educational agencies should provide continuous professional development programmes focusing on innovative and learner centred pedagogies.
4. Schools should improve the availability of instructional materials and educational technologies that support interactive teaching and learning.
5. Teacher education institutions should strengthen practical training in instructional methods to prepare teachers for effective classroom practice.
6. Educational policymakers should formulate policies that encourage instructional innovation and improve the quality of classroom teaching across public secondary schools.



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