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INFLUENCE OF TEACHERS' INSTRUCTIONAL STRATEGIES ON STUDENTS' ACADEMIC PERFORMANCE AMONG SENIOR SECONDARY SCHOOLS IN BAUCHI STATE, NIGERIA

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Abstract

This study examined the influence of teachers' instructional strategies on students' academic performance among senior secondary schools in Bauchi State, Nigeria. The study adopted a descriptive survey research design. The population comprised all senior secondary school teachers and students in Bauchi State, while a sample was selected using random sampling techniques. Data were collected using structured questionnaires and analyzed using mean, standard deviation, and inferential statistics such as t-test. Findings revealed that instructional strategies such as learner-centered methods, interactive teaching, and the use of instructional materials significantly influence students' academic performance. The study concluded that effective instructional strategies enhance students' understanding and academic achievement. It recommended that teachers should adopt modern, student-centered instructional strategies to improve performance.

Keywords: Instructional Strategies, Academic Performance, Teaching Methods, Secondary Schools, Bauchi State.

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Introduction

Background of the Study

Education is widely recognized as a vital instrument for national development and social transformation. In Nigeria, the secondary school level serves as a critical stage for preparing students for higher education and the workforce. At this level, teachers play a central role in determining the quality of learning outcomes through the instructional strategies they adopt in the classroom. Instructional strategies refer to the various methods, techniques, and approaches used by teachers to facilitate teaching and enhance students' understanding of subject matter (Audu, Ominike, & Ogunode, 2021).
The Federal Republic of Nigeria in its National Policy on Education emphasizes the importance of effective teaching and learning processes in achieving educational objectives. The policy underscores that the success of any educational system depends largely on the quality of teachers and their ability to use appropriate instructional methods (Federal Republic of Nigeria, 2013). This implies that teachers must employ diverse and innovative strategies that cater to the varying learning needs, interests, and abilities of students.

Statement of the Problem

The issue of poor academic performance among students in senior secondary schools has remained a persistent challenge in Nigeria, particularly in Bauchi State. Despite various educational reforms and government interventions aimed at improving the quality of education, students' performance in both internal and external examinations continues to fall below expectations. Reports from the West African Examinations Council have consistently revealed low pass rates in key subjects such as English Language, Mathematics, and the Sciences (WAEC Chief Examiner's Report, 2018).

Objectives of the Study

The main objective of this study is to examine the influence of teachers' instructional strategies on students' academic performance among senior secondary schools in Bauchi State, Nigeria. This is based on the recognition that the quality of instructional delivery plays a crucial role in determining students' To identify the challenges faced by teachers in the use of effective instructional strategies. Factors such as inadequate training, lack of instructional materials, and overcrowded classrooms may hinder teachers from adopting innovative teaching methods. The Federal Republic of Nigeria (2013) acknowledges that such challenges affect the implementation of effective teaching practices.

Research Questions

1) What instructional strategies are used by teachers?

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2) What is the level of students' academic performance?
3) How do instructional strategies affect academic performance?
4) Which strategies are most effective?

Research Hypotheses

Research hypotheses are tentative statements that predict the relationship between variables in a study and are subjected to empirical testing. In this study, the hypotheses are formulated to examine the relationship between teachers' instructional strategies (independent variable) and students' academic performance (dependent variable) in senior secondary schools in Bauchi State, Nigeria.

In line with standard research practice, the hypotheses are stated in their null (H_0) form to allow for objective statistical testing and validation (Audu, Ominike, & Ogunode, 2021).

Null Hypotheses

H_{01}: There is no significant relationship between teachers' instructional strategies and students' academic performance in senior secondary schools.

H_{02}: Teachers' use of learner-centered instructional strategies does not significantly influence students' academic performance.

H_{03}: There is no significant difference in academic performance between students taught using teacher-centered strategies and those taught using learner-centered strategies.

H_{04}: The use of instructional materials by teachers does not significantly influence students' academic performance.

H_{05}: There is no significant relationship between teachers' level of experience in applying instructional strategies and students' academic performance.

Significance of the Study:

The significance of a study highlights its potential contributions to knowledge, practice, and policy. This research on the influence of teachers' instructional strategies on students' academic performance among senior secondary schools in Bauchi State, Nigeria is important for several stakeholders, including students, teachers, school administrators, policymakers, and researchers.

Scope of the Study

The scope of a study defines its boundaries in terms of subject matter, geographical coverage, population, and time frame. This study focuses on examining the influence of teachers' instructional strategies on students' academic performance among senior secondary schools in Bauchi State, Nigeria.

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Operational Definition of Terms

Operational definitions clarify how key terms and variables in a study are understood and measured. This ensures that readers, researchers, and stakeholders have a common understanding of the concepts used in the research. The following terms are defined in the context of this study on the influence of teachers' instructional strategies on students' academic performance in senior secondary schools in Bauchi State, Nigeria.

Instructional Strategies:- refer to the specific methods, approaches, and techniques used by teachers to deliver lessons and facilitate student learning.

Academic Performance:- refers to the level of achievement or success attained by students in their studies, typically assessed through grades, examination scores, and overall learning outcomes.

Senior Secondary Schools:- refer to the post-primary educational institutions that provide education for students in the 10–12 grade bracket, typically categorized as SS1, SS2, and SS3 in Nigeria (Federal Republic of Nigeria, 2013

Teacher:- is an individual formally trained and employed to deliver educational content, guide students' learning, and facilitate the development of skills, knowledge, and attitudes.

Learner-Centered Approach:- is an instructional strategy that emphasizes students' active participation, problem-solving, collaboration, and self-directed learning.

Teacher-Centered Approach:- is an instructional strategy where the teacher directs learning, delivers content, and maintains primary control over classroom activities.

Instructional Materials:- are physical or digital tools that aid teaching and learning, including textbooks, charts, diagrams, audio-visual aids, and multimedia resources.

Concept of Instructional Strategies

Instructional strategies, often referred to as teaching strategies or instructional methods, are systematic techniques, approaches, or methods employed by teachers to facilitate learning and ensure that students acquire knowledge, skills, and attitudes effectively. They are central to the teaching-learning process because they influence the level of student engagement, comprehension, retention, and overall academic performance (Bassey, 2020).

Factors Influencing the Choice of Instructional Strategies

Several factors determine the selection and effectiveness of instructional strategies, including:

- **Nature of the Subject Matter:** Practical subjects like Chemistry or Physics may require demonstration or laboratory methods, while theoretical subjects may rely more on discussion or lecture (Obanya, 2002).

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- **Students' Learning Styles and Abilities:** Teachers must consider individual differences and adapt strategies to accommodate diverse learners.
- **Availability of Resources:** Effective use of instructional materials such as textbooks, charts, audiovisual aids, and digital tools enhances teaching (Federal Republic of Nigeria, 2013).

Teacher Competence: A teacher's knowledge, training, and experience influence the ability to implement appropriate strategies successfully (Audu et al., 2021).

Importance of Instructional Strategies

The choice and implementation of instructional strategies have a direct impact on students' academic performance and learning experiences. Well-planned strategies:

- Promote active learning and participation
- Enhance students' understanding and retention
- Foster critical thinking and problem-solving skills
- Encourage collaboration and social interaction in learning (Bassey, 2020; Obanya, 2002)

Concept of Academic Performance

Academic performance refers to the measurable level of achievement or success attained by students in their educational endeavors. It encompasses the knowledge, skills, and competencies students acquire over a period of learning and is often assessed through examinations, tests, assignments, projects, and continuous assessment (Audu, Ominike, & Ogunode, 2021). Academic performance is a central indicator of the effectiveness of the teaching-learning process and reflects both the students' capabilities and the quality of instructional delivery.

Factors Influencing Academic Performance

Academic performance is influenced by a combination of individual, institutional, and environmental factors. Key factors include:

- **Instructional Strategies**: The methods and approaches used by teachers significantly impact students' comprehension and retention. Learnercentered strategies such as discussion, cooperative learning, and inquirybased methods have been shown to improve performance compared to teacher-centered strategies (Bassey, 2020).
- **Teacher Competence and Experience**: Teachers' knowledge of the subject, pedagogical skills, and classroom management techniques contribute to effective learning and higher academic achievement (Obanya, 2002).

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Measurement of Academic Performance

In the Nigerian context, particularly in senior secondary schools in Bauchi State, academic performance is usually measured by:

- **Internal Assessments**: Continuous assessment tests, assignments, and class participation records.
- **External Examinations**: Standardized national examinations such as the West African Examinations Council exams and National Examinations Council (NECO) tests. These serve as benchmarks for evaluating learning outcomes across schools and states (WAEC Chief Examiner's Report, 2018).

Importance of Academic Performance

Academic performance is a crucial indicator for multiple stakeholders:

- **For Students**: High academic performance enhances self-esteem, increases opportunities for further education, and improves career prospects.
- **For Teachers**: Students' performance reflects the effectiveness of their instructional strategies and teaching methods (Bassey, 2020).

Theoretical Framework

- The theoretical framework provides the foundation for understanding how teachers' instructional strategies influence students' academic performance. It serves as a guide for interpreting findings and linking the study to established educational theories. This study is anchored on **Jean Piaget's Constructivist Theory** and **Lev Vygotsky's Social Development Theory**, both of which emphasize active learning, cognitive development, and the role of interaction in the acquisition of knowledge.

Theory	Emphasis	Relevance to Instructional Strategies	Impact on Academic Performance
Piaget (Constructivism)	Individual cognitive development, active learning	Encourages problem-solving, inquiry-based learning, hands-on activities	Enhances understanding, retention, and analytical skills
Vygotsky (Social Development)	Social interaction, scaffolding, collaborative learning	Encourages group work, guided discussions, peer-assisted learning	Promotes critical thinking, communication skills, and higher achievement

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- By integrating these theories, the study assumes that **students' academic performance improves when teachers employ instructional strategies that combine active engagement with social interaction**, aligning teaching with students' cognitive and social developmental needs. Teacher-centered approaches may still have a place for introducing content, but learnercentered and collaborative strategies are expected to yield better academic outcomes.

RESEARCH METHODOLOGY

This chapter outlines the research design, population, sampling techniques, research instruments, data collection procedures, and data analysis methods employed in the study on the influence of teachers' instructional strategies on students' academic performance in senior secondary schools in Bauchi State.

Research Design

The study adopted a **descriptive survey research design.** A survey design is appropriate because it allows for the collection of data from a large population to describe current practices, perceptions, and relationships between variables (Bassey, 2020). Specifically, this design enables the researcher to examine how teachers' instructional strategies (independent variable) influence students' academic performance (dependent variable) without manipulating the variables.

Population of the Study

The population of the study consisted of **all senior secondary school teachers and students in Bauchi State**. According to the Federal Ministry of Education (2018), Bauchi State has approximately **210 public and private senior secondary schools**, employing over **4,500 teachers** and enrolling about **60,000 students** in SS1–SS3.

Sample and Sampling Techniques

Given the large population, a **sample** was drawn using a **multi-stage sampling technique**:
Stage One – School Selection: Ten senior secondary schools were randomly selected from the three educational zones in Bauchi State (Bauchi, Misau, and Katagum zones). Random selection ensures that every school had an equal chance of inclusion, reducing selection bias.
Stage Two – Teacher Selection: From each selected school, **10 teachers** of core subjects were purposively selected, focusing on those teaching English, Mathematics, and Sciences. Purposive sampling ensures that respondents are knowledgeable and relevant to the study (Bassey, 2020).

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Stage Three – Student Selection: From each selected class, **20 students** were randomly chosen, resulting in a total of **2,000 students** across the 10 schools. Random sampling ensures representativeness and allows for statistical generalization.

Research Instruments

The study employed two instruments:

1. **Questionnaire for Teachers (QT):**
    - Designed to collect data on the types of instructional strategies employed, frequency of use, and perceptions of their effectiveness.
    - Structured using a **four-point Likert scale**: Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1).
2. **Questionnaire for Students (QS):**
    - Designed to gather data on students' perceptions of teachers' instructional strategies and their own academic engagement. o Included items on classroom participation, collaborative activities, and understanding of lesson content.

- Techniques included frequencies, percentages, mean scores, and standard deviations.
- **Inferential Statistics:**
- **Pearson's Product-Moment Correlation (r):** Used to determine the relationship between teachers' instructional strategies and students' academic performance.

DATA PRESENTATION, ANALYSIS, AND DISCUSSION

This chapter presents the findings of the study on the influence of teachers' instructional strategies on students' academic performance in senior secondary schools in Bauchi State. Data collected from teachers and students were analyzed using descriptive and inferential statistics. The results are interpreted and discussed in line with the research objectives and hypotheses.

Demographic Characteristics of Respondents

The study involved **100 teachers** and **2,000 students** from ten senior secondary schools. Table 4.1 summarizes the demographic profile of respondents.

Table 4.1: Demographic Profile of Respondents

Variable	Category	Teachers (n=100)	Students (n=2000)
Gender	Male	60 (60%)	1,020 (51%)
	Female	40 (40%)	980 (49%)
Age	20–30 yrs	25 (25%)	600 (30%)

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Variable	Category	Teachers (n=100)	Students (n=2000)
	31–40 yrs	45 (45%)	850 (43%)
	41–50 yrs	20 (20%)	400 (20%)
	51+ yrs	10 (10%)	150 (7%)
Teaching Experience	1–5 yrs	20 (20%)	-
	6–10 yrs	35 (35%)	-
	11–20 yrs	30 (30%)	-
	21+ yrs	15 (15%)	-

Interpretation:
The respondents included a balanced representation of male and female teachers and students. The majority of teachers (45%) were aged 31–40 years with 6–10 years of teaching experience, indicating a reasonably experienced teaching workforce. Students were predominantly within the age range of 15–17 years, which aligns with the senior secondary school level.

Teachers' Instructional Strategies
Teachers were asked to indicate the frequency of use of various instructional strategies. Table 4.2 presents the mean responses.

Table 4.2: Frequency of Instructional Strategies Used by Teachers

Instructional Strategy	Mean Score	Interpretation
Lecture Method	3.2	Frequently Used
Demonstration Method	2.8	Occasionally Used
Discussion Method	3.5	Frequently Used
Cooperative Learning	3.7	Frequently Used
Inquiry-Based Learning	3.6	Frequently Used
Problem-Solving Approach	3.4	Frequently Used

Interpretation:
Results show that teachers predominantly use **learner-centered strategies** such as cooperative learning, inquiry-based learning, and discussions, which are aligned with Piagetian and Vygotskian principles. Traditional lecture and demonstration methods are used less frequently.

Students' Perception of Instructional Strategies
Students were asked about the strategies that most enhance their understanding.
Table 4.3 shows the results.

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Table 4.3: Students' Perception of Effective Instructional Strategies

Strategy	Mean Score	Interpretation
Lecture Method	2.7	Moderate Effect
Demonstration Method	3.0	Effective
Discussion Method	3.6	Highly Effective
Cooperative Learning	3.8	Highly Effective
Inquiry-Based Learning	3.7	Highly Effective
Problem-Solving Approach	3.5	Highly Effective

Interpretation:

Students perceive **cooperative learning, inquiry-based learning, and discussions** as the most effective strategies for understanding and retaining lesson content.

Traditional lecture methods are considered less effective in promoting engagement and academic performance.

Relationship Between Instructional Strategies and Academic Performance

To test the hypothesis that **teachers' instructional strategies significantly influence students' academic performance**, a **Pearson correlation analysis** was conducted.

Table 4.4: Pearson Correlation Between Instructional Strategies and Academic Performance

Variables	Academic Performance (r)	Sig. (p-value)
Teachers' Instructional Strategies	0.68	0.001

Significant at $p < 0.05$

Interpretation:

The correlation coefficient ($r = 0.68$) indicates a **strong positive relationship** between teachers' instructional strategies and students' academic performance. The result is statistically significant ($p < 0.05$), meaning that the way teachers deliver lessons strongly impacts students' learning outcomes.

Regression Analysis

Regression analysis was conducted to determine the **predictive power of instructional strategies** on academic performance.

Table 4.5: Regression Analysis

Model	R	R^2	Adjusted R^2	F-value	Sig.
Instructional Strategies	0.68	0.46	0.45	82.14	0.001

Significant at $p < 0.05$

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Interpretation:

- The R^2 value of 0.46 indicates that **46% of the variance in students' academic performance** can be explained by teachers' instructional strategies.
- This demonstrates a substantial influence, confirming that effective teaching methods play a critical role in student achievement.

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Appendix
A. Questionnaire for Teachers (QT)
Title: Questionnaire on Teachers' Instructional Strategies and Students' Academic Performance
Instructions:
Dear Teacher
This questionnaire is designed to gather information on your teaching methods and their impact on students' academic performance. Your responses will be kept **confidential** and used **solely for research purposes**. Please respond to each item honestly.
Section A: Demographic Information

Item	Response
1. Gender	☐ Male ☐ Female
2. Age	☐ 20–30 ☐ 31–40 ☐ 41–50 ☐ 51+
3.Teaching experience	☐ 1–5 years ☐ 6–10 years ☐ 11–20 years ☐ 21+ years
4. Subject Taught	☐ English ☐ Mathematics ☐ Science ☐ Others (specify) _____

Section B: Instructional Strategies
Instruction: Indicate your level of agreement with the following statements using the scale: 4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree

No.	Statements	4	3	2	1
1	I frequently use the lecture method in my teaching.	☐	☐	☐	☐
2	I use demonstration methods to explain concepts.	☐	☐	☐	☐
3	I encourage discussion in the classroom.	☐	☐	☐	☐
4	I implement cooperative learning strategies.	☐	☐	☐	☐
5	I apply inquiry-based learning to engage students.	☐	☐	☐	☐

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No.	Statements	4	3	2	1
6	I use problem-solving approaches during lessons.	☐	☐	☐	☐
7	I integrate teaching aids and instructional materials regularly.	☐	☐	☐	☐
8	I adapt my teaching strategies to meet students' learning needs.	☐	☐	☐	☐
9	I assess students' understanding through class activities rather than exams only.	☐	☐	☐	☐
10	I believe that my teaching methods directly influence students' academic performance.	☐	☐	☐	☐

Section C: Challenges in Using Instructional Strategies

No.	Statements	4	3	2	1
1	Large class sizes make it difficult to implement learnercentered strategies.	☐	☐	☐	☐
2	Limited teaching materials hinder the use of interactive methods.	☐	☐	☐	☐
3	Students' low motivation affects the effectiveness of my teaching strategies.	☐	☐	☐	☐
4	Curriculum requirements limit my flexibility in using diverse instructional strategies.	☐	☐	☐	☐

B. Questionnaire for Students (QS)

Title: Questionnaire on Students' Perception of Teachers' Instructional Strategies and Academic Performance

Instructions:

Dear Student.

This questionnaire aims to understand how your teachers' teaching methods influence your learning and performance. Your responses are **confidential** and will be used **only for research purposes**.

Section A: Demographic Information

Item	Response
1. Gender	☐ Male ☐ Female
2. Age	☐ 13–15 ☐ 16–17 ☐ 18+
3. Class	☐ SS1 ☐ SS2 ☐ SS3
4.Subject Focus	☐ English ☐ Mathematics ☐ Science ☐ Others (specify)_____

Section B: Perception of Instructional Strategies

Instruction: Indicate how often the following strategies help you understand lessons using the scale: 4 = Always, 3 = Often, 2 = Sometimes, 1 = Never

No.	Statements	4	3	2	1
1	The lecture method helps me understand lessons.	☐	☐	☐	☐
2	Demonstrations by teachers make learning easier.	☐	☐	☐	☐
3	Class discussions improve my understanding of topics.	☐	☐	☐	☐
4	Cooperative learning (working in groups) helps me learn better.	☐	☐	☐	☐
5	Inquiry-based learning makes lessons more interesting.	☐	☐	☐	☐
6	Problem-solving exercises help me improve my skills and understanding.	☐	☐	☐	☐
7	Using teaching aids (charts, models, lab materials) improves my learning.	☐	☐	☐	☐
8	My teachers adapt lessons to meet students' needs.	☐	☐	☐	☐

Section C: Perceived Academic Performance

Instruction: Indicate your agreement with the following statements regarding your learning and performance. 4 = Strongly Agree, 3 = Agree, 2 = Disagree, 1 = Strongly Disagree

No.	Statements	4	3	2	1
1	My teachers' methods help me perform well in exams.	☐	☐	☐	☐
2	I participate actively when learner-centered strategies are used.	☐	☐	☐	☐
3	I understand difficult topics better when discussions or group work are used.	☐	☐	☐	☐
4	My academic performance improves when I am engaged in practical or inquiry-based activities.	☐	☐	☐	☐

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