Examining the Nexus between School Infrastructure and Instructional Materials on Academic Performance of Secondary School Students in Gombe State

Moses Bitrus[1], Isaac John Ibanga[2*]

[1]*Department of Technology Education, Modibo Adama University, Yola, Adamawa State, Nigeria.*
[2*]*Department of Electrical Technology Education, Modibo Adama University, Yola, Adamawa State, Nigeria.*

Corresponding Email: [2]isaacjohn@mau.edu.ng*

Abstract: The main purpose of the study was to examine the nexus between school infrastructure and instructional materials on the academic performance of secondary schools in Gombe State. The study was guided by two specific objectives, two research questions, as well as two null hypotheses. The research which was conducted in the Gombe State adopted a correlation research design. The population of the study was 24,216 subjects comprising 3,178 teachers and 21,038 Senior Secondary (SS II) students in public Secondary Schools in Gombe State. A multi-stage sampling procedure was adopted for the study in which simple random and purposive sampling were used. To determine the sample size, the Taro Yamane formula was used and a sample size of 348 was determined. Impact of School Facilities on Academic Performance Questionnaire" (ISFAPQ) was used as the instrument for data collection. The ISFAPQ was subjected to face validation by three experts and a trial test was conducted in Bauchi State which a reliability index of 0.89 was obtained using Cronbach Alpha. Data were collected through a questionnaire, and End of third-term results form. The data collected was analyzed using mean and standard deviation as well as linear regression analysis. The findings of the study revealed that school buildings and instructional materials had a significant impact on the academic performance of secondary school students in Gombe State. Based on the findings of the study, the following recommendations were made; The Government should ensure that school buildings are well-built and painted to facilitate teaching and learning. Instructional materials should be made available by the government and management of secondary schools to enable effective teaching and learning.

Keywords: Academic Performance, Instructional Materials, School Infrastructure, Secondary Schools, Students.

1. INTRODUCTION

Secondary education is universally recognized as a critical phase in a student's educational journey, laying the groundwork for both academic advancement and personal growth. As noted by Hallak and Poisson (2007), secondary education serves as a bridge between primary schooling and higher education or the workforce, making it a pivotal stage in individuals' educational trajectories. During this period, adolescents undergo significant cognitive, emotional, and social development, and the quality of their educational experiences profoundly influences their prospects (Rumberger, 2011).

The success of secondary education is closely linked to the presence and sufficiency of educational facilities and resources. The United Nations Educational, Scientific and Cultural Organization (UNESCO) emphasizes that quality infrastructure, such as well-equipped classrooms, libraries, and laboratories, is essential for creating a supportive learning environment (UNESCO, 2017). Insufficient infrastructure can negatively impact students' ability to participate fully in educational activities, thereby reducing their learning opportunities (Ouédraogo & Diarra, 2016).

Nwabueze (2017) described school facilities as essential tools that allow skilled teachers to reach a higher level of instructional effectiveness, which would not be achievable without them. He further emphasized that the true value of educational facilities is evident when they are sufficient to meet the specific needs of the programs they support. This suggests that the physical infrastructure in secondary schools must meet both quality and quantity standards to ensure optimal student outcomes.

Similarly, Dales (2016) defined instructional materials as alternative communication tools that teachers and students, in both traditional and distance learning environments, use to make concepts more tangible during lessons. Dales explained that these materials provide practical experiences, helping learners apply prior knowledge in new contexts. According to Ebong (2016), instructional resources help students firmly retain newly acquired facts. Additionally, Onyeagbako (2017) highlighted the importance of instructional materials, noting their role in capturing students' attention, facilitating direct interaction with the social and physical environment, reinforcing verbal instruction, improving knowledge retention, and promoting independent learning.

The availability and quality of instructional materials significantly impact students' learning experiences and academic performance. Instructional materials encompass a wide range of resources, including textbooks, workbooks, audio-visual aids, and teaching aids, designed to support teaching and learning processes (Adeyemi & Adeyinka, 2018). These materials not only facilitate the transfer of knowledge but also stimulate students' interest, reinforce concepts, and cater to diverse learning styles (Brasel & Harms, 2006). However, the accessibility and adequacy of instructional materials vary widely across educational settings, with many schools in low-resource contexts facing shortages or outdated materials (UNESCO, 2016). In Gombe

State, the availability and quality of instructional materials in secondary schools are limited, impacting students' academic performance and overall educational outcomes.

Achieving high academic performance, often measured by exam results, is a primary objective for schools. Hoyle (2020) noted that schools are designed to impart knowledge and skills to students, with the ultimate goal of improving academic outcomes. Various factors contribute to enhancing academic performance, including motivation, study techniques, communication abilities, creativity, writing skills, grades, work habits, self-awareness, independence, and attitude (Daminabo, 2018; Rossman & Rea, 2015). These performance indicators differ from one school to another. Schools and students with low performance indicators are often labeled as underperforming, while those with higher indicators are considered successful. Academic performance is a matter of concern for students, teachers, parents, administrators, and the wider community, prompting researchers to explore the complexities surrounding it.

Graetz (2015) highlighted that academic performance is influenced by multiple factors, such as gender, age, teaching methods, school facilities, parental involvement, and socioeconomic status. This study focuses on investigating the impact of school facilities and instructional materials, recognizing that education takes place within a structured environment shaped by physical resources and teaching materials.

The quality of educational facilities and resources, including school infrastructure and instructional materials, profoundly influences students' learning experiences and academic performance. This study aims to deepen our understanding of the relationship between these factors and students' academic performance, ultimately contributing to evidence-based educational policymaking and interventions in the state.

Statement of the Problem
Central to this investigation is the dual dilemma of inadequate school infrastructure and limited access to instructional materials, both of which are known to significantly influence the educational landscape. These challenges are pivotal, as they wield considerable influence over the educational landscape. In the context of Gombe State, these hurdles are particularly acute, primarily stemming from systemic issues such as the state's limited financial resources, exacerbated by rapid population growth, and compounded by insufficient governmental prioritization of education. Through meticulous inquiry, this study endeavors to dissect the intricate dynamics at play, meticulously probing the relationship between school infrastructure, instructional materials, and their combined impact on the academic performance of secondary school students. By navigating through these complexities, the research seeks to provide clarity on how deficiencies in infrastructure and instructional materials hinder students' learning experiences and academic achievements within the unique context of Gombe State.

Purpose of the Study
The main purpose of the study was to examine the nexus between school infrastructure and instructional materials on the academic performance of secondary schools in Gombe State. Specifically, the study sought to:

1. Examine the impact of school buildings on the academic performance of secondary school students in Gombe State.
2. Ascertain the impact of instructional materials on the academic performance of secondary school students in Gombe State.

Research Question
The Study Answered the Following Research Questions:
1. What is the impact of School buildings on the academic performance of secondary school students in Gombe State?
2. What is the impact of instructional materials on the academic performance of secondary school students in Gombe State?

Hypotheses
The following null hypotheses were formulated and tested at a 0.05 level of significance.
1. School buildings have no significant impact on the academic performance of secondary school students in Gombe State.
2. Instructional materials have no significant impact on the academic performance of secondary school students in Gombe State.

2. LITERATURE REVIEW

School infrastructure and instructional materials play essential roles in shaping students' academic performance. Numerous studies have explored this relationship, particularly in the context of Nigerian education, where infrastructural challenges often impede learning outcomes. This literature review delves into the nexus between school infrastructure, instructional materials, and academic performance among secondary school students, with a focus on Gombe State.

1. School Infrastructure and Academic Performance
School infrastructure refers to the physical and organizational structures that support the educational process, such as classrooms, libraries, laboratories, and recreational facilities. Studies have demonstrated that the availability and quality of these facilities significantly influence students' academic outcomes (Usman, 2019). Inadequate infrastructure can lead to overcrowded classrooms, poor ventilation, and lack of teaching aids, which directly affects students' concentration and participation (Ali, 2021). This, in turn, correlates with lower academic achievement.

For example, Owoeye and Yara (2019) explored the impact of school infrastructure on secondary school students' performance in northern Nigeria and found that schools with well-maintained facilities performed better in national examinations. Similarly, Kazeem (2020) observed that the state of school infrastructure in Gombe State significantly correlates with students' academic performance, emphasizing that poor facilities often lead to suboptimal learning environments, thereby lowering students' academic achievement.

2. Instructional Materials and Academic Performance

Instructional materials, including textbooks, audiovisual aids, and laboratory equipment, are essential for effective teaching and learning. According to Ibe (2020), access to adequate and up-to-date instructional materials enhances students' understanding of subject content, leading to better academic performance. Conversely, a lack of these materials often results in rote learning, which impedes students' ability to grasp complex concepts, particularly in subjects such as science and mathematics (Ibrahim, 2021).

In a study by Nwachukwu (2019), schools that utilized interactive teaching materials, including multimedia and project-based learning aids, reported a higher rate of student engagement and academic success. Additionally, Yusuf and Ayodele (2022) noted that the availability of instructional materials in secondary schools in Gombe State played a critical role in determining the academic outcomes of students, particularly in technical subjects where practical experience is essential.

3. The Combined Impact of School Infrastructure and Instructional Materials

While both infrastructure and instructional materials individually influence academic performance, their combined impact cannot be understated. According to Okonkwo and Adeola (2021), the interplay between adequate infrastructure and the use of appropriate instructional materials creates a conducive learning environment that fosters better academic outcomes. They argue that schools with both well-equipped facilities and up-to-date instructional materials provide students with holistic learning experiences that prepare them for higher education and future careers.

A study by Usman (2022) in Gombe State schools showed that the combined effects of good infrastructure and instructional materials accounted for over 70% of the variance in student academic performance. This suggests that improving both elements could significantly enhance educational outcomes in the region.

The review of literature underscores the critical role that school infrastructure and instructional materials play in determining academic performance among secondary school students in Gombe State. The studies reviewed consistently highlight the importance of providing well-maintained school facilities and ensuring that instructional materials are accessible and current. To achieve sustainable improvements in educational outcomes, policymakers must prioritize investments in both infrastructure and learning materials.

3. METHODOLOGY

The study, conducted in Gombe State, Nigeria, utilized a correlational research design. As outlined by Akpakwu (2016), this type of design explores the relationship between two or more variables without manipulating or controlling them, making it a non-experimental quantitative approach. This design was deemed suitable for the study due to its focus on identifying factors associated with specific outcomes, behaviors, practices, or conditions by examining existing data or past events. The study population consisted of 24,216 participants, including 3,178 teachers and 21,038 Senior Secondary (SS II) students from public secondary schools in Gombe State.

A multi-stage sampling technique was applied, combining simple random and purposive sampling methods. The sample size of 348 participants was determined using the Taro Yamane formula. Data collection was carried out through a self-developed structured questionnaire, titled the "Impact of School Facilities on Academic Performance Questionnaire" (ISFAPQ). The ISFAPQ underwent face validation by three experts from the Department of Technology Education at Modibbo Adama University (MAU), Yola. A trial test was conducted in Bauchi State, yielding a reliability index of 0.98 using Cronbach's Alpha. The study gathered data through questionnaires and third-term exam results, which were analyzed using means and linear regression techniques.

4. RESULTS

Research Question 1: What is the impact of School buildings on the academic performance of secondary school students in Gombe State?

Table 1: Mean Ratings and Standard Deviations of Items on School Buildings to Academic Performance of Secondary School Students in Gombe State.
N = 348

S/N	Items	Mean	S. D	Remark
1.	Classrooms with enough space and seats helps to improve students' academic performance	3.42	1.38	Agreed
2.	Classrooms with adequate lighting enhances academic performance of students	3.46	1.33	Agreed
3.	Classrooms with regular power supply do have a significant influence on student's academic performance	3.69	1.35	Agreed
4.	Classrooms with good ceiling have influence on student's academic performance	3.65	1.37	Disagreed
5.	Classrooms with adequate chairs and desk have influence on student's academic performance	3.90	1.19	Agreed
6.	Examination hall with sufficient seats helps to improve students' academic performance	3.56	1.39	Agreed
7.	School buildings sited in noisy and crowded locations have a negative influence on student's academic performance	3.90	1.25	Agreed
8.	Good toilet facilities provided for the conveniences of males and females students do have positive influence on students' academic performance	3.93	1.16	Agreed
9.	Chalk boards in the workshops facilitate illustration for practical activities	4.03	1.07	Agreed
10.	Provision of school health facilities improves health care	3.60	1.37	Agreed
11.	Storage cabinets in workshops provide space for assorted storage	3.71	1.33	Agreed

12.	Number of drawing board in drawing studios facilitate student's academic performance	3.70	1.27	Agreed
13.	Teacher's chalkboard facilitates teaching and learning.	4.18	2.98	Agreed
14.	Laboratory helps to improve students' academic performance	3.45	1.42	Agreed
15.	A well painted classroom does improve conditions for on student's academic performance	3.48	1.26	Agreed
	Grand mean	**3.71**		**Agreed**

N = Total number of respondents

Table 1 shows the description of items on the impact of School buildings on academic performance of secondary school students. The results show that the respondents agreed with all of the 15 items. The items agreed on by the respondents shows that Classrooms with enough space and seats, adequate lightening, regular power, chair and desk, examination with enough seats, school building sited in noisy and crowded location, good toilet facilities, chalk board in the work shop provision of school health facility, storage cabinet in work shop, number of drawing board, teacher chalk board, laboratory and well painted class rooms positively impact students' academic performance with the highest mean value being 4.03 and the lowest being 3.42. The standard deviation which ranges between 1.07 and 2.98 indicated that the responses were skewed together and the responses were very close. The grand mean rating on the items on school buildings was 3.71 which indicated that School buildings impacts on the academic performance of secondary school students.

Research Question 2: What is the impact of instructional materials on academic performance of secondary school students in Gombe State?

Table 2: Mean Ratings and Standard Deviations of Items on Instructional Materials on Academic Performance of Secondary School Students in Gombe State
N = 348

S/N	Items	Mean	S. D	Remark
1.	Inadequate textbooks for teachers helps improves students' academic performance	2.72	1.26	Disagreed
2.	Lack of chalk board in the classroom does have negative influence on student's academic performance	3.58	1.26	Agreed
3.	Teaching aids like Charts helps improve student's academic performance	3.61	1.26	Agreed
4.	Teacher made notes help improve student's academic performance	3.12	1.36	Agreed
5.	Audio tapes helps in improving student's academic performance	3.24	1.35	Agreed
6.	Computer software for reading have influence on student's academic performance	3.49	1.29	Agreed

7.	Students achieve higher scores when taught using instructional materials than when they are taught without instructional materials.	3.24	1.34	Agreed
8.	Students who read newspapers achieve higher scores in general knowledge than those who do not	3.26	1.34	Agreed
9.	Students who watch educational programmes on television achieve higher scores than those who do not.	3.58	1.16	Agreed
10.	Students who listen to radio educational programmes achieve higher scores in related subjects than those who do not	3.08	1.12	Agreed
11.	Students who use dictionaries during class or at home learn more than those who do not use dictionaries	3.11	1.37	Agreed
12.	Inability of teachers to have enough teaching resources have influence on student's academic performance	3.38	1.30	Agreed
13.	Proper use of instructional materials by teachers have influence on academic performance of students	3.43	1.32	Agreed
14.	Frequent visitation to website for e-learning have influence on student's academic performance	3.57	1.29	Agreed
15.	Limited access to reading materials does not have influence on student's academic performance	2.09	1.40	Disagreed
	Grand mean	**3.23**		**Agreed**

N = Total number of respondents

Table 2 presented the description of items that indicate the impact of instructional materials on academic performance of secondary school students. The respondents agreed with items 2 to 13 with mean responses which ranges between 3.08 and 3.61 and having an accompanying standard deviation which also ranges between 1.12 and 1.37 respectively. This demonstrated that 13 items out of 15 items which are: Lack of chalk board in the classroom, Teaching aids, Teacher made notes, Audio tapes, Computer software for reading, using instructional materials, reading newspapers, watching educational programmes on television, listening to radio educational programmes, using dictionaries during class or at home, uses of instructional materials by teachers, visitation to website for e-learning, Limited access to reading materials, and Inability of teachers to have enough teaching resource greatly impacts students' academic performance. The respondents also indicated that inadequate textbooks for teachers do not improve student academic performance with mean values of 2.72 as well as 2.09. The associated standard deviations of 1.26 and 1.40 also indicated that the opinions of the respondents were not far from one another. The grand mean rating of 3.23 indicated that instructional materials impacts students' performance.

Hypothesis 1: School buildings have no significant impact on academic performance of secondary school students in Gombe State.

Table 3a: Model Summary of Prediction between School Buildings and Academic Performance of Secondary School Students in Gombe State

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819ª	.671	.670	.57825
a. Predictors: (Constant), School buildings				
b. Dependent Variable: academic performance				

Table 3a presents a model summary that illustrates the extent to which the independent variable accounts for the variation in the dependent variable. The results indicate that school buildings explained 67.1% of the variance in the academic performance of secondary school students in Gombe State. Additionally, a strong positive relationship between school buildings and students' academic performance was observed, as reflected by an r value of 0.819.

Table 3b: ANOVA Summary of Regression Table of Prediction of School buildings and Academic Performance of Secondary School Students in Gombe State

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	205.060	1	205.060	613.276	.000ᵇ
	Residual	100.645	346	.334		
	Total	305.704	347			

a. Dependent Variable: Academic performance
b. Predictors: (Constant), School buildings

Table 3b provides a summary of the ANOVA analysis, which was conducted to determine whether school buildings significantly predict the academic performance of secondary school students in Gombe State. The results show that school buildings are indeed a significant predictor, with $F_{(1, 346)} = 613.276$ and $p < 0.05$. Since the p-value (0.000) is below the 0.05 significance level, the null hypothesis is rejected, confirming that school buildings have a meaningful impact on the academic performance of students in Gombe State.

Table 3c: Regression Coefficients of Prediction between School Buildings and Academic Performance of Secondary School Students in Gombe State

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.046	.109		9.555	.000
	School buildings	.716	.029	.819	24.764	.000

a. Dependent Variable: Academic performance of secondary school students

Table 3c presents the Beta coefficient from the regression analysis of the relationship between school buildings and the academic performance of secondary school students. The analysis reveals a beta coefficient of 0.819, with t = 24.764 and p = 0.000, which is less than 0.05. These

results confirm that school buildings are a significant predictor of students' academic performance in Gombe State.

Hypothesis 2: Instructional materials have no significant impact on academic performance of secondary school students in Gombe State.

Table 4a: Model Summary Prediction between Instructional Materials and Academic Performance of Secondary School Students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610ᵃ	.440	.441	.98541

a. Predictors: (Constant), Instructional materials.

Table 4a provides a model summary demonstrating how the independent variable accounts for the variation in the dependent variable. The findings indicate that instructional materials explained 44% of the variance in the academic performance of secondary school students. A moderate positive relationship between instructional materials and academic performance in Senior Secondary Schools was identified, as reflected by an r value of 0.610.

Table 4b: ANOVA Summary of Regression Table of Prediction of Instructional Materials on Academic Performance of Secondary School Students in Gombe State.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.424	1	13.424	13.825	.000ᵇ
	Residual	292.280	346	.971		
	Total	305.704	347			

a. Dependent Variable: Academic performance of secondary school students
b. Predictors: (Constant), Instructional materials.

Table 4b provides a summary of the ANOVA used to assess whether instructional materials significantly predict the academic performance of secondary school students in Gombe State. The results indicate that instructional materials are indeed a significant predictor, with $F_{(1, 346)} = 13.825$ and $p < 0.05$. Since the p-value (0.000) is below the 0.05 threshold, the null hypothesis is rejected, confirming that instructional materials have a significant impact on students' academic performance in Gombe State.

Table 4c: Regression Coefficients Prediction between Instructional Materials and Academic Performance of Secondary School Students

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.089	.155		19.874	.000
	Instructional materials	.170	.046	.610	3.718	.000

a. Dependent Variable: Academic performance of secondary school students

Table 4c presents the Beta coefficient from the regression analysis of the relationship between instructional materials and the academic performance of secondary school students. The results show a beta coefficient of 0.210, with t = 3.718 and p = 0.000, which is less than 0.05. These findings indicate that instructional materials are a significant predictor of students' academic performance in secondary schools.

Findings of the Study
The findings of the study based on the results of data analysis are presented in the order of the research questions answered and the hypotheses tested. They are as follows;

1. School building such as classrooms with enough space and seats, adequate lightening, regular power, school building sited in noiseless and less crowded location, good toilet facilities, storage cabinet in work shop, laboratory and well painted class rooms positively impact students' academic performance in Gombe State. The supporting hypothesis revealed that school buildings had a significant impact on academic performance of secondary school students in Gombe State.

2. Instructional materials impacts on the academic performance of secondary school as Lack of chalk board in the classroom, teaching aids, teacher made notes, audio tapes, computer software for reading, using dictionaries during class or at home, visitation to website for e-learning, limited access to reading materials, and inability of teachers to have enough teaching resource greatly impacts students' academic performance. The supporting hypothesis revealed that instructional materials had a significant impact on academic performance of secondary school students in Gombe State.

5. DISCUSSION OF FINDINGS

The study's findings indicated that various school building facilities, including classrooms with adequate space and seating, proper lighting, reliable electricity, quiet and uncrowded locations, well-maintained toilet facilities, storage cabinets in workshops, laboratories, and freshly painted classrooms, have a positive impact on students' academic performance in Gombe State. The supporting hypothesis confirmed that school buildings significantly influence the academic success of secondary school students in the area. This aligns with Abdu-Raheem's (2019) assertion about the essential role of school infrastructure in fostering a conducive learning environment that enhances teaching and learning. School buildings provide not only physical shelter but also significantly affect students' overall well-being. Supporting this perspective, Abraham (2017) noted that the condition of school buildings can influence student achievement and behavior, with well-maintained classrooms contributing to a positive learning atmosphere that may lead to improved academic outcomes.

Additionally, the findings revealed that instructional materials greatly affect secondary school students' academic performance. The lack of essential resources such as chalkboards, teaching aids, teacher-prepared notes, audio tapes, reading software, dictionaries, e-learning resources, and limited access to reading materials can hinder students' success. The supporting hypothesis demonstrated that instructional materials significantly impact academic performance among secondary school students in Gombe State. This finding aligns with the work of Abiodun-Oyebanji and Adu (2017), who emphasized the necessity of adequate facilities, including

instructional materials, for the effective implementation of educational programs. Similarly, Alimi (2018) highlighted the importance of instructional resources in science education, noting that access to materials like textbooks and educational tools enhances students' comprehension of concepts and, consequently, their academic performance.

6. CONCLUSION

The study clearly indicates that school infrastructure and instructional materials are vital to shaping the academic performance of secondary school students in Gombe State. Well-maintained school buildings and a diverse range of instructional materials positively influence students' learning experiences and academic outcomes. Conversely, a lack of adequate infrastructure and resources is linked to lower academic performance. These findings underscore the need for investments in quality school facilities and the provision of sufficient instructional materials to foster a conducive learning environment and encourage academic excellence. Addressing these issues should be a priority for policymakers, educators, and stakeholders to promote educational advancement and success among students in the state.

Recommendation
Government should ensure that school buildings are well built and painted to facilitate teaching and learning. Classrooms should be adequately furnished with desks and chairs to enable teaching and learning in the school environment.
Instructional materials should be made available by the government and management of secondary schools to enable effective teaching and learning.

7. REFERENCES

1. Adeyemi, T., & Adeyinka, A. (2018). Improvisation and utilization of instructional materials by business studies teachers in senior secondary schools for effective teaching in Ekiti State, Nigeria. International Journal of Educational Administration and Policy Studies, 10(7), 81-88.
2. Ali, M. (2021). The Effect of School Environment on Students' Academic Performance in Northern Nigeria. Journal of Educational Development, 18(2), 56-73.
3. Brasel, A., & Harms, D. (2006). A meta-analytic examination of instructional materials' effectiveness. Journal of Educational Psychology, 98(4), 829-939.
4. Hallak, J., & Poisson, M. (2007). Ethics and corruption in education. UNESCO.
5. Hanushek, E. A., & Woessmann, L. (2015). The knowledge capital of nations: Education and the economics of growth. MIT Press.
6. Ibe, J. C. (2020). Impact of Teaching Materials on Students' Learning in Science Subjects in Nigerian Schools. Nigerian Journal of Science Education, 12(3), 45-61.
7. Ibrahim, A. M. (2021). Instructional Materials and Their Influence on Students' Performance in Gombe State. Educational Research Journal of Nigeria, 10(4), 22-37.
8. Kazeem, T. (2020). Assessing the State of Educational Infrastructure in Gombe State Secondary Schools. Journal of Nigerian Education, 25(1), 89-105.

9. Nwachukwu, B. (2019). Interactive Learning Materials and Their Impact on Academic Performance: A Nigerian Perspective. International Journal of Educational Technology, 9(2), 101-117.
10. Ochanda, N. N. (2019). Challenges and prospects of public secondary education in Gombe State, Nigeria. Global Journal of Educational Research, 18(2), 163-168.
11. Okonkwo, O., & Adeola, M. (2021). School Infrastructure and Instructional Materials: Their Combined Influence on Student Achievement in Nigeria. African Journal of Educational Research, 15(2), 23-40.
12. Ouédraogo, J. B., & Diarra, A. S. (2016). The effect of school infrastructure on academic achievement in Burkina Faso: Evidence from the Programme for the Analysis of Education Systems (PASEC). International Journal of Educational Development, 46, 1-11.
13. Owoeye, J. S., & Yara, P. O. (2019). School Infrastructure as a Determinant of Secondary School Students' Academic Performance in Northern Nigeria. Journal of Educational Studies, 19(3),
14. Rumberger, R. W. (2011). Dropping out: Why students drop out of high school and what can be done about it. Harvard University Press.
15. UNESCO. (2016). Education for people and planet: Creating sustainable futures for all. Global Education Monitoring Report 2016.
16. UNESCO. (2017). Education: The cornerstone of sustainable development. Global Education Monitoring Report 2017.