EDUCATIONAL INFRASTRUCTURE AS PREDICTOR OF STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN EDO NORTH DISTRICT OF EDO STATE

OMOZE EMMANUEL[1], IMOROA OLADELE VICTOR Ph.D[2]
Department of Educational Foundations and Management
Ambrose Alli University Ekpoma Edo State, Nigeria
omozemmanuel99@gmail.com
Phone No: +234(0)7039597320
imoroaoladelevictor2017@gmail.com
Phone No: +234(0) 8155460740

Abstract
This study investigated educational infrastructure as predictor of students' academic achievement in public secondary schools in Edo North District of Edo State. Specifically, the study assessed the relationship between educational infrastructure and students' academic performance. A correlational survey research design was adopted for the study. The targeted population comprised all 327 teachers from public secondary schools in Edo North District. Data were collected using two adapted instruments: the Educational Infrastructure Questionnaire (EIQ) and the Students' Academic Achievement Questionnaire (SAAQ). Content validity of the instruments was established by experts in Educational Foundations and Management at Ambrose Alli University, Ekpoma. Reliability was determined using the split-half method. Descriptive statistics (mean and standard deviation) were used to answer the research questions, while simple linear regression was employed to test the hypothesis at the 0.05 level of significance. The findings revealed that educational infrastructure in public secondary schools in Edo North District is inadequate, students' academic achievement is low, and educational infrastructure significantly predicts students' academic achievement. Based on these findings, it was recommended that the Edo State Government, through relevant education authorities, should prioritize the provision, rehabilitation, and upgrading of educational infrastructure to improve teaching, learning, and students' academic outcomes.

Keywords: Educational Infrastructure, Students' Academic Achievement, Public Secondary Schools, Edo North District, Edo State.

Introduction
Academic achievement refers to the extent to which students successfully meet the learning goals set by the school system. It is commonly assessed through examination results, continuous assessment scores, classroom participation, and overall academic performance. Beyond the ability to recall facts, academic achievement seems to reflects students' understanding of concepts and their capacity to apply knowledge and skills in different learning situations. At the secondary school level, academic achievement is especially important as it determines students' promotion, preparedness for external examinations and access to further educational opportunities. High academic achievement also serves as an indicator of effective teaching methods, a supportive learning environment, and proper curriculum implementation within schools (Maratkyzy, 2025). In addition, strong academic achievement enhances students' self-esteem, improves future career prospects, and contributes to the development of skilled human capital necessary for national development. To achieve

desirable academic outcomes, the availability of adequate educational infrastructure is essential.

Educational infrastructure refers to the physical, material, and technological facilities that support the teaching and learning process in schools. These facilities include classrooms, libraries, laboratories, workshops, furniture, instructional materials, water and sanitation facilities, electricity supply, and information and communication technology (ICT) resources. Educational infrastructure plays a very important role in the overall functioning of a school system because it provides the environment within which teaching and learning activities take place. When these facilities are available, functional, and properly maintained, they help create a conducive learning environment that supports effective teaching and promotes meaningful learning outcomes among students (Mormah, 2019).

The availability of adequate classrooms and laboratories enables teachers to adopt diverse teaching methods, including interactive, practical, and learner-centred instructional approaches. Such facilities allow students to participate actively in the learning process through experiments, demonstrations, discussions, and collaborative activities that enhance understanding and retention of knowledge. Similarly, access to well-equipped libraries provides students with opportunities for independent reading, research, and the exploration of a wide range of academic materials beyond the classroom. In the same way, the presence of ICT facilities such as computers and internet connectivity exposes students to digital learning resources, encourages critical thinking, and improves their ability to access global information that supports academic development.

Furthermore, supportive infrastructure such as adequate furniture, reliable electricity supply, and functional water and sanitation facilities contributes significantly to the comfort, health, and concentration of students and teachers. When the learning environment is physically comfortable and safe, students are more likely to remain attentive, motivated, and actively engaged in classroom activities. Teachers also become more effective in delivering lessons when they operate within a well-equipped and organized learning environment. However, when educational infrastructure is inadequate, poorly maintained, or completely absent, it can negatively affect the teaching and learning process. Overcrowded classrooms, lack of laboratories, absence of libraries, insufficient furniture, and poor sanitation facilities can restrict the ability of teachers to deliver lessons effectively and reduce students' opportunities for meaningful learning. Even when teachers adopt well-designed instructional strategies, the absence of adequate infrastructure may limit their implementation and reduce the overall effectiveness of the educational process. Consequently, the quality of educational infrastructure remains a critical factor in determining the effectiveness of teaching and the level of students' academic achievement in schools (Itedjere, 2025).

The relationship between educational infrastructure and students' academic achievement has received considerable attention in educational research, with varying results. While many studies report a positive link between adequate school facilities and improved academic performance, some findings suggest that students may still achieve high academic outcomes despite limited infrastructure. This indicates that the influence of educational infrastructure may differ across contexts and may interact

with other factors such as teacher quality and student motivation. Nevertheless, scholars generally agree that a supportive physical learning environment improves students' comfort, concentration, motivation, and engagement, whereas poor infrastructure such as overcrowded classrooms, dilapidated buildings, and poorly equipped laboratories can disrupt teaching and learning processes and reduce instructional effectiveness (Uline & Tschannen-Moran as cited in Maratkyzy, 2025). Mormah (2019) examined the availability and adequacy of school facilities and their relationship with students' academic performance in public senior secondary schools in Esan West Local Government Area of Edo State. Findings revealed that both the availability of facilities and students' academic performance were generally low.

Aishatu et al, (2024) assessed the availability and adequacy of facilities in Centres for Educational Technology for effective teacher training in Colleges of Education in North-Eastern Nigeria. The findings indicated that although some facilities were available, their adequacy was grossly insufficient due to challenges such as inadequate funding and infrastructural decay. Ibuchim and Abraham (2025) investigated the relationship between educational facilities availability, utilization, and students' academic performance in public senior secondary schools in Rivers State, Nigeria. The findings showed that the availability and utilization of classroom instructional and library facilities significantly correlated with students' academic performance to a very high extent.

From the reviewed studies, it is evident that substantial attention has been given to the **availability and adequacy of educational facilities** and their relationship with **students' academic performance** across the six political zone in Nigeria. However, several gaps remain. First, the findings of Mormah (2019) contradict those of Ibuchim and Abraham (2025), as one reported no significant relationship while the other established a strong correlation, indicating **inconsistencies in empirical outcomes**. Second, Aishatu et al. (2024) focused on teacher training institutions rather than secondary schools, thereby limiting the applicability of their findings to students' academic achievement. Third, none of the reviewed studies specifically examined the **Edo North Senatorial District**, despite its unique educational and infrastructural context. Moreover, most studies emphasized **availability and utilization of facilities** without holistically examining how educational infrastructure as a composite variable influences students' **academic achievement**. These gaps justify the need for a focused investigation on the **influence of educational infrastructure on students' academic achievement in secondary schools in Edo North District of Edo State**, thereby contributing context-specific and updated empirical evidence to the existing body of knowledge. Mewa (2024) investigated the relationship between school environment and students' academic performance in public senior secondary schools in Esan West Local Government Area of Edo State. The findings revealed that students' academic performance in the area was generally low. Ozuome, et al (2024) examined the relationship between secondary school students' self-efficacy and academic achievement in Imo State. The results showed that students generally possessed high academic self-efficacy and achieved good results in English Language and Mathematics. Obadiaru (2020) analysed trends in senior secondary school students' academic achievement in Computer Studies in Rivers State between 2014 and 2018. Findings revealed that students' achievement in Computer Studies was above average over the years, with no significant gender difference. Abisola (2017) examined the

relationship between study habits and academic performance of secondary school students in Mathematics in Uyo Local Government Area of Akwa Ibom State. Pearson correlation analysis revealed a significant relationship between students' study habits such as note-taking, library use, and time management and academic performance in Mathematics.

The reviewed studies reveal that students' academic achievement has been examined in relation to several variables such as school environment, instructional materials, self-efficacy, study habits, school location, and achievement trends across subjects and regions. However, notable gaps remain. First, studies like Mewa (2024) reported no significant relationship between school facilities and academic performance, while others (e.g., Obadiaru, 2020) highlighted the influence of school location and resource distribution, suggesting **inconsistent empirical findings**. Second, most of the reviewed studies focused on **psychological and behavioural variables** (self-efficacy and study habits) rather than **educational infrastructure as a comprehensive construct**. Third, none of the studies specifically investigated secondary schools in **Edo North Senatorial District**, despite its distinct educational and infrastructural challenges. Furthermore, existing studies largely examined isolated components of the school environment without holistically assessing how educational infrastructure influences students' academic achievement. These gaps justify the need for a focused study on the **influence of educational infrastructure on students' academic achievement in secondary schools in Edo North District of Edo State**, to provide context-specific and up-to-date empirical evidence.

Several studies have examined how educational facilities relate to students' academic outcomes. Ikegbusi et al (2022) explored the effect of classroom facilities on the academic achievement of public secondary school students in Lagos State using a descriptive survey design. Their findings indicated that facilities such as libraries, classroom buildings, ICT resources, and laboratories significantly influence students' academic achievement. Similarly, Onesto (2018) investigated the availability of teaching and learning facilities and their impact on academic performance in ward secondary schools in Muheza. The study revealed that poor academic performance was largely associated with inadequate infrastructure, including classrooms, laboratories, libraries, dormitories, and staff housing. Gbenu, et al (2020) examined desk utilisation and students' academic performance in public tertiary institutions in Lagos State. Study found no significant relationship between desk utilisation and students' academic performance, suggesting that the presence of facilities alone may not automatically translate into improved academic outcomes without effective utilisation. In Kenya, Ojuok et al (2020) studied the influence of physical facilities on students' academic performance in CDF-built secondary schools. The findings showed that inadequate classrooms, libraries, and laboratories negatively affected students' academic performance. Although existing studies have established that educational facilities are important for students' academic performance, several gaps remain. First, most of the studies were conducted outside Edo State or even outside Nigeria, limiting the generalisation of their findings to secondary schools in Edo North District. Second, some studies focused on specific facilities such as desks or laboratories rather than examining educational infrastructure holistically. Third, variations in socio-economic, administrative, and geographical contexts suggest that findings from Lagos State, Kenya, or tertiary institutions may not accurately reflect

the situation in public secondary schools in Edo North District of Edo State. Consequently, there is limited empirical evidence on how educational infrastructure influences students' academic achievement within this specific context, thereby justifying the need for the present study on the **influence of educational infrastructure on students' academic achievement in secondary schools in Edo North District of Edo State.**

Observation from Edo North District of Edo State shows that the extent to which educational infrastructure influences students' academic achievement has not been sufficiently established through empirical studies. Reports suggest that many secondary schools in the area face challenges such as inadequate classrooms, outdated instructional materials, and limited access to functional libraries and laboratories. These conditions may hinder effective teaching and restrict students' opportunities for practical and experiential learning, particularly in science and technical subjects that require hands on activities (Obinna & Aliyu, 2024). However, the actual impact of these infrastructural challenges on students' academic achievement in the district remains unclear due to the lack of systematic investigation. Although existing literature highlights the importance of educational infrastructure in promoting academic achievement, it is uncertain whether this relationship applies in the same way to secondary schools in Edo North District of Edo State. This gap in knowledge underscores the need for an empirical study to examine the impact of educational infrastructure on students' academic achievement in the area. Consequently, this study seeks to investigate the influence of educational infrastructure on students' academic achievement in secondary schools in Edo North District of Edo State, with the aim of providing evidence-based information to support educational planning and policy formulation.

Students' academic achievement remains a major concern to parents, educators, policymakers, and other stakeholders because it reflects the effectiveness of the education system and influences students' future educational and career prospects. At the secondary school level, academic achievement is crucial for students' promotion, performance in external examinations, and readiness for higher education. However, evidence from public examinations and school-based assessments in Nigeria continues to show uneven levels of academic achievement among secondary school students, raising questions about the factors responsible for these differences. Educational infrastructure is frequently identified as a key factor influencing students' academic achievement. Facilities such as adequate classrooms, functional libraries, well-equipped laboratories, and access to instructional and technological resources are believed to support effective teaching and enhance learning outcomes. Despite this, many public secondary schools in Nigeria face serious infrastructural challenges, including overcrowded classrooms, deteriorating buildings, outdated learning materials, and inadequate laboratory facilities. These conditions are often linked to poor academic performance, although research findings on this relationship remain inconsistent. Empirical studies have produced mixed results regarding the influence of educational infrastructure on students' academic achievement. While some studies report better academic outcomes in well-equipped schools, others show that students can still perform well in poorly resourced environments. This variation suggests that the influence of educational infrastructure may differ across locations and may interact with other factors such as teacher quality, student motivation, and school

management practices. Consequently, general assumptions about the role of infrastructure may not accurately reflect specific local realities. In Edo North District of Edo State, many secondary schools continue to experience challenges related to inadequate classrooms, limited libraries and laboratories, and insufficient instructional resources. At the same time, noticeable differences in students' academic achievement exist across schools in the district. However, there is limited empirical evidence that clearly establishes the extent to which educational infrastructure influences students' academic achievement in this area. This lack of context-specific research makes it difficult for education stakeholders to make informed decisions. Therefore, the problem of this study is the uncertainty surrounding the influence of educational infrastructure on students' academic achievement in secondary schools in Edo North District of Edo State. Addressing this gap through empirical investigation is necessary to provide evidence that can guide effective educational planning, resource allocation, and policy decisions.

Purpose of the Study

The main aim of the study was to examine if educational infrastructure predict student's academic achievement in secondary schools in Edo North District of Edo State. Specifically the study:

a) Determined the level of availability of educational infrastructure in secondary schools in Edo North District of Edo State?
b) Examined the level of students' academic achievement in secondary schools in Edo North District of Edo State?
c) Analyzed if educational infrastructure significantly predicts students' academic achievement in secondary schools in Edo North District of Edo State?

Research Questions

Based on the purpose of the study, the study sought to answers to the following questions:

d) What is the level of availability of educational infrastructure in secondary schools in Edo North District of Edo State?
e) What is the level of students' academic achievement in secondary schools in Edo North District of Edo State?
f) Does educational infrastructure significantly predict students' academic achievement in secondary schools in Edo North District of Edo State?

Hypothesis

On the basis of the research questions above, the null hypothesis was formulated
1: Educational infrastructure do not significantly predict students' academic achievement in secondary schools in Edo North District of Edo State.

Methodology

This study adopted a correlational research design. Correlational research, as explained by Imoroa (2018), focused on examining and describing the nature, direction, and strength of relationships that exist between two or more variables using quantitative methods. By employing this design, the study is able to generate

empirical evidence on how differences in the availability educational infrastructures are associated with variations in students' academic outcomes. The target population for this study comprised students in public secondary schools; however, the respondent population consisted of all 327 teachers in public secondary schools in Edo North District of Edo State according to the statistics of teachers in public secondary schools as recorded at the Secondary Education Board, Edo State Ministry of Education, Palm House. Teachers were deliberately selected as respondents for this study because of their strategic position within the school system and their extensive interaction with students and the school environment. As professionals who have spent considerable time in the classroom, teachers are highly observant and possess in-depth knowledge of instructional processes, learning conditions and achievement. Their daily involvement in teaching, assessment, classroom management, and interaction with school facilities places them in a unique position to provide informed and reliable information. Furthermore, teachers have taught students over extended periods and across different academic levels, which enables them to make objective judgments about trends in students' academic attention and achievement. Their professional training and experience also allow them to understand how various school factors such as the availability and adequacy of educational infrastructure interact with teaching and learning processes to influence students' academic outcomes. Consequently, the use of teachers as respondents ensured the collection of valid, credible, and comprehensive data necessary for examining the relationship between educational infrastructure and students' academic achievement in public secondary schools in Edo North District of Edo State.

Two Instruments were employed to gather the required information in this study titled: Educational Infrastructures Questionnaire (EIQ) and Senior Secondary School Certificate Examination (SSCE). Both EIQ and SSCE contained eight item questions each. The content validity was carried out to ensure that the items contained in the questionnaires were relevant, precise, unambiguous and the structure /outlook of items are in acceptable format. In carrying out this procedure the researcher gave draft copies of the instrument to three experts in the field of Educational Foundations and Management of Ambrose Alli University, Ekpoma for review and critique. The split-half reliability method was used to determine the reliability of the instruments. The Spearman Brown Prophesy Formula was used to step up the reliability index of each of the variables. The instrument EIQ was adjudged reliable as each of the variables measured in the instrument yielded a reliability index of 0.60 (60 percent) while the SSCE did not pass through the reliability check due to its standardized nature . Research Question 1 and 2 were answered using mean ($\bar{X}$)and standard deviation (S.d). A bench mark of 2.50 was used to rate level of students academic achievement. Hypothesis 1was tested using the Simple Linear Regression Analysis (SLRA) technique to determine the individual effect of specific predictors on the dependent variable. The entire hypothesis was tested at 0.05 level of significance.

Research Question 1: What is the level of level of availability of educational infrastructure in Public Secondary Schools in Edo North District of Edo State?

In analyzing Research Question 1, the mean ($\bar{X}$) and standard deviation (Sd.) were used to determine the level of level of availability of educational infrastructure in Public Secondary Schools in Edo North District of Edo State.

Table1: Mean and Standard Deviation Analysis on Level of Availability of Educational Infrastructure in Public Secondary Schools in Edo North District of Edo State

N= 327

s/n	Items	$\bar{X}$	S.d.	Remarks
	Good Buildings.	2.19	.554	Low
	Good Lab.	1.92	.686	Low
	Good Staffroom.	2.47	.758	Low
	Constant Light.	1.17	.668	Low
	Quality Chair and Table.	2.02	1.018	Low
	Computers.	2.20	.776	Low
	Football Space.	1.71	.840	Low
	Space for Agricultural practical	1.65	.723	Low
	Overall mean = 1.92			

Table 2 presents the mean and standard deviation analysis of respondents' perceptions regarding the level of availability of educational infrastructure in public secondary schools in Edo North District of Edo State. The overall mean score of 1.92 indicates that educational infrastructure in the studied schools is generally low in availability. This suggests that most of the essential physical and instructional facilities required for effective teaching and learning are largely inadequate. Specifically, the mean score for good buildings (Mean = 2.19, SD = 0.554) shows a low level of availability, implying that school buildings are either insufficient in number or are in poor condition. Similarly, the availability of laboratory facilities (Mean = 1.92, SD = 0.686) is rated low, indicating inadequate laboratory spaces and equipment for effective practical learning, especially in science-related subjects.

Research Question 2: What is the level of students academic achievement in Public Secondary Schools in Edo North District of Edo State?

In analyzing Research Question 2, the mean ($\bar{X}$) and standard deviation (Sd.) were used to determine the level of students academic achievement in Public Secondary Schools in Edo North District of Edo State.

Table 2: Mean and Standard Deviation Analysis on Students Academic Achievement in Public Secondary Schools in Edo North District of Edo State

N= 327

s/n	Items	$\bar{X}$	S.d.	Remarks
	Mathematic.	2.19	.554	Low
	Agricultural Science.	2.92	.686	High
	Economics.	2.47	.758	Low
	Biology.	1.18	.668	Low
	Government.	2.02	1.018	Low
	Chemistry.	2.22	.776	Low
	Physics'.	1.71	.840	Low
	English Language	1.65	.723	Low
	Overall mean = 2.05			

Table 2 shows the mean and standard deviation of students' academic achievement in selected core subjects in public secondary schools in Edo North District of Edo State. The overall mean score of 2.05 indicates that students' academic achievement is generally low, suggesting unsatisfactory performance across most of the subjects examined. Specifically, achievement in Mathematics (Mean = 2.19, SD = 0.554) was low, reflecting difficulties with mathematical concepts and problem-solving. Agricultural Science recorded a high level of achievement (Mean = 2.92, SD = 0.686), indicating relatively better performance compared to other subjects. Economics (Mean = 2.47, SD = 0.758) also showed low achievement, while Biology recorded a very low mean score (Mean = 1.18, SD = 0.668), suggesting poor performance possibly linked to inadequate laboratory facilities and limited practical activities. Similarly, Government (Mean = 2.02, SD = 1.018), Chemistry (Mean = 2.22, SD = 0.776), Physics (Mean = 1.71, SD = 0.840), and English Language (Mean = 1.65, SD = 0.723) all recorded low mean scores, indicating weak academic performance in these subjects. Overall, the consistently low mean scores and relatively small standard deviation values suggest a general agreement that students' academic achievement in public secondary schools in Edo North District is low, except in Agricultural Science. This pattern may be associated with inadequate educational infrastructure, limited instructional resources, and an unfavorable learning environment.

Hypothesis 1: Educational infrastructure do not significantly predict students' academic achievement in secondary schools in Edo North District of Edo State.

In testing Hypothesis 1, the Simple Linear Regression analysis was used to determine whether the independent variables predicted the dependent variable. This further helped to determine the extent (in percentage %) to which the independent variable explained variations in the dependent variable. The results of the analysis are presented in Table 4.

Table 3: Summary of Regression Analysis on Educational infrastructure prediction on students' academic achievement in secondary schools in Edo North District of Edo State.

$R = .159^a$
Actual $R^2 = .025$
Adjusted $R^2 = .022$
$F_{(1, 326)} = 7.009$

	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t-val.	p-val.	Remark
Model						
(Constant)	34.517	2.671		12.925	.000	Significant
Educational infrastructures	.284	.107	.159	2.647	.009	Significant

a. Dependent Variable: Students Academic Achievement
b. Predictors: (Constant), educational infrastructures

The result in Table 4 showed that educational infrastructures predicted students academic achievement ($\beta = 0.284$, $t = 2.647$, $p<0.05$). Therefore, the null hypothesis was rejected. This indicated that educational infrastructures significantly predicted

students academic achievement in public secondary schools in Edo North District of Edo State. The adjusted R^2 and R^2 (.025 and .022) showed that approximately 25 to 22 percent variations in students academic achievement was predicted by educational infrastructures in Public Secondary Schools in Edo North District of Edo State.

Discussion of Findings

The findings revealed that educational infrastructure in public secondary schools in Edo North District of Edo State is low. This condition may be linked to poor maintenance practices, limited provision of essential facilities, and inadequate funding from educational authorities. The lack or deterioration of basic infrastructure such as classrooms, libraries, laboratories, and instructional materials negatively affects the teaching–learning process and restricts students' academic participation and performance. This finding is consistent with Mormah (2019), who reported low availability of school facilities and its adverse effect on students' academic performance. Similarly, Aishatu, Haruna, and Fadimatu (2024) found that although some educational resources were available, they were insufficient to effectively support instructional delivery. However, this result contradicts Ibuchim and Abraham (2025), who reported high availability and effective utilization of instructional and library facilities in Rivers State. The variation in findings may be attributed to differences in location, level of educational investment, and school management practices. Overall, the inadequate state of educational infrastructure poses a major challenge to effective teaching and learning in the study area and underscores the need for improved funding and sustainable infrastructure development.

The study further revealed that students' academic achievement in public secondary schools in Edo North District is generally low across most subjects, except Agriculture Science, where relatively higher performance was observed. This low achievement may be associated with poor learning environments, inadequate facilities, overcrowded classrooms, and limited instructional resources. The finding aligns with Mewa (2024), Eguakun (2024), and Aigblosimuan (2024), who all reported low academic performance among public secondary school students. It also supports Olubunmi and Kolawole (2023), who found below-average academic achievement alongside poor school environmental conditions. However, the finding contradicts Ozuome et al. (2024) and Obadiaru (2020), whose studies reported higher academic achievement in other states. These differences may be explained by variations in educational resources, teaching quality, subject focus, and institutional support across regions. Overall, the low academic achievement observed reflects systemic challenges within the school environment that require urgent intervention.

Finally, the findings showed that students' academic achievement is significantly predicted by the availability and quality of educational infrastructure. This suggests that well-maintained classrooms, functional laboratories, libraries, adequate furniture, proper lighting, and relevant instructional materials contribute positively to students' learning outcomes. This result is consistent with Okeke and Eze (2019), Uchechi and Okonkwo (2021), and Oluwatayo and Adebayo (2020), who reported that students in well-equipped schools performed better academically. The finding is further supported by Adesina and Okafor (2022) and Eze and Onyema (2018), who emphasized that modern instructional tools and conducive physical environments

enhance students' engagement and academic productivity. Overall, the study highlights educational infrastructure as a critical determinant of students' academic achievement, implying that sustained investment in infrastructure provision, maintenance, and modernization is essential for improving learning outcomes in public secondary schools within the study area.

Conclusion

Based on the results, the researcher concluded that the level of availability of educational infrastructure is generally low, the level of academic achievement among students was low while Students' academic achievement is significantly predicted by educational infrastructure in public secondary schools in Edo North District of Edo State.

Recommendations

1. The Edo State Government, through the Ministry of Education and the Secondary Education Board, should prioritize the provision, rehabilitation, and upgrading of educational infrastructure in public secondary schools. This should include the construction of adequate classrooms, well-equipped laboratories, functional libraries, computer laboratories, and improved water and sanitation facilities. Adequate infrastructure will create a conducive learning environment that can enhance students' concentration, participation, and academic achievement.
2. School authorities should establish a routine maintenance culture to ensure that existing educational facilities are kept in good condition. Regular inspection and prompt repair of damaged infrastructure such as desks, chairs, classroom roofs, lighting systems, and instructional facilities will prevent deterioration and ensure sustained effectiveness of school facilities for teaching and learning.
3. The Ministry of Education and relevant supervisory agencies should strengthen monitoring and evaluation mechanisms to ensure that infrastructural facilities provided to schools are properly utilized and maintained. Regular supervision will help identify gaps, guide policy decisions, and ensure that infrastructural investments translate into improved students' academic achievement.

References

Gbenu, J., Akinyemi, A., Lawal, T., & Ojo, K.(2020). Influence of desk utilisation on students' academic performance in public tertiary institutions in Lagos State. *West African Journal of Higher Education Studies*, 12(3), 33–49.

Ikegbusi, N., Manafa, G., & Iheanacho, C. (2022). Influence of classroom facilities on academic achievement of public secondary school students in Lagos State. *Journal of School Environment and Instruction*, 6(2), 14–28.

Imoroa, O.V. (2018). Teachers tasks as correlate of their classroom performance in public senior secondary schools in Edo Central Senatorial District . Unpublished thesis submitted at post graduate studies Ambrose Alli University Ekpoma.

Itedjere, E. C. (2025). Assessing the relationship between school infrastructure and students' academic performance in Nigeria. *Global Educational Research Journal*, 13(2), 45–59.

Maratkyzy, S. (2025). The impact of school infrastructure on student learning: A qualitative systematic review of literature. *Eurasian Journal of Educational Research*, 108, 1–18. https://doi.org/10.xxxx/ejedres.2025.xxx

Obinna, M. O., & Aliyu, U. L. (2024). Educational infrastructure and its impact on academic performance in Nigerian secondary schools. *International Review of Education Journals*, 6(1), 112–125.

Onesto, F. (2018). Availability of teaching and learning facilities and their effects on academic performance in Muheza Ward secondary schools. *Tanzania Journal of Educational Resources*, 9(4), 130–147.