

RELATIONSHIP BETWEEN SCHOOL PHYSICAL ENVIRONMENT AND STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN ONITSHA SOUTH LOCAL GOVERNMENT AREA OF ANAMBRA STATE

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Abstract

The purpose of the study was to investigate the relationship between school physical environment and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State. Two research questions guided the study and two null hypotheses were tested at 0.05 level of significance. The correlational survey research design was adopted for the study. The population for the study comprised all the 641 Senior Secondary School (SSS II) students in the six public secondary schools in Onitsha South Local Government Area of Anambra State. The sample size comprised of 160 respondents drawn using proportionate stratified random sampling technique. The instrument for data collection was a researcher-structured rating scale titled: "School Physical Environment Rating Scale (SPERS) and Academic Performance Test (APT). The SPERS was validated by three experts. The experts made adjustments to the item statements in terms of statements clarity. The instrument was subjected to a pilot test on 20 students in Onitsha North LGA. The reliability coefficients values of 0.81 for school site and 0.84 school infrastructural facilities were obtained respectively. Pearson Product Moment correlation was used to answer the research questions and in testing the hypotheses. Findings of the study revealed among others that school site has a moderate positive and significant relationship with students' academic performance in public secondary schools in Onitsha South LGA. Findings of the study further revealed that school site has a high positive and significant relationship with students' academic performance in public secondary schools in Onitsha South LGA. It was therefore recommended among others that policy makers should prioritize funding for school infrastructure improvements to enhance student performance, particularly in underserved areas with suboptimal school sites.

Keywords: *Academic Performance, School, Physical Environment*

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Introduction

Education is globally acknowledged as a potent and dynamic instrument for national development and societal transformation. It is an important instrument for the development of the individual and the society as it is a weapon against poverty, illiteracy and disease (Nwankwo, 2018). In Nigeria, the importance of education in the development of the individual and the nation is highly recognized by the Federal Government. The National Policy on Education (FRN, 2013) viewed education as that process that helps to develop the whole being, physically, mentally, morally, politically, socially and technologically to enable individuals function in any environment in which they may find themselves. The policy added that access to education and training is not only a basic human right but also a key factor for societal progress and for reducing the gap between socio-economic groups and sexes. The policy also made provision for equal access to educational opportunities for all citizens at the primary, secondary and tertiary levels. The secondary school education was the focus of this study.

Secondary school education refers to education students receive after primary education and before the tertiary education. FRN (2013) viewed secondary school education as the education children receive after a successful completion of nine years basic education. The importance of secondary education lies in its position both as a bridge between primary and tertiary education and as an agent for preparing individuals for useful living in the society. Oboegbulem and Onwurah (2019) opined that secondary school education based on the 6-3-3-4 system of education, comprises six years duration, but given in two stage: junior secondary stage and senior secondary stage, each to run for three years duration. The junior secondary school education is pre-vocational and vocational, optional and compulsory. Basic subjects that will enable students to acquire further knowledge and skills are taught. Students who complete junior secondary school education are to be streamed into: the senior secondary school; the technical college; out-of-school vocational training centres; and apprenticeship. Senior secondary school is the second phase of secondary education. It is comprehensive with a core-curriculum designed to broaden students' knowledge. This is the stage where students pick subjects of their choice and begin to prepare for their intended careers (Ezeocha, 2021).

The broad goals and objectives of secondary education according to FRN (2013) include: the provision of specific sets of competencies and skills that will improve individuals' lives and

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enable them to participate actively in the development of the economy. In essence, secondary school education in Nigeria is recognized as a prerequisite for quality human life and labour skills, as well as a sine qua non for sustainable economic development of the country. Admittedly, attainment of the primary objectives of secondary school education as specified in the policy demands that teachers have crucial role to play in the school system. Admittedly, attainment of the primary objectives of secondary school education as specified in the policy demands that schools should effectively provide quality education that fosters the acquisition of critical skills and prepare students adequately for further education. In essence, when the objectives of secondary education are met through quality teaching, adequate resources, and supportive school environments; students are equipped with the skills and knowledge that directly contribute to improved academic performance.

Performance refers to the execution of a task or activity, and the effectiveness with which an individual or group completes the objectives or goals associated with that task (Nashwan & Al-Saqri, 2020). In an organizational setting, performance is the measurable output of an individual in terms of efficiency, productivity, and achievement of set goals, often assessed through performance appraisals or reviews. In education, performance usually refers to the outcomes achieved by students, teachers, or institutions, measured through assessments, academic achievement, or the ability to meet educational standards and objectives (Akpan & Basse, 2022). According to El-Naggar and Mohamed (2021), academic performance is not a one-dimensional phenomenon but a multidimensional activity. It includes excellence in behaviour, confidence, communication skills, punctuality, arts and culture. Academic performance is the outcome of education; the extent to which a student, teacher or institution has achieved their educational goals. This is measured either by examination or continuous assessments. Academic achievement of students is the focus of attention of parents, teachers, heads of institution and society at large.

Students' academic performance refers to a student's success in acquiring and applying knowledge and skills in their academic pursuits. It can be measured through various indicators such as grades, test scores, academic awards, and recognition for outstanding achievements. Academic performance according to Kanu and Ndibe (2023) is student's level of success in learning and mastering academic materials. The scholars maintained that students' academic

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performance is measured by various means such as grades, test scores, attendance records, participation in extracurricular activities, and other forms of academic recognition. Students' academic performance can be influenced by various factors, including the student's intelligence, motivation, learning style, study habits, parental involvement, school physical environment, teacher quality, and socioeconomic background. In order to maximize academic performance, it is important for students to develop good study habits, set realistic goals, and maintain a positive attitude towards learning (Owens & Schiller, 2023). School management, teachers and parents can also play a significant role in promoting academic performance by providing a supportive and stimulating school climate, encouraging students to engage in extracurricular activities, providing feedback and guidance, and providing opportunities for additional academic support if needed through conducive physical environment.

The school physical environment encompasses all tangible elements within the school setting, including buildings, classrooms, playgrounds, and overall school layout, which collectively influence the educational experience. This environment is characterized by the quality and design of infrastructure, which can affect student learning and teacher effectiveness (Obi & Nwachukwu 2021). Well-constructed, well-maintained buildings promote safety and comfort, essential for optimal learning. According to Martinez and Perez (2019) the arrangement of furniture and resources in classrooms is a crucial aspect that impact interaction, collaboration, and the overall learning atmosphere. Mutie and Mwangi (2023) noted that the physical environment must also address safety concerns. Secure access points and surveillance systems can deter intrusions but fostering a sense of safety that allows students to focus on learning (Tanner, 2020). School physical environment according to Okoye and Eze (2020) refers to the physical conditions of the school building and the surrounding facilities, which include classrooms, playgrounds, libraries, sanitation, and ventilation systems. It involves all material components of the school infrastructure, such as the quality of school buildings, furniture, lighting, and acoustic environment, which significantly impact learning outcomes.

Adequate classroom space and seating arrangements are vital components of the school's physical environment that influence students' ability to focus and engage in learning activities. The presence of functional and accessible sanitary facilities in schools contributes to a healthier learning environment, reducing absenteeism and improving academic performance (Woolner &

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Clark, 2021). There are various components of school physical environment as recorded in literature. Barrett et al. (2019) explored various elements of the school physical environment; including lighting, air quality, noise levels, and space utilization. They noted that these components significantly impact student engagement, behavior, and academic performance. In his work on school design, Maxwell (2022) emphasized the importance of classroom layout, lighting, and ventilation as key components of the physical environment that can affect student learning and well-being. In their research, Adeyemo and Oloruntoba (2022) highlighted components such as school infrastructural facilities, space utilization, furniture arrangement, and availability of resources (like technology and libraries) as vital elements of the physical environment that impact student engagement and achievement. This study however will explore school site and School infrastructural facilities as important components of school physical facilities that could influence students' academic performance in secondary schools.

School site is one aspect of the school plant planning that is very important and should be taken seriously by the educational administrators. A school site refers to the physical location and facilities of an educational institution, including the land, buildings, and surrounding environment where teaching and learning occur (Eze & Okeke, 2021). It encompasses both the tangible aspects, such as classroom layouts and recreational areas, and the community context that influences the educational experience and student engagement. Bosch and Reeves (2019) defined school site as the physical location of an educational institution, which includes the land and buildings where learning takes place. This definition emphasizes the tangible aspects of a school that influence accessibility, safety, and the overall learning environment. Owens and Valesky (2021) noted that school site is beyond just its physical attributes, a school site encompasses the educational environment, including classroom layouts, recreational areas, and facilities that support academic and extracurricular activities. They maintained that the design and arrangement of these spaces significantly affect student engagement and learning outcomes. To Abdulkareem (2020), school site is often viewed within the context of the surrounding community; as its location can affect student demographics and access to resources. Schools situated in diverse neighborhoods may have different community partnerships and support systems compared to those in more homogeneous areas (Williams & Jones, 2019). A well-secured school site contributes to a safe learning atmosphere, crucial for effective teaching and

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learning and should be supported with adequate school infrastructural facilities.

School infrastructural facilities have a profound significance as part of the school plant in secondary schools. They provide a frame for all other aspects of the school plant. According to Adamu and Olaoye (2019), school infrastructural facilities refer to the physical and organizational structures, including buildings, classrooms, laboratories, libraries, and recreational areas, that support the educational process within a school environment. These facilities are crucial for providing a conducive learning atmosphere, as they directly impact students' academic performance, engagement, and overall well-being. Similarly, Aladejana and Gbenu (2021) described school infrastructural facilities as the physical structures and resources, including buildings, classrooms, laboratories, libraries, and recreational areas, that provide an environment conducive to teaching and learning. These facilities play a critical role in enhancing students' academic performance, attitude to learning and overall educational outcomes. Effective school infrastructure not only encompasses the physical aspects but also includes the resources and support systems that facilitate teaching and learning processes, such as access to internet and educational materials (Chukwuemeka et al., 2022). Ultimately, the development and maintenance of school infrastructural facilities are vital for promoting educational equity and ensuring that all students have the opportunity to succeed academically (Okoro & Enueme, 2020).

Research has shown that a conducive learning environment, characterized by well-structured buildings, appropriate seating arrangements, and well-maintained school grounds, enhances students' motivation, engagement, and overall academic performance. Conversely, overcrowded classrooms, dilapidated buildings, inadequate furniture, and poor sanitary conditions may create distractions, reduce learning efficiency, and lead to poor academic achievement.

The school physical environment is an important factor that can influence students' academic performance, as teaching and learning are more effective in a safe, comfortable, and well-equipped environment. Facilities such as classrooms, libraries, laboratories, furniture, lighting, ventilation, sanitation, and general school surroundings can either motivate students to learn or discourage effective academic engagement. In public secondary schools in Onitsha South Education Zone of Anambra State, there are growing concerns about the condition of school physical facilities and how such conditions may be affecting students' learning outcomes

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and academic achievement. However, despite these concerns, the relationship between school physical environment and students' academic performance has not been adequately established empirically within the study area. It is against this background that the present study investigated the relationship between school physical environment and students' academic performance in public secondary schools in Onitsha South Education Zone of Anambra State.

Statement of the Problem

The physical environment of a school plays a critical role in shaping the overall learning experience and influencing students' academic performance. In public secondary schools in Onitsha South Local Government Area, there has been increasing concern over the adequacy and quality of the school site, infrastructural facilities, and furniture. Despite various government and community efforts to improve the educational system, many schools seem to continue to operate under substandard physical conditions, which may hinder students' ability to learn effectively. In particular, the location of the school (school site) often raises issues of accessibility, safety, and environmental noise, all of which can negatively impact learning outcomes. The state of school infrastructure, such as classroom buildings, laboratories, and recreational facilities, often lacks proper maintenance or sufficient funding. Broken or poorly designed furniture may lead to physical discomfort, which in turn may reduce students' attentiveness and participation in class.

In many public secondary schools in Onitsha South, issues such as inadequate classroom facilities, poor infrastructure, lack of basic learning resources, overcrowded classrooms, and insufficient sanitation persist. These challenges have raised concerns about their potential negative effects on students' academic performance, particularly in critical examinations like the West African Senior School Certificate Examination (WASSCE) and the National Examination Council (NECO) tests. Recent reports and academic results from schools in Onitsha South Education Zone have shown a worrying trend of poor performance, with many students failing to meet the required standards for admission into higher education institutions. These persistent issues in the school physical environment may be contributing factors to the declining academic performance of students in these important national examinations. Given the significance of school physical environments, there is a need for empirical studies to investigate the relationship between school site, infrastructure, and furniture and their effect on students' academic performance.

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Purpose of the Study

The purpose of the study was to investigate the relationship between school physical environment and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State. Specifically, the study sought to:

1. find out the relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State;
2. determine relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State

Research Questions

The following research questions guided the study:

3. What is the relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State?
4. What is the relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

1. There is no significant relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.
2. There is no significant relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Methods

The study adopted a correlational research design. The study was conducted in Onitsha South Local Government Area of Anambra State, located in the South-East geopolitical zone of Nigeria. The population of the study comprised 641 Senior Secondary School Two (SSS II)

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 students from the six public secondary schools in Onitsha South Local Government Area. Sample of the study comprised 160 SS2 students and, was selected using proportionate stratified random sampling technique.

The instrument for data collection was a researcher-structured rating scale titled: “School Physical Environment Rating Scale (SPERS) and Academic Performance Test (APT).” The instruments were validated by three experts in Educational Management and Measurement and Evaluation from the Faculty of Education, Nnamdi Azikiwe University, Awka. Reliability of the instrument was established through a pilot test involving 20 students in Onitsha North Local Government Area using Cronbach Alpha. The reliability coefficients yielded values of 0.83 which was deemed adequate for the study.

The instruments were administered directly to the respondents with the assistance of three trained research assistants. Out of the 160 copies distributed, 154 were successfully retrieved and used for data analysis, representing a return rate of 96.25 percent. The research questions were answered and hypotheses tested using the Pearson Product Moment Correlation Coefficient (r) and all analyses were conducted using the Statistical Package for Social Sciences (SPSS) version 25.

Results

Research Question One: What is the relationship between school site and students’ academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State?

Table 1: Pearson r on the relationship between school site and students’ academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State

Source of Variation	N	(r)	Remark
School site	154	0.538	Moderate Positive
Students’ academic performance			Relationship

Results in Table 1 show that there is a moderate positive relationship between school site

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 and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State. This is evident in the value of Pearson's Correlation Coefficient (r), which is 0.538.

Research Question Two: What is the relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State?

Table 2: Pearson r on the relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State

Source of Variation	N	(r)	Remark
School infrastructural facilities	154	0.826	Very Strong Positive Relationship
Students' academic performance			

Table 2 shows that the Pearson's $(r) = 0.826$, indicating that there is a very strong positive relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Hypothesis One: There is no significant relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Table 3: Pearson r Test of Significance on the Relationship Between School Site and Students' Academic Performance in Public Secondary Schools in Onitsha South Local Government Area of Anambra State

Source of Variation	N	(r)	p-value	Remark
School site	154	0.538	0.000	Strong Positive Relationship
Students' academic performance				

Data in Table 3 shows that the p-value of 0.000 is >0.05 . This indicates that the p-value is

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 less than the significant value of 0.05. This shows that there is a significant relationship between school site and students' academic performance. Therefore, the null hypothesis was rejected. This indicates that there is a significant relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Hypothesis Two: There is no significant relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Table 4: Pearson r Test of Significance on the Relationship Between School Infrastructural Facilities and Students' Academic Performance in Public Secondary Schools in Onitsha South Local Government Area of Anambra State

Source of Variation	N	(r)	p-value	Remark
School infrastructural facilities	154	0.826	0.000	Significant
Students' academic performance				

Data in Table 4 shows that the p-value of 0.000 is >0.05 . This indicates that the p-value is less than the significant value of 0.05. This shows that there is a significant relationship between school infrastructural facilities and students' academic performance. Therefore, the null hypothesis was rejected. This indicates that there is a significant relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Discussion

The findings in Table One indicated that there is a moderate positive relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State, as reflected by the Pearson correlation coefficient of 0.538. This suggests that the location and accessibility of the school moderately influence students' academic performance and overall outcomes, meaning that students attending schools in more favorable or strategically located areas may perform better academically. The Pearson r value of 0.538 indicates a moderate positive relationship, suggesting that school

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location has a meaningful influence on students' academic performance. Factors such as proximity to learning resources, a safe environment, and shorter travel distances may enhance regular attendance, improve concentration, and ultimately support better academic outcomes.

Supporting these findings, Egbunike and Asuzu (2021) study on the impact of school location on student achievement in Enugu State found a moderate positive correlation ($r = 0.542$) between school site and students' performance in Enugu State, affirming that proximity to students' homes and access to resources improved academic outcomes. Similarly, Okafor and Obe (2022) research on the role of school site in academic performance in Nigeria revealed that school location is a determinant of academic success, especially in urban areas where infrastructure and resource accessibility enhanced learning ($r = 0.530$), with an emphasis on the ease of transportation and security around schools. Both studies highlight that while location is not the sole determinant of success, it plays a pivotal role in shaping educational experiences and outcomes. Furthermore, findings of the study further revealed that there is a significant relationship between school site and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

The findings in Table Two showed that there is a very strong positive relationship between school infrastructural facilities and students' academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State. The empirical finding that there is a very strong positive relationship between school infrastructural facilities and students' academic performance, with a Pearson correlation (r) value of 0.826, indicates that improved infrastructure in schools significantly enhances students' academic outcomes. This suggests that well-maintained classrooms, laboratories, libraries, and sanitation facilities contribute to creating an environment conducive to learning, thus allowing students to focus better, retain information, and perform well in assessments. The Pearson r value of 0.826 reflects an exceptionally strong association, implying that enhancements in infrastructure could lead to substantial improvements in academic performance.

Agreeing with this study findings, Ugwulashi and Okoli (2021) conducted a study titled “school infrastructure and academic achievement of secondary school students in Owerri, Imo State” and reported a strong positive relationship ($r = 0.795$) between school infrastructure and students' academic performance. Correspondingly, Adewale (2022), in the study “impact of

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Unizik Journal of Educational Management and Policy (UJOEMP), Vol 7, No. 2, April, 2026. ISSN: 2276-7630 school facilities on students' learning outcomes in public secondary schools in Lagos State,” found a significant correlation ($r = 0.810$) between quality infrastructure and student performance; further affirming that well-maintained school environments positively influence academic success by providing better teaching and learning conditions for both teachers and students. Furthermore, findings of the study further revealed that there is a significant relationship between school infrastructural facilities and students’ academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State.

Conclusion

Based on the findings of the study, the researchers concluded that there is a positive and significant relationship between school physical environment and students’ academic performance in public secondary schools in Onitsha South Local Government Area of Anambra State. It is therefore imperative that measures are put in place to improve school physical environment for improved students’ academic performance.

Recommendations

Based on the findings, the following recommendations were made:

1. Policy makers should prioritize funding for school infrastructure improvements to enhance student performance, particularly in underserved areas with suboptimal school sites.
2. Secondary school principals should ensure regular maintenance and upgrades of school infrastructural facilities to create an optimal learning environment that boosts student academic performance.

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