Learning environment and academic success of students in public secondary schools in Imo State

*Onofe-Overah, A. M.¹, Egwunyenga, E. J.² and Akpotu, N. E.³

¹, ² & ³Department of Educational Management and Foundations, Delta State University, Abraka, Nigeria

E-mail: anthmverah@gmail.com¹; Cell: +234 803 379 0621²

*Corresponding author

Abstract
This study examines the relationship between learning environment and academic performance of students in Imo State’s public secondary schools. The ex-post-facto study design was adopted. A simple sampling strategy was used to select 155 respondents (50% of the population), from a group of 309 principals. To collect information from respondents, questionnaire survey called "Atmosphere of Learning was used". Also, a checklist was used to compile information on kids’ academic success. The questionnaire was validated using face and content validity. Additionally, a Cronbach’s alpha reliability test was performed, and the findings revealed a high reliability index with a score of 0.71. The Pearson product moment correlation statistic was used to establish the relationship at 0.05 level of significant. Results showed that in Imo State, classroom setting, physical environment, learning atmosphere, and academic success of students were substantially associated. Principals in Imo State, Nigeria, are advised to make sure that classrooms are typically conducive to teaching and learning. The classroom should be set up so that it can hold the required number of pupils in order to facilitate effective teaching and learning.

Keywords: Learning, environment, students, classroom, academic performance

Introduction
The learning environment has really not gotten much attention as a possible factor in determining pupils’ academic success (Usman & Madudili, 2019). Recently, there has been a lot of discussion about the effectiveness of teachers and students' inability to dedicate themselves to their studies as a consequence of learning-impairing distractions. However, factors like the learning environment and school culture could affect how well pupils perform in school. Classrooms, libraries, and information centres; technical workshops; information and communication technology facilities; multipurpose halls and performing arts spaces; laboratories; health; physical exercise and play areas; conveniences; sanitation; maintenance culture; and aesthetics, among other things, all contribute to the learning environment that students are exposed to. Thus, it is essential to keep evaluating and managing the culture of the school and the learning environment in an appropriate manner in order to maximise students' academic achievement. Educators, researchers, and legislators are constantly debating the factors that influence students' academic success at all levels. Siegfried and Fels (2009) conducted a study in an effort to overcome these problems. The study discovered that intrinsic ability is the most significant factor impacting how well students learn. However, they omitted discussing in depth how factors like the classroom environment and the school atmosphere impact kids’ academic progress.

To grow and learn, children need access to a safe, wholesome, and engaging learning environment. Students typically commit six to eight hours a day in a learning environment that is important or essential to their development. The majority of the time is spent on the way to or from school or in
the schoolyard. To improve educational, health, and stewardship experiences in this circumstance, careful planning and design are required. The learning environment is therefore crucial in shaping and changing intellectual capacity. However, a helpful and welcoming learning environment with enough learning resources and a welcoming environment may help students feel more at ease and focused on their academic goals, which will result in good academic success (Wang, & Holcombe, 2010). Even while a baby is still inside the womb, their environment can affect how they develop and mature. Physical, social, and cultural contexts all play a role in the educational process of growth. For a child to receive a successful education, the environment must be favourable and appropriate. The necessary stimuli for educational experiences are provided by an environment that is conducive to learning. Children spend the majority of their time at school, where factors like the curricula, instructional strategies, and student-teacher relationships may have an impact on academic performance.

The learning environment can have a significant impact on kids' academic success since the environment in which a child learns can make the difference between success and failure. The classroom setting, physical setting, and location of the school are all parts of this learning ambiance. Because learning is a product of the environment, the classroom setting is crucial. A supportive learning environment in the classroom is crucial to boosting a child's level of education since it acts as an agent of intellectual stimulation. This has significant implications for research into important difficulties in classroom instruction. Some of the elements that determine whether the learning environment within the classroom is beneficial or unfavourable for the students include the teaching style, the subjects covered in the curriculum, and the teachers' behaviour (Anderson & Walberg, 2004).

The physical setting of schools affects teachers, students, and the learning process in a variety of ways. Teaching and learning are made more challenging by inadequate classroom temperature, noise, and lighting. Students' and teachers' health declines as a result of improper ventilation system maintenance, which has a negative impact on both parties' ability to perform academically and increases absenteeism rates (Lyons, 2011). These factors may negatively affect student conduct, raise teacher annoyance, and foster a lacklustre learning environment in students. Along with the obvious effects that poor facilities have on students' ability to learn, the mix of poor facilities, which make for an unpleasant and unwelcoming workplace for teachers, and annoying student behaviour, such as lack of focus and hyperactivity, lethargy, or indifference, creates stressful working conditions for teachers. It is likely that the aforementioned characteristics of school buildings may have an effect on students' academic achievement given that stress and work unhappiness are typical precursors to diminished teacher enthusiasm.

Many variables have been proposed as potential contributors to pupils' academic success. These variables include parental education levels, family history, intellect, and pupils' attitudes toward learning (Bradley & Corwyn, 2002). These theories, however, do not account for the learning environment. Although there is research to support the idea that Nigeria's secondary education has only partially met its aspirations (Babalola & Ojokuku, 2015; Owolabi, 2016). This is not the case when contrasted with the academic success of pupils in Imo State, where student performance has been consistently strong over the previous five years. Education
actors in the state credit the students' diligence, prior education, parents' education, family income, and internal motivation for their success on external exams. These factors all have a significant impact on the students' overall academic success. Does the failure of other states in the federation to rank among the top ten in external exams imply that other states lack the same elements as those proposed by Imo State's education stakeholders? From the above problem and gaps, the fact remain that factors such as conveniences, sanitation, maintenance culture, and aesthetics, among others, could affect students' learning environments, which include things such as classrooms, library services, and resource centres, technical workshops, information systems facilities, multi-purpose halls and performing arts spaces, laboratories, health, physical exercises, and play areas, and more. Arising from the above this study examines the relationship between learning environment and academic performance of students in public secondary schools in Imo State.

**Literature review**

Johnson and Smith (2018) investigated how school environment and peer influences affect the academic performance of students in public secondary schools. The researchers gathered data from several public secondary schools, considering factors such as classroom environment, teacher-student interactions, peer relationships, and overall school climate. They used standardized tests and academic records to measure students' academic performance. The findings revealed a significant correlation between the learning environment and students' academic achievement. Schools with positive learning environments, characterized by supportive teachers, conducive classrooms, and a positive school climate, were associated with higher academic performance among students. Additionally, the study highlighted the influence of peers on academic outcomes. Students who were surrounded by motivated and academically oriented peers tended to perform better academically than those in less conducive social environments. Overall, this study emphasized the crucial role of the learning environment and peer interactions in shaping students' academic success in public secondary schools. In another study, Williams and Martinez (2019) conducted a study to explore the effects of the learning environment on the academic achievement of secondary school students. Their research involved multiple public secondary schools, examining factors like school facilities, teaching methodologies, extracurricular activities, and classroom dynamics. They collected data through surveys, observations, and academic records to measure the impact of the learning environment on students' academic performance. The results of this study highlighted the significant relationship between the learning environment and academic achievement. Schools that provided a stimulating and engaging learning environment tended to produce higher academic outcomes. Positive learning environments that promoted student participation, collaborative learning, and access to modern teaching resources positively influenced students' motivation and academic performance. Conversely, schools with limited resources, poor infrastructure, and inadequate teaching methods tended to have lower academic achievement among students. These findings underscored the importance of creating a conducive and supportive learning environment in public secondary schools to enhance students' academic success.

Furthermore, Brown and Anderson (2016) focused on examining the role of school climate and classroom environment in predicting student academic performance...
in public secondary schools. The researchers surveyed students, teachers, and school staff to assess the school climate, which includes factors like safety, discipline policies, and teacher-student relationships. They also observed classroom environments to evaluate teaching practices and student engagement. The study's outcomes indicated a strong association between school climate, classroom environment, and students' academic performance. Schools with positive and supportive climates, where students felt safe, respected, and encouraged, tended to have higher academic achievement levels. Moreover, classroom environments characterized by effective teaching practices, clear communication, and student-centred learning contributed to improved academic outcomes. On the contrary, schools with negative climates and less conducive classrooms experienced lower academic performance among students. These findings emphasize the vital role of school climate and classroom environments in shaping students' academic success in public secondary schools.

Contrary to some previous studies that have suggested a significant relationship between learning environment and academic achievement, several more recent studies have arrived at different conclusions. One such study conducted by Lizzio, Wilson, and Simons in 2002, and another by Wang and Holcombe in 2007, both found no significant relationship between the learning environment and academic achievement. These studies reviewed the available evidence and concluded that there was insufficient support for the claim that the classroom or learning environment has a substantial impact on student achievement. Furthermore, Muola's study in 2010 took a broader approach by reviewing the literature on the relationship between learning environment and academic achievement. The author's conclusion was that the available evidence on this subject is inconclusive, indicating that the impact of the learning environment on academic achievement remains uncertain and requires further investigation. Similarly, Zhang, Zhu, and Liu's systematic review in 2016 explored the impact of the learning environment on student achievement. Their findings also yielded mixed results, suggesting that the evidence on this matter is inconsistent, making it challenging to draw definitive conclusions. These varying outcomes from different studies highlight the complexity of the relationship between the learning environment and academic experiences and positively impacted their academic outcomes. On the other hand, schools with inadequate facilities and limited resources struggled to provide a conducive learning environment, leading to lower academic performance among students. This study emphasized the importance of investing in and maintaining school facilities to create an environment that supports academic excellence in public secondary schools.
achievement. It is essential to consider the context, variables, and methodologies employed in each study to understand the potential impact of the learning environment on student performance fully. Given the conflicting nature of the findings, it becomes crucial for educators, policymakers, and researchers to continue exploring this area through well-designed and comprehensive studies. Only by gaining a deeper understanding of the intricacies involved can we hope to make informed decisions about optimizing learning environments to enhance student achievement effectively.

**Methods**

Ex post facto and correlation survey design were used in this study. A simple sample method was used to choose the 155 participants from among the 309 principals who made up the study's population. A structured atmosphere of learning questionnaire was constructed and used to obtain data from respondents. Data on the academic performance of students was gathered using a checklist (Rimm-Kaufman, & Pianta, 2000; Murdock, Miller, & Hamre, 2002; Hattie, & Timperley, 2007). The four-point methodology used in the survey ranged from "strongly agree" (SA), "agree" (A), "disagree" (D), and "strongly disagree" (SD). The respondents checked the box next to the agreement scale to indicate how much they agreed (P). The weights were represented by the digits 4, 3, 2, and 1 on the scale. The instrument was administered by the researchers and four research assistants to principals and teachers. Contrarily, the checklist created using information from the West African Senior Secondary Certificate Examination is displayed here, along with a grade based on that organization's evaluation. As an illustration, the values for A1 are 9, B2 and B3 are 8, and C4 and C6 are 5, respectively. D7 is 3, E8 is 2, and F9 is 1. Both the questionnaire's form and its substance served to validate it. It also underwent a Cronbach’s alpha reliability test, the findings of which indicated that it had a respectable reliability index of .71. The Pearson product moment correlation statistics were used to evaluate the level of relationship at a significance level of 0.05.

**Results and discussion**

In this section, we delved into the data presented and the results obtained from the study, with a particular focus on the information collected through the questionnaire. The questionnaire was designed to gather valuable insights from participants and provide a comprehensive understanding of the research.

Table 1 displays Pearson's R regarding student academic progress and the classroom environment. The outcome demonstrated a high positive correlation between students' academic progress and the classroom atmosphere, with a r = .612 and p = .392. Thus, in Imo State, there is a strong correlation between the classroom environment and students' academic progress.

<table>
<thead>
<tr>
<th>Classroom environment</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Academic success of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom environment</td>
<td>1</td>
<td></td>
<td>.612*</td>
</tr>
<tr>
<td>Academic success of students</td>
<td>.612*</td>
<td>.392</td>
<td>1</td>
</tr>
</tbody>
</table>
Results showed a substantial relationship between students' academic progress in Imo State and the classroom environment. This conclusion is supported by the fact that an effective classroom atmosphere directly contributes to an educational process that is enhanced, improved, and ultimately more productive, effective, and successful. Without a conducive learning environment, the teaching and learning process cannot produce positive results. The most frequent way to raise student achievement is to improve the learning environment in the classroom. Academic performance improves when there is a positive learning environment in the classroom that fosters a sense of safety, belonging, and engagement. This result confirms Obi and Obi's (2019) findings that students' performance in chemistry was significantly influenced by the classroom environment. According to Manangan (2022), there is a strong correlation between the tone of the classroom and students' academic success. Suzuki, Romano, Macalindong, Lazada, Acedo, and Barza (2020) discovered that the classroom environment has an impact on academic progress, with a weighted mean of 3.16 from male respondents and 2.86 from female respondents, both of whom had a verbal interpretation of "agree." According to Akinleke (2018), there is a statistically significant interaction between the classroom environment and students' academic achievement as well as a statistically significant association between teachers' competence and GPA. Herizal (2018) found a link between the dynamics of the classroom and students' academic progress. The psychological and physical atmosphere of the classroom has a favourable and motivating impact on the academic performance and achievements of the students (Taj, Muhammad, and Farah, 2022).

Table 2 displays Pearson's r in relation to pupils' academic success and their physical environment. The outcome demonstrated a high positive correlation between the physical environment and students' academic progress, with an r-value of 0.670 and a p-value of 0.108. Therefore, in Imo State, there is no strong correlation between pupils' academic progress and their physical environment.
makes it vital to ensure that nothing is kept in the classroom that is superfluous or cannot in any way aid in the pupils' learning. The physical environment of a classroom cannot be ignored or neglected because it includes more than simply books, lectures, and classwork. The message that is sent to the students by things like the wall colour, furniture arrangement, wall decorations, and other things effects their learning. It improves the setting in a way that encourages students to pay attention to the task at hand. According to Nkedishu (2020), the physical environment has a favourable impact on both pupils' academic performance and teachers' job satisfaction. According to Baafi (2020), pupils in senior high schools with attractive physical environments do better than those in schools with unfavourable learning environments. According to Abdul & Mohd's research from 2021, there is a considerable link between disabled students' performance and the campus's physical environment. Nwachukwu (2014) stated that the learner's physical environment has an impact. The environment must be inviting enough for pupils to want to spend a lot of time there. The average village classroom is housed in an ugly structure. The roof might still be in place or the wind might have blown it off. If the latter is true, pupils are compelled to study outside without covering from the weather. Ntekpere (2008) found that the absence of instructional resources and its impact on students' academic performance in agriculture were both substantial. According to Essien (2014), Nigerian students would become self-reliant in the domain of resource exploitation if the educational system could provide enough infrastructural development, equipment, and amenities for teaching and learning in our educational institutions.

Table 3 summarises Pearson's study on the relationship between students' academic progress and the learning environment. The outcome demonstrated a substantial positive correlation between the learning environment and students' academic progress, with an R-value of.641 and a p-value of .392. As a result, Imo State kids' academic progress and the learning environment are not closely tied.

### Table 3: Pearson's research on the atmosphere of learning and academic success of students

<table>
<thead>
<tr>
<th>Atmosphere of learning</th>
<th>Atmosphere of Academic success of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atmosphere of learning</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Academic success of students</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3 showed a substantial relationship between the learning environment and students' academic progress in Imo State. This discovery may be the result of the fact that the learning environment of educational programmes is made up of a variety of real-world settings, social contexts, and cultural contexts where students learn. It includes how students behave around one another in a classroom setting. The natural environment, student grouping, specialised desk and seating arrangements, and audio, video, and digital technologies all contribute to a learning environment that is favourable to effective learning. The institution's policies, governance structures, and financial
stability, among a host of other elements, all influence the quality and characteristics of the learning environment. This finding is in line with study by Kembo, Othuon, and Etshiano (2021), which discovered a significant correlation between secondary school students' performance and the learning environment. Faiza, Iram, and Ishtiaq (2019) claim that private schools' learning environments have a bigger influence on students' academic success than do public ones. In Yobe State, Nigeria, the results of a study conducted by Shamaki (2015) to determine the effect of the learning environment on students' academic success at the senior secondary school level revealed a statistically significant difference between the mean academic performance of students taught in the ideal learning environment and that of students taught in a boring learning environment. In public secondary schools in Taraba State, Nigeria, Adamu (2015) looked into how the learning environment affected students' performance. The findings revealed a significant difference in the performances of the two groups (Experimental and Control), demonstrating that the physical setting of a classroom, its furnishings, its student body, and its use of instructional materials all have a positive impact on students' performance in junior secondary schools. Mudassir and Norsuhaily (2015) conducted research in a few selected secondary schools in Kuala Terengganu to examine how the learning environment affects students' academic performance. The results of the study show that students who attend schools with enough facilities, qualified teachers, and a supportive environment do better than students who attend schools with insufficient facilities, unqualified teachers, and an unfavourable environment.

Arose from the findings, the researchers concluded that classroom and physical environment, which entails the atmosphere of learning correlated with academic success of students in Imo State, Nigeria. It is there recommended that principals in Imo State, Nigeria, should ensure that classrooms are generally conducive to teaching and learning. The classroom should be such that it can accommodate the prescribed number of students, which could aid appropriate teaching and learning. Secondly, the physical environment of the school provides all the resources needed by students to excel academically. The physical environment should provide facilities such as a library, laboratory, playground, and adequate staff room, as well as other offices that will help promote learning. Lastly, the atmosphere of learning should be free from security threats and such that teachers and students wish to be in school daily.

References


Onofe-Overah, A. M., Egwunyenga, E. J. and Akpotu, N. E.: Learning environment and academic success of students in public secondary schools in Imo State


Onofe-Overah, A. M., Egwunyenga, E. J. and Akpotu, N. E.: Learning environment and academic success of students in public secondary schools in Imo State


Onofe-Overah, A. M., Egwunyenga, E. J. and Akpotu, N. E.: Learning environment and academic success of students in public secondary schools in Imo State


