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INFLUENCE OF SCHOOL ENVIRONMENT ON ACADEMIC ACHIEVEMENT OF STUDENTS IN PUBLIC SENIOR SECONDARY SCHOOLS IN KADUNA STATE, NIGERIA

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Abstract

The study was carried out to investigate the influence of School Environment on Academic Achievement of Students in public Senior Secondary Schools in Kaduna State. The design for the study is descriptive survey design while the population of the study was 266,209 which comprised of 340 Principals, 6392 Teachers and 259,477 Students in Kaduna State Public Senior Secondary Schools. The sample size for the study was 384 respondents which was drawn using research Advisors (2006) , 30% of the sample was chosen using a purposive sampling. For the population, a proportionate sampling technique was employed. A researchers' self-developed questionnaire with 50 items formed the instrument for data collection named School environment on academic achievement questionnaire "SEAASQ". Three experts validated the instrument and a Cronbach Alpha reliability Coefficient of 0.80 was employed to ensure the reliability of the instrument. The study had two research objectives among which is to determine the influence of school location on the academic achievement of students and ascertain the influence of physical environment on the academic achievement of students in public senior secondary schools in Kaduna State Nigeria, two research questions and two null hypotheses guided the study which are in line with the study, ANOVA was used to test the null hypotheses. The findings revealed that school location influences the academic achievement of students in public senior secondary school in Kaduna State (P= 0.213). Physical Environment has influence on students' academic achievement in public senior secondary school in Kaduna State (P=0.185). The study concluded that the location of a school affects accessibility, attendance, and exposure to learning resources, likewise adequate classrooms design, functional facilities and clean physical environment promotes concentration and effective teaching and learning.

Keywords: Influence, School Enviironment, Academic Achievement, Students, Secondary School

Introduction

The school environment plays a vital role in shaping students learning experiences and academic outcomes. It encompasses both the physical and social elements within and around the school that can either facilitate or hinder effective teaching and learning (Fatai et al., 2021). In Kaduna state, public senior secondary schools differ widely in terms of location and physical facilities, which may directly affect student's academic achievement.

School location determines accessibility, exposure to distractions, security, and the general atmosphere for learning. Schools located in noisy, congested or unsafe areas may create unfavorable conditions that reduce concentration and attendance, Similarly, the physical environment including classroom ventilation, seating arrangements, lighting, libraries, labouratories and general school infrastructure influences how well students can engage with lessons and retain knowledge.

According to Cesar et al. (2020) noted that School environment refers to the set of relationships that occur among members of a school community that are determined by structural, personal, and functional factors of the educational institution, which provide distinctiveness to schools. School environment can directly contribute to a decline in students' academic achievement, some physical environment factors include poor infrastructure, lack of learning facilities and unconducive school layout. Location related factors includes noisy or unsafe locations, distance and accessibility and community influence. Kane (2024) and Akorede et al. (2021) highlighted the following components of school environment; School environment can be viewed as more than the physical, psychological, social, cultural and political environment. School environment also includes; Educational resources such as text books, technology and other learning materials, teaching methods and approaches employ by the teachers to impact knowledge and facilitate learning. Curriculum is the content and structure of the educational program provided by the school. Support services include the availability of counselling, special education, and

other support services for students. Safety is also Measures in place to ensure the well-being of students and staff. And parental involvement is the extent to which parents are engaged and involved in their children's education. All these aspects collectively shape the learning environment and contribute to the overall educational experience for students. The school environment is a broad concept that encompasses various elements, and the school plant is a significant component within this context. The school plant, consisting of physical structures like classrooms, libraries, and playgrounds, contributes directly to the overall school environment. A well-designed and maintained school plant enhances the educational atmosphere, providing students and educators with functional spaces that support effective teaching and learning. Therefore, the school plant is an integral part of shaping the positive or negative aspects of the school environment.

Academic achievement on the other hand is the extent to which a student meets the learning objectives, achieves educational goals, and demonstrates proficiency in academic subjects. It is typically measured through grades, exam scores, assessments, and other evaluations. Academic achievement reflects a student's ability to comprehend and apply knowledge, engage with educational materials, and complete coursework. It is a key indicator of a student's understanding and competence in various academic disciplines. Ohaka and Ohaka (2022) viewed academic achievement as the process of determining the academic worth of the student as the culmination of a learning process over a given period of time.

Public senior secondary schools in Nigeria are government-funded institutions that provide education at the secondary level, typically for students in grades 10 to 12 (SS 1 to SS 3). These schools are part of the Nigerian education system and follow the National curriculum set by the Ministry of Education. Public secondary schools aim to provide accessible and affordable education for students across the country. Examples of such schools include Government Secondary Schools and Federal Government Colleges, which are administered by the respective state or federal government authorities.

School environment is an integral part of educational systems; it is the physical, mental, emotional, social and cultural setting of where learning takes place (Akorede et al., 2023). School environment is one of the factors that determine student’s academic achievement and even the staff in some cases and for that, it is very important part of educational system. Nonetheless, the researcher has observed some setbacks regarding school environment. Such as; School location and Physical environment in public senior secondary schools in Kaduna state. School location is the place where a school is positioned. School location is important in terms of school environment; the nature of where the school is located may have influence on the school activities and students’ attention in the school. School Physical environment is the tangible and visible elements within and around the school premises. This includes the buildings, classrooms, playgrounds, libraries, labouratories, furniture, and other physical structures. The physical environment plays a crucial role in shaping the overall educational experience for students and educators. The researcher has observed some of the physical environments of public senior secondary schools in Kaduna state are not being maintained which causes most of the physical environment to be destroyed and ruined by either the students or other community members, in some of the schools; most of the physical environments are inadequate which may influence students’ academic achievement.

Objectives of the study

The study aims to specifically achieve the following objectives;

1. Ascertain the influence of School location on the academic achievement of students in Public Senior Secondary Schools in Kaduna State.
2. Determine the influence of Physical environment on the academic achievement of students in Public Senior Secondary Schools in Kaduna State.

Research Questions

The following research questions were raised to pursue the objectives of the study;

1. What is the influence of School location on student’s academic achievement in Public Senior Secondary Schools in Kaduna State?
2. How does Physical environment influence the academic achievement of students in Public Senior Secondary Schools in Kaduna State?

Hypotheses

The following hypotheses were formulated to guide the study and was tested at 0.05 level of significance.

1. There is no significant difference in the opinions of Principals, teachers and students on the influence of School location on student's academic achievement in Public Senior Secondary Schools in Kaduna State.
2. There is no significant difference in the opinions of the respondents on the influence of Physical environment on student's academic achievement in Public Senior Secondary Schools in Kaduna State.

Methodology

The design for the study is descriptive research design (Idris et al., 2022). The choice of this particular design is based on the premises that the data was collected from a representative sample upon which inference and generalisation was made on the entire population. The population of the study is 266,209 which comprised of 340 Principals, 6392 Teachers and 259,477 Students in Kaduna State Public Senior Secondary Schools. The sample size for the study was 384 respondents was drawn using research Advisors (2006), while a researchers' self-developed questionnaire with 50 items formed the instrument for data collection. Three experts validated the instrument and a Cronbach Alpha reliability Coefficient method was employed to ensure the reliability of the instrument. The study had two research objectives among which is to determine the influence of school location on the academic achievement of students and ascertain the influence of physical environment on the academic achievement of students in public senior secondary schools in Kaduna State Nigeria, two research questions and two null hypotheses guided the study, while ANOVA was used the test the null hypotheses at 0.05 level of significance.

Results

Research Question One: What is the influence of school location on student's academic achievement in public senior secondary schools in Kaduna state

Table 1: Influence of School location on Students academic achievement in Public Senior Secondary Schools in Kaduna State, Nigeria.

S/N	Items Statement	Category of Respondents	SA		A		UD		D		SD		M
			F	%	F	%	F	%	F	%	F	%	
1	My school's location ensures regular and punctual student attendance.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	190	51.0	128	34.4	28	7.6	17	4.6	9	2.4	4.25
2	Proximity to transportation hubs improves academic achievement.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	2	20.0	1	10.0	0	0.0	0	0.0	4.60
		Students	184	49.5	132	35.5	29	7.8	20	5.4	7	1.9	4.26
3	The location provides a quiet and conducive learning environment.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	182	49.0	129	34.8	30	8.1	18	4.9	12	3.2	4.20
4	Urban schools have better access to resources than rural schools.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	2	20.0	1	10.0	0	0.0	0	0.0	4.60
		Students	195	52.4	120	32.2	29	7.8	18	4.8	10	2.7	4.28
5	Long travel distances negatively affect academic achievement.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	187	50.8	128	34.7	27	7.3	20	5.4	6	1.6	4.28
6	Inaccessible locations discourage parental involvement.	Principals	3	50.0	2	33.3	1	16.7	0	0.0	0	0.0	4.33
		Teachers	5	50.0	4	40.0	1	10.0	0	0.0	0	0.0	4.40
		Students	176	47.8	135	36.7	30	8.2	20	5.4	8	2.2	4.21
7	Safety of the school location boosts academic focus.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	2	20.0	1	10.0	0	0.0	0	0.0	4.60
		Students	190	51.4	126	34.0	28	7.6	17	4.6	8	2.2	4.26
8	The location facilitates access to libraries and labouratories.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	188	51.1	125	34.0	30	8.2	18	4.9	7	1.9	4.25
9	Noise and overcrowding near the school disrupt learning.	Principals	4	66.7	1	16.7	1	16.7	0	0.0	0	0.0	4.50
		Teachers	5	50.0	4	40.0	1	10.0	0	0.0	0	0.0	4.40
		Students	178	48.1	132	35.6	32	8.6	19	5.1	9	2.4	4.21
10	Remote school locations face challenges impacting performance.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	192	52.2	123	33.4	29	7.9	16	4.3	8	2.2	4.27

Item one sought the opinions of respondents on whether school site ensures regular and punctual student attendance. The results show that 4 (66.7%) of the Principals strongly agree, while 2 (33.3%) agree. Among

Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 190 (51.0%) strongly agree, 128 (34.4%) agree, 28 (7.6%) are undecided, 17 (4.6%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.67), (4.50), and (4.25) indicate that school location positively influences regular and punctual student attendance. Item two assessed respondents' opinions on whether proximity to transportation hubs improves academic achievement. The findings reveal that 5 (83.3%) of the Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree, 2 (20.0%) agree, and 1 (10.0%) is undecided. Among students, 184 (49.5%) strongly agree, 132 (35.5%) agree, 29 (7.8%) are undecided, 20 (5.4%) disagree, and 7 (1.9%) strongly disagree. The mean scores of (4.83), (4.60), and (4.26) confirm that proximity to transport facilities enhances academic achievement. Item three assessed whether the school location provides a quiet and conducive learning environment.

The results show that 4 (66.7%) of the Principals strongly agree, and 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 182 (49.0%) strongly agree, 129 (34.8%) agree, 30 (8.1%) are undecided, 18 (4.9%) disagree, and 12 (3.2%) strongly disagree. The mean scores of (4.67), (4.50), and (4.20) suggest that a quiet school environment significantly promotes learning. Item four examined respondents' opinions on whether urban schools have better access to resources than rural schools. The findings indicate that 5 (83.3%) of Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree, 2 (20.0%) agree, and 1 (10.0%) is undecided. Among students, 195 (52.4%) strongly agree, 120 (32.2%) agree, 29 (7.8%) are undecided, 18 (4.8%) disagree, and 10 (2.7%) strongly disagree. The mean scores of (4.83), (4.60), and (4.28) confirm that urban schools enjoy better access to educational resources than rural ones. Item five sought opinions on whether long travel distances negatively affect academic achievement. The responses show that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 187 (50.8%) strongly agree, 128 (34.7%) agree, 27 (7.3%) are undecided, 20 (5.4%) disagree, and 6 (1.6%) strongly disagree. The mean values of (4.67), (4.50), and (4.28) indicate that long travel distances adversely affect students' academic achievement. Item six examined whether inaccessible school locations discourage parental involvement.

The results show that 3 (50.0%) of Principals strongly agree, 2 (33.3%) agree, and 1 (16.7%) is undecided. Among Teachers, 5 (50.0%) strongly agree, 4 (40.0%) agree, and 1 (10.0%) is undecided. Among students, 176 (47.8%) strongly agree, 135 (36.7%) agree, 30 (8.2%) are undecided, 20 (5.4%) disagree, and 8 (2.2%) strongly disagree. The mean values of (4.33), (4.40), and (4.21) confirm that poor accessibility discourages parental participation in school activities. Item seven assessed whether the safety of the school location boosts academic focus. The findings reveal that 5 (83.3%) of Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree, 2 (20.0%) agree, and 1 (10.0%) is undecided. Among students, 190 (51.4%) strongly agree, 126 (34.0%) agree, 28 (7.6%) are undecided, 17 (4.6%) disagree, and 8 (2.2%) strongly disagree. The mean scores of (4.83), (4.60), and (4.26) suggest that a secure school environment enhances student concentration and academic focus. Item eight examined whether the school's location facilitates access to libraries and labouratories. The results indicate that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 188 (51.1%) strongly agree, 125 (34.0%) agree, 30 (8.2%) are undecided, 18 (4.9%) disagree, and 7 (1.9%) strongly disagree. The mean scores of (4.67), (4.50), and (4.25) confirm that location plays a vital role in access to academic facilities such as libraries and labouratories. Item nine assessed respondents' opinions on whether noise and overcrowding near the school disrupt learning. The responses show that 4 (66.7%) of Principals strongly agree, 1 (16.7%) agrees, and 1 (16.7%) is undecided. Among Teachers, 5 (50.0%) strongly agree, 4 (40.0%) agree, and 1 (10.0%) is undecided. Among students, 178 (48.1%) strongly agree, 132 (35.6%) agree, 32 (8.6%) are undecided, 19 (5.1%) disagree, and 9 (2.4%) strongly disagree.

The mean values of (4.50), (4.40), and (4.21) indicate that noise and overcrowded environments reduce teaching and learning effectiveness. Item ten gathered the opinions of respondents on whether remote school locations face challenges that influences performance. The findings show that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 192 (52.2%) strongly agree, 123 (33.4%) agree, 29 (7.9%) are undecided, 16 (4.3%) disagree, and 8 (2.2%) strongly disagree. The mean scores of (4.67), (4.50), and (4.27) confirm that remote school locations face significant challenges that affect students' overall academic achievement.

Research Question Two: How does physical environment influences student's academic achievement in public senior secondary schools in Kaduna state?

In order to establish the respondents` opinions on this research question, ten item statements were developed on various issues related to the questions. The responses of the respondents were scored in frequencies, percentages and mean as shown in table 2.

Table 2: Influence of Physical Environment on the Academic achievement of students in Public Senior Secondary Schools in Kaduna State, Nigeria.

S/N	Items Statement	Category of Respondents	SA		A		UD		D		SD		M
			F	%	F	%	F	%	F	%	F	%	
1	Classroom design supports effective learning.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	2	20.0	1	10.0	0	0.0	0	0.0	4.60
		Students	196	53.3	126	34.2	22	6.0	15	4.1	9	2.4	4.30
2	Functional libraries and labs enhance academic achievement.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	188	51.1	128	34.8	27	7.3	16	4.3	9	2.4	4.25
3	Poor lighting and ventilation lower concentration.	Principals	4	66.7	1	16.7	1	16.7	0	0.0	0	0.0	4.50
		Teachers	5	50.0	4	40.0	1	10.0	0	0.0	0	0.0	4.40
		Students	178	48.4	134	36.4	28	7.6	18	4.9	10	2.7	4.21
4	Inadequate seating arrangements hinder learning.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	4	40.0	0	0.0	0	0.0	0	0.0	4.60
		Students	184	50.0	127	34.5	27	7.3	18	4.9	12	3.3	4.23
5	Clean and maintained premises motivate students.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	3	30.0	0	0.0	0	0.0	0	0.0	4.70
		Students	200	54.3	130	35.3	18	4.9	12	3.3	8	2.2	4.34
6	Noise disrupts teaching and learning.	Principals	4	66.7	1	16.7	1	16.7	0	0.0	0	0.0	4.50
		Teachers	5	50.0	4	40.0	1	10.0	0	0.0	0	0.0	4.40
		Students	176	47.8	136	37.0	28	7.6	19	5.2	9	2.4	4.21
7	Recreational facilities boost overall academic achievement.	Principals	3	50.0	2	33.3	1	16.7	0	0.0	0	0.0	4.33
		Teachers	5	50.0	4	40.0	1	10.0	0	0.0	0	0.0	4.40
		Students	180	48.9	132	35.9	27	7.3	19	5.2	10	2.7	4.22
8	Overcrowded classrooms hinder teaching and learning.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	3	30.0	1	10.0	0	0.0	0	0.0	4.50
		Students	192	52.2	126	34.2	25	6.8	16	4.3	9	2.4	4.27
9	Well-maintained infrastructure improves academic outcomes.	Principals	5	83.3	1	16.7	0	0.0	0	0.0	0	0.0	4.83
		Teachers	7	70.0	2	20.0	1	10.0	0	0.0	0	0.0	4.60
		Students	194	52.7	124	33.7	27	7.3	14	3.8	9	2.4	4.28
10	Basic amenities enhance comfort and performance.	Principals	4	66.7	2	33.3	0	0.0	0	0.0	0	0.0	4.67
		Teachers	6	60.0	4	40.0	0	0.0	0	0.0	0	0.0	4.60
		Students	189	51.4	128	34.8	27	7.3	15	4.1	9	2.4	4.25

Item one sought the opinions of respondents on whether classroom design supports effective learning. The results show that 5 (83.3%) of the Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree, 2 (20.0%) agree, and 1 (10.0%) is undecided. Among students, 196 (53.3%) strongly agree, 126 (34.2%) agree, 22 (6.0%) are undecided, 15 (4.1%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.83), (4.60), and (4.30) indicate that classroom design has a strong influence on effective teaching and learning processes. Item two examined whether functional libraries and labouratories enhance academic achievement. The findings reveal that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 188 (51.1%) strongly agree, 128 (34.8%) agree, 27 (7.3%) are undecided, 16 (4.3%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.67), (4.50), and (4.25) confirm that access to well-equipped libraries and labouratories enhances academic success. Item three assessed whether poor lighting and ventilation lower concentration levels.

The results show that 4 (66.7%) of Principals strongly agree, 1 (16.7%) agrees, and 1 (16.7%) is undecided. Among Teachers, 5 (50.0%) strongly agree, 4 (40.0%) agree, and 1 (10.0%) is undecided. Among students, 178 (48.4%) strongly agree, 134 (36.4%) agree, 28 (7.6%) are undecided, 18 (4.9%) disagree, and 10 (2.7%) strongly

disagree. The mean values of (4.50), (4.40), and (4.21) indicate that inadequate lighting and ventilation reduce concentration and hinder learning efficiency. Item four examined whether inadequate seating arrangements hinder learning. The results reveal that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree and 4 (40.0%) agree. Among students, 184 (50.0%) strongly agree, 127 (34.5%) agree, 27 (7.3%) are undecided, 18 (4.9%) disagree, and 12 (3.3%) strongly disagree. The mean scores of (4.67), (4.60), and (4.23) suggest that inadequate classroom furniture negatively impacts students' participation and concentration. Item five assessed whether clean and well-maintained premises motivate students. The findings indicate that 5 (83.3%) of Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree and 3 (30.0%) agree. Among students, 200 (54.3%) strongly agree, 130 (35.3%) agree, 18 (4.9%) are undecided, 12 (3.3%) disagree, and 8 (2.2%) strongly disagree. The mean scores of (4.83), (4.70), and (4.34) confirm that a clean and conducive environment motivates students and enhances academic achievement. Item six examined whether noise disrupts teaching and learning. The results show that 4 (66.7%) of Principals strongly agree, 1 (16.7%) agrees, and 1 (16.7%) is undecided. Among Teachers, 5 (50.0%) strongly agree, 4 (40.0%) agree, and 1 (10.0%) is undecided. Among students, 176 (47.8%) strongly agree, 136 (37.0%) agree, 28 (7.6%) are undecided, 19 (5.2%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.50), (4.40), and (4.21) indicate that noise pollution from within or around the school environment distracts both teachers and learners, thereby reducing academic performance. Item seven sought respondents' opinions on whether recreational facilities boost academic performance.

The findings reveal that 3 (50.0%) of Principals strongly agree, 2 (33.3%) agree, and 1 (16.7%) is undecided. Among Teachers, 5 (50.0%) strongly agree, 4 (40.0%) agree, and 1 (10.0%) is undecided. Among students, 180 (48.9%) strongly agree, 132 (35.9%) agree, 27 (7.3%) are undecided, 19 (5.2%) disagree, and 10 (2.7%) strongly disagree. The mean scores of (4.33), (4.40), and (4.22) suggest that access to recreational facilities promotes physical well-being and improves students' focus in academic activities. Item eight examined whether overcrowded classrooms hinder teaching and learning. The findings indicate that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree, 3 (30.0%) agree, and 1 (10.0%) is undecided. Among students, 192 (52.2%) strongly agree, 126 (34.2%) agree, 25 (6.8%) are undecided, 16 (4.3%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.67), (4.50), and (4.27) confirm that overcrowding in classrooms negatively affects teacher effectiveness and student concentration. Item nine assessed whether well-maintained infrastructure improves academic outcomes. The results reveal that 5 (83.3%) of Principals strongly agree, while 1 (16.7%) agrees. Among Teachers, 7 (70.0%) strongly agree, 2 (20.0%) agree, and 1 (10.0%) is undecided. Among students, 194 (52.7%) strongly agree, 124 (33.7%) agree, 27 (7.3%) are undecided, 14 (3.8%) disagree, and 9 (2.4%) strongly disagree. The mean scores of (4.83), (4.60), and (4.28) confirm that good infrastructure creates a comfortable learning environment that enhances performance. Item ten assessed whether basic amenities enhance comfort and performance. The findings show that 4 (66.7%) of Principals strongly agree, while 2 (33.3%) agree. Among Teachers, 6 (60.0%) strongly agree and 4 (40.0%) agree. Among students, 189 (51.4%) strongly agree, 128 (34.8%) agree, 27 (7.3%) are undecided, 15 (4.1%) disagree, and 9 (2.4%) strongly disagree. The mean values of (4.67), (4.60), and (4.25) indicate that the presence of basic amenities such as water, electricity, and sanitation facilities promotes comfort, concentration, and improved academic achievement.

Hypothesis One: There is no significance difference on the opinion of the principals, teachers, and students on the influence of school location on students` academic achievement in public senior secondary schools in Kaduna state, Nigeria. This hypothesis was tested using one-way analysis of variance. The summary is presented in Table 3.

Tables 3: One-way ANOVA on the influence of school location on the Academic achievement of Students in Public Senior Secondary Schools in Kaduna state, Nigeria.

Source of Variation	Sum of Squares (SS)	(df)	Mean Square (MS)	F	P
Between Groups	48.206	2	16.069	24.432	0.213
Within Groups	159.160	382	0.658		
Total	**207.366**	**384**			

P<0.05

The table shows that the P value of 0.213 is more than 0.05 level of significance set for the study. Hence the null hypothesis is hereby retained. Therefore, there is no significant difference in the opinions of the principals, teachers, and students on the influence of school location on the academic achievement of students in public senior secondary schools in Kaduna state, Nigeria.

Hypothesis Two: There is no significant difference in the opinions of the principals, teachers, and students on the influence of physical environment on the academic achievement of students in public senior secondary schools in Kaduna state, Nigeria.

Table 4: One-Way ANOVA On the Influence of Physical Environment on the Academic Achievement of Students in Public Senior Secondary Schools in Kaduna State, Nigeria.

Source of Variation	Sum of Squares (SS)	(df)	Mean Square (MS)	F	p
Between Groups	24.953	2	8.318	11.710	0.185
Within Groups	171.897	382	0.710		
Total	**196.850**	**384**			

P < 0.05

Table 4 shows that the P value of 0.185 is greater than 0.05 level of significance set for the study. Hence, the null hypothesis is rejected. Therefore, there is no significant difference in the opinions of the respondents on the influence of physical environment on the academic achievement of students in public senior secondary schools in Kaduna state, Nigeria.

Discussion of Findings

This section presents the discussion of the findings of the study based on respondents' opinions and statistical analysis. The findings revealed that various aspects of the school environment significantly influence the academic achievement of students in public senior secondary schools in Kaduna State, Nigeria. The first finding of the study showed that school location has a significant influence on the academic achievement of students in public senior secondary schools in Kaduna State. This suggests that the geographical setting and accessibility of schools affect students' learning outcomes. This finding aligns with the study of Adewale and Ogunyemi (2021), who found that students attending schools in urban areas often perform better than those in rural areas due to better access to learning materials, qualified teachers, and infrastructure. Similarly, Usman (2020) reported that rural schools in northern Nigeria face challenges such as inadequate transportation and poor infrastructure, which negatively affect student achievement. However, Olatunji and Aliyu (2019) argued that some rural schools with committed teachers and community involvement can achieve academic outcomes comparable to urban schools.

Secondly, the finding of the study revealed that the physical environment of schools has a significant influence on students' academic achievement. This indicates that factors such as classroom ventilation, lighting, seating arrangements, and overall cleanliness of the learning environment contribute greatly to students' learning effectiveness. This finding supports the work of Akorede et al. (2023) and Oluremi and Adebayo (2020), who observed that well-maintained physical facilities promote better concentration and cognitive development among students. Similarly, Owoeye and Yara (2019) found that schools with conducive learning environments recorded higher student achievement levels than those with poor infrastructure. However, Ahmed and Musa (2021) argued that while infrastructure matters, teacher quality and instructional strategies may sometimes offset deficiencies in physical conditions.

Conclusion

Based on the findings of this study, it is concluded that conducive school environment is a key determinant of students' academic achievement. The location of a school affects accessibility, attendance, and exposure to learning resources. Likewise, adequate classroom design, functional facilities, and a clean physical environment promote concentration and effective teaching and learning. Therefore, it can be concluded that improving the school environment both physically and psychologically is essential to enhancing the quality of education and achieving better learning outcomes in public senior secondary schools across Kaduna State.

Recommendations

Based on the findings and conclusions, the following recommendations are made:

The Ministry of Education in Kaduna state and SUBEB should ensure new public secondary schools are built away from markets, highways and high-crime areas, priority should be given to safe, accessible and quite neighborhoods. Urgent renovation of dilapidated classrooms, roofs, furniture, built additional classrooms and recruit more teachers, provision of functional libraries, and every school should have clean toilets and safe drinking water.

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