

Schools Physical Facilities and their Influence on Students' Academic Performance in Public Secondary Schools in Kaltungo Local Government Area of Gombe State

Samuel Alfayo Boh, Ph.D

Department of Educational Foundations

Faculty of Education

Federal University of Kashere

Samuelalfayoboh02@gmail.com

Abstract

This study adopted survey design to investigate schools' physical facilities and their influence on students' academic performance in public secondary schools in Kaltungo Local Government Area of Gombe State. It was guided by four research questions and one hypothesis. The population for the study comprised 2,376 students in all secondary schools in Kaltungo Local Government Area (LOCAL GOVERNMENT AREA). Two instruments were used for data collection. One was a questionnaire titled "Influence of School Facilities on Student Academic Performance Questionnaire" (ISFSAPQ); while the second instrument was used to obtain information on the students' academic performance. The study revealed, among others, that school infrastructural facilities influence students' academic performance. It was recommended, among others, that proper and adequate infrastructural facilities should be provided in schools to enhance effective learning.

Keywords: schools, facilities, student, academic, performance

Introduction

Availability of educational facilities makes teaching and learning more interesting and aid to drive the subject. In the same vein, absence or inadequacy of such in schools affects the students' interest in education and causes them to gain less in terms of performance. It is reported that students at the secondary school level have no educational facilities to study with, and this affects the interest and commitment of these young minds in their educational pursuit (Ali, 2023). Educational facilities particularly instructional facilities or teaching aids are essential and important. Effective school facilities positively affect educational environments to ensure that they enhance teaching and learning, while providing safe, healthy, and comfortable schools.

Education is the bedrock for the development of every nation (House, 2022; Eli, 2023). School facilities form an integral part of the educational system and are observed as a potent factor to qualitative and quantitative education. Learning can occur through one's interaction with the environment. Environment here refers to facilities that are available to facilitate students' learning outcomes. Such environment includes the library, laboratory, Information and Communication Technology (ICT) centre, among

others, which should be adequately equipped and properly utilized for efficient and effective learning. Good quality and standard schools depend largely on the provision, adequacy, utilization and management of school facilities (Oni, 2022; Tata, 2021; Cale, 2020).

According to Mohammed (2019), school facilities form one of the potent factors that contribute to academic achievement in the school system. They include the school buildings, classrooms, accommodations, libraries, laboratories, furniture, recreational equipment, and other instructional materials. Schools with pleasant physical environment perform better than those where the learning environment is not conducive (Bala, 2022). According to Omo (2021), provision of good school environment breeds conducive environment for learning and subsequently higher academic performance by the students. Also, good school laboratory environment promotes students' curiosity, rewards creativity, encourages a spirit of healthy questioning, avoids dogmatism, and promotes meaningful understanding, where wait-time is essential in prompting thoughtful responses and dialogue.

Students' academic performance is largely dependent on the provision and management of basic school facilities. Good and quality education can be obtained when adequate provision and utilization of school facilities are in place. School facilities are physical resources that facilitate effective teaching and learning process. These include blocks of classrooms, laboratories, workshops, libraries, equipment/apparatus and consumables, power supply and water, among others. Academic performance refers to student's success in meeting short or long term goals in education. Academic performance can best be attained not only when qualified resource persons are employed but also when adequate school facilities are in place. School facilities is a potent factor that contributes to academic performance in the school system.

The students' performance plays an important role in producing the best quality students who will become great leaders and manpower for the country. They are responsible for the country's economic and social development (Simon, 2023). Grades awarded to individual candidates at the end of an academic study period are important indicators of ability and productivity when those individuals are looking for their first jobs. In fact, a person's education is closely linked to his/her life chances, income and wellbeing.

In the opinion of Man (2019), the availability of educational facilities makes teaching and learning more interesting and aid to drive the subject-matter home. Absence of educational facilities in many school causes the students gaining less knowledge in terms of performance and lack interest in education. Government at various stages had made several attempts and laid emphasis on the significance of the provision of educational facilities to schools in order to enable them grapple effectively the

challenges of the educational system (Thomas, 2023). Facilities enhance the academic pursuit of students with their performance.

Educational facilities help teaching and learning to be faster (Aaro, 2020). Educational facilities are the determinants of educational outcome and are of many kinds such as institutional resource inputs. Educational managers are faced with the challenge of how to convince the various stakeholders of education of their capability in efficient utilization of resources allocated to their schools. The students' poor academic performance in public examinations coupled with inefficient utilization of resources, border on the issue of standard (Seko, 2020). Funds are required and necessary to maintain both the human and material resources of the system in order to achieve desired goals, which is academic performance (Ayo, 2023).

A conducive teaching and learning environment is important to the quality of teachers engaged in the inculcation of desired attributes to the students. Stressing further, for the impact of environment on teaching and learning to be effective, the school building and its surroundings must be free from threats, hostility and frustration (Osove, 2022). No matter the strength of manpower resources in an educational system, educational processes require conducive physical accommodation, libraries, furniture and playground (Gada, 2023). Government made several attempts in providing educational facilities to schools in order to enable them to achieve effective learning in the educational system, but large class size has always been the challenge. The condition of school facilities has important influence on students' performance and teachers' effectiveness; academic performance of students in junior classes will be enhanced with necessary and adequate educational facilities.

The falling standards of academic performance of students constitute not just an educational challenge but also a developmental challenge in a country that seeks to use education as a vehicle for achieving development. It is on this background that this study assesses school facilities based on the following components of school facilities which are infrastructural facilities, instructional facilities and school physical environment and their influence on students' academic performance in public secondary schools in Kaltungo Local Government Area of Gombe State.

Statement of the problem

There has been loud cry on poor academic performance among junior secondary school students in Kaltungo Local Government Area of Gombe State. These problem may have emanated from poor and inadequate school facilities in the school which include poor infrastructural facilities such as administrative block, classrooms, laboratory, computer rooms and school gymnasium. Also, instructional facilities which include the teaching materials like laboratory equipment, television, cardboard, apparatus for science practicals, pictures, maps and the rest. Inadequate school facilities affect teaching and learning process in school because of large class size. It is a known facts that students'

academic performance depends on their exposure to learning facilities within the school environment. In this case, the classroom condition like overcrowding, noise, few desks, lack of ceiling fans, poor ventilation of the classrooms and vegetation around the school is making learning process uncondusive within the environment. Irrespective of the fact that public secondary schools in Kaltungo Local Government Area have some facilities, such instructional facilities as laboratories and library, the expectation is that these facilities are enough and effective learning can take place; but the reverse is the case of public secondary schools in Kaltungo Local Government Area. This explains the loss of interest in practical/demonstrational subjects by students which results to academic failure and poor performance among the students.

Research questions

1. What is the perceived impact of infrastructural facilities on students' academic performance in public secondary schools in Kaltungo Local Government Area?
2. What is the perceived influence of instructional facilities on students' academic performance among public secondary schools in Kaltungo Local Government Area?
3. What is the perceived influence of school physical environment on academic performance of public secondary schools in Kaltungo Local Government Area?
4. What are the factors affecting the management of school facilities in public secondary schools in Kaltungo Local Government Area?

Hypothesis

Ho1: There is no significant relationship between infrastructural facilities and students' academic performance.

Methodology

The design for this study is survey design. The design was adopted specifically for this study because it assesses the performance and opinion of the respondents on the subject matter. The design explains and analyzes research problem in its physical setting by obtaining data from the school. Survey design is a research design that extracts information, fact, opinion, attitude, and perception of individual on event, problem or situation or a particular phenomenon.

The population for the study comprised all secondary schools in Kaltungo Local Government Area with 2, 376 students. The reason for using them is because the students are always the ones who are affected by poor school facilities and they are in a better position to testify about the stage of the school facilities. The sample of the study was three (3) schools out of six (6) secondary schools with 146 students, which served as the respondents. Equal opportunity were given to all students to be selected. Stratified and simple random sampling techniques were used to select the sample size of this study.

Two instruments were used for data collection. One was a structured questionnaire titled “Influence of School Facilities on Student Academic Performance Questionnaire” (ISFSAPQ). The quantitative instruments, titled “Influence of School Facilities on Student Academic Performance Questionnaire” (ISFSAPQ) is divided into two sections, section “A” and section “B.” Section A of the questionnaire elicits demographic data of the respondents while section B prompts the respondents to complete the instrument meant to answer the research questions posed for the study. The section has four point scale tagged Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD). Respondents were required to indicate their opinion by ticking (√) using the scale provided. The scale has values as SA=4, A=3, D=2, and SD=1. The second instrument was an achievement test which was used to measure the students’ academic performance.

The instrument was validated by experts in the Department of Educational Foundations. The insights they gave helped in improving the instrument. One hundred and forty six (146) copies of the instrument were distributed to the respondents. The data collected for the research was analyzed using the mean and standard deviation (SD), to answer the research questions posed for the study. While the hypothesis was tested using Chi-Square at 0.05 level of significance. The decision level was determined by use of criterion mean of 2.50 for the cluster A, B, C, and D respectively. Any mean of 2.50 and above was accepted while one below 2.50 was rejected.

Presentation of results

Research question 1: What is the perceived impact of infrastructural facilities on students’ academic performance in public secondary schools Kaltungo Local Government Area?

Table 1: Impact of school infrastructural facilities on academic performance

S/N	Statement	N	Mean	Rank	SD	Decision
1	Enough classrooms influence academic performance.	146	3.21	1st	1.47	Agree
2	Equipped school library influences academic performance.	146	2.76	2nd	1.18	Agree
3	Adequate school playground enhances learning	146	2.69	3rd	1.17	Agree
4	The presence of computers helps students to expand their knowledge and skills.	146	2.56	4th	1.17	Agree
5	Adequacy of laboratory equipment in the schools affects performance.	146	2.30	5th	1.08	Disagree
	Cumulative mean		2.70			Agree

Results presented in table 1 revealed the perceived influence of school infrastructural facilities on academic performance. The items were as follows: enough classrooms influence academic performance was ranked first. This is because having a conducive place for the students to sit down and learn may enhance their ability and concentration for effective academic activities. Equipped school library influences academic performance was ranked second among the infrastructural variables that influence academic performance. This is because after having adequate classrooms where teaching and learning takes place, the next place is the library where students go and read and master what they learn in the classroom. Having adequate school playground was ranked third among the infrastructural components that influence academic performance; having a playing ground makes the student to relax and learn some physical activities. The presence of computers helps students to expand their knowledge and skills was ranked fourth among the factors. Nowadays, there are a lot of e-learning materials and programmes that aid students' academic performance. Adequacy of laboratory equipment in the schools affects performance was ranked 5th among the variables. Adequacy of those equipment will enhance students' knowledge while conducting practicals.

Research question 2: What is the perceived influence of instructional facilities on students' academic performance among public secondary schools in Kaltungo Local Government Area?

Table 2: Perceived influence of instructional materials on academic performance

	Statement	N	Mean	Rank	SD	Decision
6	The use of typewriters as teaching aid helps the learning process and academic performance.	146	2.86	4th	1.09	Agree
7	Visual instructional materials aid teaching and learning process and academic performance.	146	2.88	3rd	1.11	Agree
8	Graphics, posters and charts aids influence teaching and learning process and academic performance.	146	3.23	1st	1.03	Agree
9	Use of audio aids teaching and learning process and academic performance.	146	2.99	2nd	1.00	Agree
10	The use of projectors influences teaching and learning process and academic performance.	146	2.45	5th	1.23	Disagree
	Cumulative mean		2.88			Agreed

Table 2 revealed the mean score results on perceived influence of instructional materials on academic performance in Kaltungo Local Government Area, where one (1) statement out of five (5) items had its mean score below the criterion mean and four (4) had their mean scores above the critical mean score of 2.50. The use of graphics, posters and charts aids influences teaching and learning process and academic performance, use of audio aids teaching and learning process and academic performance, visual instructional materials aid teaching and learning process and academic performance, the use of typewriters as teaching aid helps the learning process and academic performance are ranked 1st, 2nd, 3rd and 4th respectively.

Research question 3: What is the perceived influence of school physical environment on academic performance of public secondary schools in Kaltungo Local Government Area?

Table 3: Perceived influence of school environment on academic performance

	Statement	N	Mean	Rank	SD	Decision
11	Physical landscape of the school influences students' academic performance	146	3.48	2nd	0.84	Agree
12	School plantation provides good environmental for learning	146	3.52	1st	0.71	Agree
13	Provision of entertainment hall aids students' academic performance	146	3.31	4th	1.00	Agree
14	Fencing of the entire school aids students' academic performance	146	3.36	3rd	0.98	Agree
15	Provision of enough sport facilities aids students' academic performance	146	3.12	5th	1.07	Agree
	Cumulative mean		3.35			Agree

The results on the perceived influence of school environment on students' academic performance is presented on Table 3. School plantation provides good environment for learning was ranked first among the school environmental factors influencing academic performance. This is because the presence of trees creates a nice school micro-climate which makes both staff and students to be comfortable. This encourages staff's work efficiency and students' learning ability. Physical landscape of the school influences students' academic performance was ranked second. The designing of the school environment and the allocation of various facilities within school aid the academic performance of students because when school landscape is not properly designed, the utilization of facilities may not be adequate and academic performance may not be enhanced. Fencing of the entire school aid students' academic performance was ranked third among the school environmental factors affecting academic performance. Fencing the school environment is a key element to students' academic performance because it

makes the student to feel secured and this can make them to concentrate and study conveniently.

Provision of entertainment hall aids students' academic performance was ranked fourth. Having an entertainment hall can aid students' academic performance because when students come from various curricular activities, they need a place to relax and refresh themselves. This can go a long way in enhancing their academic performance. Provision of enough sport facilities aids students' academic performance was ranked fifth. Having enough sport facilities will aid the students' academic performance because many of them will participate in different games at the same time without waiting for others to finish, then others will start. By having these, all the students will move to the next school activities at the same time without waiting for others.

Research question 4: What are the factors affecting the management of school facilities in public secondary school in Kaltungo Local Government Area?

Table 4: Factors affecting management of school facilities

	Statement	N	Mean	Rank	SD	Decision
16	Inadequate funding affects management of school facilities.	146	3.27	2nd	1.09	Agree
17	Nature of schools' physical facility affects its management.	146	3.45	1st	0.97	Agree
18	Lack of laboratory technicians affects students' performance.	146	3.01	3rd	1.166	Agree
19	Political factors affects management of school facilities.	146	2.60	5th	1.27	Agree
20	Use of poor quality components and materials by the maintenance department and contractors.	146	2.99	4th	1.26	Agree
	Cumulative mean		3.06			Agreed

Results presented in Table 4 show the factors affecting management of school facilities. Political factors affects management of school facilities which was ranked fifth, use of poor quality components and materials by the maintenance department and contractors which was ranked fourth. Lack of laboratory technicians affects its management, inadequate funding affects management of school facilities, nature of schools' physical facility affects its management were ranked 3rd, 2nd and 1st respectively. This means that those with mean score above the critical mean have agreed with the statements while those below the critical mean disagreed with those statements.

Ho1: There is no significant association between infrastructural facilities and students' academic performance.

Table 5: Chi-square result on the association between infrastructural facilities and students' academic performance

Variables		Value	Df	P value
Infrastructural facilities	Pearson Chi-Square	196.941	12	0.000
	Likelihood Ratio	203.426	12	0.000
Students' Academic Performance.	Linear-by-Linear Association	72.483	1	0.000
	N of Valid Cases	146		

Results presented in Table 5 revealed the Chi-Square results on the association between infrastructural facilities and students' academic performance of public secondary schools in Kaltungo Local Government Area. The results yield $\chi^2(1, 12) = 196.941$, $P < 0.05$. Since P value (0.000) is less than 0.05 level of significance, the null hypothesis (Ho) was rejected and alternate hypothesis (H1) was accepted. This implies that significant association exists between school infrastructural facilities and students' academic performance.

Discussion of the findings

The findings on the impact of school infrastructural facilities on academic performance showed that the respondents are in agreement with the statement that school infrastructural facilities influence students' academic performance because the cumulative mean is above the criterion mean of 2.50. On the use of instructional materials influencing students' academic performance, the respondents are in agreement with the statement that use of instructional materials influences students' academic performance because the cumulative mean is above the criterion mean of 2.50. On the influence of school physical environment on academic performance of public secondary schools, the respondents are in agreement with the statement that having good physical school environment influences students' academic performance because the cumulative mean is above the criterion mean of 2.50. On the factors affecting management of school facilities, the respondent are in agreement with the statement inadequate funding, lack of laboratory technicians and political factors affect management of school facilities because the cumulative mean is above the criterion mean of 2.50. There is also positive and significant relationship between infrastructural facilities and students' academic performance.

Conclusion

Based on the findings from the study, it was concluded that school infrastructural facilities, use of instructional materials, provision of good school environment are perceived to have influence on students' academic performance while inadequate funding, lack of laboratory technicians and political factors affect management of school facilities.

Recommendations

With reference to the findings from the study, the following recommendations were made:

- i. Proper and adequate infrastructural facilities should be provided in schools.
- ii. Adequate use of instructional materials by the teachers should be encouraged.
- iii. Government should create good school environment for effective learning.
- iv. Proper funding of educational sector and employing qualified technicians by the government are also recommended.

References

- Aaro, S. O. (2020). The Universal Basic Education in Perspective, Need for Formative Evaluation. *Nigeria Journal of Educational Research and Evaluation*, 1(4), 55-58.
- Ali, R. (2023). Effective Classroom Management Techniques for Secondary Schools. *African Research Review*, 5, 282-291.
- Ayo, H. O. (2023). Relationship between School Infrastructure and Students' Academic Performance in Twelve Years Basic Education in Rwanda. *Stratford Peer Reviewed Journals and Book Publishing Journal of Education*, 3(1), 60-74.
- Bala, J. M. (2022). The increasing significance of class. The relative effects of race and socioeconomic status on academic achievement. *Journal of Poverty*, 6(2), 21-35.
- Cale, K. A. (2020). School Physical Environment and Student Academic Performance. *Advances in Physical Education*, 10, 121-137. <https://doi.org/10.4236/ape.2020.102012>
- Eli. T. O. (2023). Effect of Availability and Utilization of Laboratory Equipment on Students' Academic Achievement in Secondary School Physics. *World Journal of Education*, 2(5), 34-37.
- Gada, A. (2023). Relationship between School Physical Facilities and Students' Academic Performance. *Social Education Journal*, 2(5), 32-36.
- House, D. (2022). Perceived School Environment, Home Conditions and Academic Performance of Junior High School Students in Asikuma-Odoben-Brakwa District, Ghana. *Journal of Education, Society and Behavioral Science*, 24(2), 1-7.
- Man, A. (2019). Influence of Teaching Aids Usage on Students' Academic Performance in Public Secondary Schools in Rwanda. *Journal of Research and Method in Education*, 10(4), 12-21.
- Mohammed, G. (2019). The condition of School Facilities has important Impact on Students' Academic Performance. *Social Education Journal*, 2(5), 32-36
- Omo, C. (2021). School Infrastructure and Students Performance. *European Journal of Education*, 3(1), 24.

- Oni, H. I. A. (2022). Prevalence of Overweight, Obesity, and Thinness among Urban School-Aged Children and Adolescents in Southern Nigeria. *Food and Nutrition Bulletin*, 33, 242-250.
- Osove, F. N. (2022). Influence of School Environment on Academic Achievement of Students of Public Secondary School in Enugu State [Unpublished MSc Thesis]. University of Nigeria. Nsukka
- Seko, O. (2020). Analysis of Risks Associated with FM Outsourcing: A Multivariate Approach. *Journal of Facilities Management*, 10(4), 301-316.
- Simon, T. (2023). Influence of School Facilities on Student's Academic Performance in English Language in Rivers State (A Case Study of Khana L.G.A). *Ife Journal of Education*, 3(7), 31-35.
- Tata, N. W. (2021). Analysis of Factors that lead to poor performance in Kenya Certificate of Secondary Examination in Embu District, Kenya.
- Thomas, L. O. (2023). School facilities –Overview, maintenance and modernization. *Journal of Educational Research*, 9, 19-21.