

INFLUENCE OF SCHOOL FACILITIES ON STUDENTS' ACADEMIC PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN BENUE STATE OF NIGERIA

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Abstract

This study investigated the influence of school facilities on students' academic performance in public secondary schools in Benue State Nigeria. Two research question and two hypotheses guided the study. The ex-post facto design was adopted for the study. The population was 7,100 teachers from 489 federal and state public secondary schools in Benue State of Nigeria. A sample of 640 or (9%) teachers from 40 or 8% of federal and state public secondary schools were sampled using proportionate random sampling technique. School Facilities and Students' Academic Performance Questionnaire (SFSAPQ) was used for data collection. Mean scores and standard deviation were used to answer the research questions. Chi-square (χ^2) test of goodness of fit was used to test the hypotheses at 0.05 level of significance. The findings established that there is significant impact of school laboratory and school hostel accommodation on students' academic performance in public secondary schools in Benue State of Nigeria. Based on the results of this study, it was established that school facilities have independent and joint impact on students' academic performance in public secondary schools in Benue State of Nigeria. The study recommended among others that school administrators of secondary schools in Benue State of Nigeria should improve on the provision of school laboratory. Both federal and state governments should provide hostel accommodation in all their public secondary schools to enhance students' academic performance.

Key words: *School Facilities, Students' Academic performance and Public Secondary schools.*

Introduction

Education is the process of bringing positive changes to an individual for the benefit of the society. Education is seen as veritable machinery for the development of any nation. It is also referred to as machinery for development as well as a process for bringing innovations for the benefit of the society. The development of any individual, society or nation can hardly take place without education as a determining factor. Education is the key to modernization. Education is therefore an indispensable tool for economic, socio-cultural and the moral development of both the individual and society. This is in line with Federal Government of Nigeria (2014) which states that education is the instrument for economic empowerment and development of sustainable economy. This is why the acquisition of appropriate skills and the development of mental, physical, social abilities and competencies that equip the individual to live and contribute to the development of the society solely depend on education.

School facilities comprise the site, buildings, play grounds, health facilities, instructional materials and all forms of school equipment/facilities. The school is the controlled environment which facilitates teaching and learning process as well as protecting the well being of the occupants. The main objective of the availability of school facilities is to satisfy educational goals which have been predetermined by educational planners. Well-planned and adequate school facilities will enhance better school programmes and the community needs by providing a place for psychological and physical safety for students and teachers. This in turn would enhance academic performance of students (Oyosola, 2007).

According to Yawe (2010), secondary education is established with the aim of equipping individuals with the personal capabilities for survival and contribution to the development of society. In recent time, concerns are however being expressed by the relevant stakeholders of secondary education that school administrators inability to perform their functions effectively in the provision/ maintenance of school facilities appears to be responsible for poor performance of students of secondary schools in the study area. Okwori (2011:15) observed that many secondary schools are finding it difficult to achieve the goals of education due to inadequate school facilities such as school site, medical facilities, instructional materials, school laboratories, classroom facilities, recreational facilities, library facilities, hostel accommodation among others which are relevant to the teaching and learning process in the school system. The level at which these spaces may enhance conducive teaching and learning depends on the location of structures and facilities within the school premises. It is therefore very likely that a well-planned school in terms of location, structure and facilities will engender effective teaching and learning and enhance conducive teaching and learning that encourage academic performance of students (Asemah, 2010).

Students' academic performance depends to a large extent on the effective and efficient management and maintenance of school medical facilities, school library facilities, instructional materials, recreational facilities, school laboratory facilities and school hostel accommodations among others.

A school laboratory is a facility that provides controlled conditions which scientific or technological research, experiments and measurement are performed. Ada (2006) noted that the school laboratory is an inseparable part of teaching and learning in both secondary and tertiary institutions of learning and should be properly maintained, to serve the purpose for its existence in the school. According to Nwangu (2005), a well equipped school laboratory is the store-house of knowledge and experimentation for both teachers and

students of science. If the laboratory is well planned and managed, it will encourage students to learn to enhance their performance in schools.

A hostel refers to a place where people can stay when their residence is far from the school. It is important to note that the only way which academic performance can be enhanced is when adequate school hostel accommodation facilities are provided for students' excellence to be achieved. Hostel is built in order to help students have access to the school recreational facilities. A school hostel accommodation is a very important requirement for social interaction which enable secondary school education pass through the students while they pass through the six walls of the school. Most of the secondary schools in Nigeria are non residential. This is a reason for the high rate of indiscipline and criminal tendencies which have become the habit of Nigerian secondary school students (Khozaei, Ayub, Hassan & Khozaei, 2010). According to Onyike and Uche (2010), the availability, maintenance and services of hostel accommodation enhances students' academic performance.

The term academic performance is the ability of the child or student to retain and be able to transfer acquired knowledge in the appropriate situation. Performance of a student is ascertained when he or she is able to understand what is taught by the teacher and is able to explain or write when evaluated (Ozumba, 2014). Performance can be described as the scholastic standing of a student at a given moment. This scholastic standing could be explained by the grades obtained in a subject or group of subjects taken (Owoyemi, 2011). According to Ibukum (2013), students' academic performance is a term used to describe the rating of a student through an examination. This is an important aspect of a student's life. It is influenced by various factors including anxiety and level of hard work or preparations done prior to the examination. It is measured by standing rates of grades of students in every subject. For a student to succeed, he or she needs to be armed with strategies and techniques that will supplement his or her desire to reach his or her goals. The performance of students in public examinations in many schools have been poor as a result of shortage of teachers, inadequate funding of schools and the broad secondary school curriculum (Eysenck & Derkshen, 2009).

Ndu (2007) observed that academic performance is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goal. Students' performance measures the amount of content a student learns in a predetermined amount of time. The responsibilities of the principals in secondary schools do not stop at the human and financial aspect of the school. It also involves his or her ability to effectively and efficiently manage the school facilities.

Statement of the Problem

It is unfortunate that due to the increase in enrolment in public secondary schools, as well as the increases in dilapidated structures in our schools, the school facilities in public secondary schools have not kept pace with the trend in the global education industry. Most of the public secondary schools in the researchers' opinion are sited where they are not supposed to be located. Most of the schools are sited close to the highways, while others do not meet the minimum landmass requirements for secondary schools. Explaining the importance of the school facilities in relation to the students' performance, Oluchukwu (2010) held that the school facilities are essential aspect of educational planning. Oluchukwu went further to say that unless schools are well-sited, buildings adequately constructed and

equipment adequately utilized and planted; much teaching and learning may not be achieved. The high level of students' academic performance may not be guaranteed where instructional facilities, school laboratories, hostel accommodation, recreational facilities, among others seem not properly kept or maintained.

It has been observed by the researcher that the process of school facilities, which is planning, is equally important. This is because it has an immediate influence on students' performance. However, it seems that school facilities have not been accorded their due place and respect in our educational institutions as may be seen in the establishment of some of our schools in areas of school site, medical facilities, library facilities, instructional facilities, recreational activities, laboratory facilities, hostel accommodations weather conditions or climatic change, exposure of sporting/laboratory facilities to harsh weather conditions due to poor school facilities citing among others. It is worrisome that all these may have negative effects on the teaching and learning process.

In Benue State of Nigeria which is the researcher's area of concern, it seems that inadequate facilities and planning culture in most schools have led to dilapidated buildings, vandalism, poor state of laboratories, library facilities like textbooks, furniture, laboratory equipment and chemicals which are inadequate. All these contribute negatively to poor programmes and students' performance. It is against this background that the researchers investigated the influence of school facilities on students' academic performance in public secondary schools in Benue State of Nigeria.

Purpose of the Study

The purpose of this study was to investigate the relevance of school facilities on students' academic performance in public secondary schools in Benue State Nigeria. The study sought to:

1. examine the influence of school laboratory on students' academic performance in public secondary schools in Benue State of Nigeria.
2. determine the influence of school hostel accommodation on students' academic performance in public secondary schools.

Research Questions

The following research questions guided the study:

1. How does school laboratory influence students' academic performance in public secondary schools in Benue State of Nigeria?
2. In what ways does school hostel accommodation influence students' academic performance in public secondary schools?

Research Hypotheses

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

1. School laboratory has no significant influence students' academic performance in public secondary schools in Benue State of Nigeria.
2. School hostel accommodation has no significant influence students' academic Performance in public secondary schools.

Research Method

The design adopted for the study was ex-post facto design. The population of the study was 7,100 teaching staff in 489 public secondary schools in Benue State of Nigeria. The sample for the study was 640 or 9% of the 7,100 teachers and 40 or 8% of the 489 public secondary schools. The study employed proportionate random sampling technique, in order to avoid bias and ensure that each respondent has equal chance of being selected. A self-structured 10-item four point rating scale questionnaire titled: School Facilities and Students' Academic Performance Questionnaire (SFSAPQ) was constructed and used to collect data for the study. The questionnaire was made up of two clusters which covered influence of school laboratory and influence of school hostel accommodation in public secondary schools. The instrument was a rating scale of Strongly Agree (SA) 4, Agree (A) 3, Disagree (D) 2, and Strongly Disagree (SD) 1.

The questionnaire was administered by the researcher and research assistants who were briefed on how to administer and collect them back in the sampled schools. A total of 640 copies of the questionnaire were given out to the respondents in the sampled schools for the study which was collected back after four days. Data obtained were analysed using mean and standard deviation to answer the research questions while chi-square (χ^2) was used to test the hypotheses. The cut-off point considered as agree for the responses was 2.50. The basis for arriving at 2.50 was by adding $4+3+2+1 = 10/4 = 2.50$. Thus, the interpretation of the mean scores was based on cut-off point of 2.50. Any mean scores that was 2.50 and above was considered positive while a mean score that was below 2.50 was considered negative. Chi-square (χ^2) was used to test the hypotheses at .05 level of significance. It was considered appropriate for the study because it is a non-parametric statistics for treating data.

Results and Finding

The data collected were answered and tested.

Research Questions One: How does school laboratory influence students' academic performance in secondary schools in Benue State of Nigeria?

The data that provided answer to the research questions are presented on Table 1.

Table 1: Mean Scores and Standard Deviation of School Laboratory and Students' Academic

Performance in Benue State of Nigeria										
S/N	Item Description	SA	A	D	SD	N	Mean	Std. Deviation	Remark	
1.	Our well-planned science laboratory stocked with relevant chemicals/equipment enhances performance.	269	225	105	41	640	3.128	.675	Agreed	
2.	Our poorly planned, unventilated, and dilapidated laboratory facilities will have adverse negative impact on teaching and learning of science subjects	220	218	112	90	640	2.888	.898	Agreed	
3.	Damage caused to laboratory facilities will have negative influence on teaching and learning of science subjects in my school.	258	206	114	62	640	3.031	.542	Agreed	
4.	The inadequacy of science laboratory facilities in my school hinders effective teaching and learning of science subjects	254	237	116	33	640	3.113	.556	Agreed	
5.	Our regular provision/maintenance of laboratory facilities improves students' performance.	263	248	86	43	640	3.142	.674	Agreed	
Cluster Mean							3.060	0.669	Agreed	

Decision rule: 1.00-1.49 Strongly Disagreed (SD); 1.50-2.49 Disagreed (D); 2.50-3.49 Agreed (A); 3.50-4.00 Strongly Agreed (SA).

Table 1 reveals that the items had their mean scores between 2.888 and 3.031 with their corresponding standard deviation between 0.542 and 0.898 respectively. Again, the high mean scores and low standard deviations indicate that all the respondents in public secondary schools in Benue State of Nigeria agreed that well planned science laboratory stocked with relevant chemicals and equipment as well as regular maintenance of the

facilities will impact on teaching and learning of science subjects in secondary schools for enhanced academic performance. The respondents further revealed that poorly planned, unventilated and dilapidated laboratory facilities, damage cause to laboratory facilities and the absence of science laboratory in a school will hinder effective teaching and learning in secondary schools in the Benue State of Nigeria. The high cluster mean scores of 3.060 with low standard deviation of 0.669 means that all the respondents agreed that availability of school laboratory influences students' academic performance in public secondary schools.

Research Question Two: In what ways does school hostel accommodations influence students' academic performance in public secondary schools?

Table 2: Mean Scores and Standard Deviation of School Hostel Accommodation and Students' Academic Performance in Benue State of Nigeria

S/N	Item Description	SA	A	D	SD	N	Mean	Std. Deviation	Remark
6.	Our students are accommodated in school to enhance their performance.	228	211	103	98	640	2.889	.822	Agreed
7.	Our hostel accommodation facilities are adequate to promote students' learning process.	240	218	112	70	640	2.981	.784	Agreed
8.	Our provision of hostel accommodation does not encourage students' participation in school activities that will enhance performance.	211	201	132	96	640	2.823	.942	Agreed
9.	Our hostel accommodation facilities are functional which encourage students' performance.	235	200	106	99	640	2.892	.677	Agreed
10.	Our maintenance of hostel accommodation facilities enhances students' group-study for improved performance.	280	243	76	41	640	3.191	.492	Agreed
Cluster Mean							2.955	0.743	Agreed

Decision rule: 1.00-1.49 Strongly Disagreed (SD); 1.50-2.49 Disagreed (D); 2.50-3.49 Agreed (A); 3.50-4.00 Strongly Agreed (SA).

Table 2 shows that the items had their mean scores between 2.823 and 3.191 with their corresponding standard deviation between 0.492 and 0.942 respectively. The high mean and low standard deviations indicate that all the respondents in public secondary schools in the Benue State of Nigeria agreed that availability and maintenance of school hostel accommodation facilities such as light, fans, water among others enhance group-study for improved academic performance. The respondents further agreed that students are accommodated to enhance their academic performance, hostel accommodation facilities

provide by the school are adequate to promote students' learning process and does not encourage students participation in school activities for enhanced students' academic performance in public secondary schools in Benue State of Nigeria. The cluster mean scores of 2.955 with standard deviation of 0.743 indicate that all the respondents agreed with the view that school hostel accommodation influence students' academic performance in public secondary schools.

Hypothesis 1: School laboratory has no significant influence on students' academic performance in public secondary schools in Benue State of Nigeria.

Table 3: Chi-Square Test of School Laboratory and Academic Performance

	Observed N	Expected N	Residual	Df	Chi Square	Asymo. Sig
Strongly Disagree	41	160.0	-121.0	3	308.29	0.00
Disagree	105	160.0	-90.0			
Agree	225	160.0	152.0			
Strongly Agree	269	160.0	59.0			
Total	640					

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 160.0.

Table 3 shows that $\chi^2 = 308.29$ at $df = 3$; $p = 0.00 < 0.05$. The null hypothesis is therefore rejected. This means that school laboratory significantly influences students' academic performance in public secondary schools.

Hypothesis 2

School hostel accommodations has no significant influence on students' academic performance in public secondary schools.

Table 4: Chi-Square Test of School Hostel Accommodation and Academic Performance

	Observed N	Expected N	Residual	Df	Chi Square	Asymo. Sig
Strongly Disagree	98	160.0	-136.0	3	406.19	0.00
Disagree	103	160.0	-97.0			
Agree	211	160.0	187.0			
Strongly Agree	228	160.0	46.0			
Total	640					

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 160.0.

Table 4 reveals that $\chi^2 = 406.19$ at $df = 3$; $p = 0.00 < 0.05$. Therefore, the null hypothesis is rejected. This implies that there is no significant influence of school hostel accommodation on students' academic performance in public secondary schools.

Discussion of Findings

The first finding of the study revealed that school laboratory had significant influence on students' academic performance in public secondary schools. The study is consistent with the findings of Olufunke (2012) that the optimal utilization of physics laboratory equipment was effective in the teaching of physics thereby leading to improvement in students' achievement. The results also agree with the finding of Nwangu (2005) that laboratory is a primary vehicle for promoting formal reasoning skill and students understanding thereby enhancing desired learning achievement and performance of students. It was also found that a well equipped laboratory is the store-house of knowledge and experiment for both teachers and students of science. If the laboratory is properly planned, maintained and managed, it encourages students' interest in learning in learning of science while it helps the science teachers in teaching, carrying out experiments, research and professional development. On the other hand, a poorly maintained laboratory and workshop with scanty and expired chemicals, instruments, leaking roofs, fallen ceilings, broken windows and cracked floors discourage students' learning of science and carrying out of experiments/practices and use of the laboratory in general. Effective teaching and learning of science can only take place in a school that has a well stocked and maintained laboratory. This is in line with Akpan (2006), who found that school laboratory should be stocked with up-to-date chemicals and instruments to enable students carry out their experiments and practical for the students' desired academic performance. As regard to the indispensability of laboratories in teaching and learning of science in secondary schools, any broken doors and windows should be repaired with dispatch; the fire fighting devices should be procured and stationed at strategic points for use in case of emergency. The aim of science laboratory and adequacy of school laboratory facilities in secondary schools is for effective teaching and learning to take place. Thus, to access the status of laboratory facilities in secondary schools, the adequacy of these facilities must be emphasized by the science teachers. The researcher is in line with the above because school laboratory promotes students reasoning skills in science education.

The second finding also showed that school hostel accommodation had significant influence on students' academic performance in public secondary schools. This confirms with Mathias (2011), who reported that hostel accommodation facilities significantly impact on teaching and learning in schools. The results also agree with the earlier research finding of Ugende (2008) that teachers find it difficult to control students who are off-school and to even do frequent supervision to help students to work and improve their academic excellence. It was found that most of the secondary schools in Nigeria are non-residential which is accountable for the high rate of indiscipline, incivility and criminal tendencies which have become the lot of Nigerian public secondary schools students. It is important to note that the only way which academic performance can be enhanced is when adequate school hostel accommodation facilities are provided before the students' excellent academic performance can be achieved. This is in agreement with Sawyer and Nor (2013), who found that the availability of hostel room size can indeed influence students' level of academic performance in public secondary schools. This is because students who lived in triple-

sharing rooms will be less satisfied and unhappier with their living conditions than students residing in double-sharing rooms. Moreover, small rooms can be very uncomfortable for large students. The provision/maintenance and services of the hostel facilities and quality, can greatly impact the students' academic performance in public secondary schools. Onyike and Uche (2010) found that hostel maintenance are the combinations of all technical and associated administrative actions intended to retain a hostel or restore it to a state in which it can perform its required function. The researcher is in agreement with the above discussion because, school hostel accommodation enables the students to stay in the school and learn effectively. This is because they have more time to attend to their studies.

Conclusion

The study concluded that variables of school facilities adopted in this study such as school laboratory and hostel accommodation has significant influence on students' academic performance in public secondary schools in Benue State of Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Adequate school laboratory should be provided in public secondary school to encourage the teaching and learning process in schools in Benue State of Nigeria.
2. Both federal and state governments should provide hostel accommodation in all their public secondary schools to improve students' academic performance in schools.

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