

Principal's School Plant Management and Students Academic Performance in Secondary Schools in Afikpo Education Zone of Ebonyi State Nigeria.

Nwigwe Elias Nnanna

**Political Science Dept.
Ebonyi State College of Education
Ikwo - Ebonyi State Nigeria**

Background to the study

The democratization of education in the country has led to remarkable increase in the number of schools all over the Nation. Thus secondary education in Nigeria has witnessed continuous increase in the students' yearly enrolment. Expectedly, this increase weighs heavily on the available facilities, equipments and material resource, with attendant effects on student academic performance. Nigeria prepare her children and youths for life as adults in a world that is characterized by rapid social, economic and technological changes. The federal and state governments have invested huge resources in setting up educational institution from primary through tertiary levels of educational systems for the purpose. The development, maintenance and operation of these institutions of learning is an important aspect of public schools administration in the country.

Akpan (2003) opined that the environment, facilities, equipment and building constitute school plant. According to Adesina (2011) the school facilities consist of not only the physical structure and variety of building systems, such as mechanical, plumbing, electrical and power, telecommunications, security and the fire systems.

It also includes furnishing materials and supplies, equipment and information technology as well as various aspects of the building grounds, namely athletic fields, play grounds, areas of outdoors learning and vehicle access and packing.

Ehiametalor (2001) sees school plant as the school building, all materials, furniture and equipment attached and unattached to the buildings, all structures and features on the school site, including paths, roads, packing lots, playgrounds, open grounds, trees, flowers and other objects used for implementing or supporting the implementation of all educational programmes. The author further stated that the school plant is the operational input of every instructional programme. Griffin (2003) defines management as a set of functions directed at the efficient and effective utilization of resources in the pursuit of organisational goals. School plant management therefore a number of on-going and related activities determining need for school plants, educational programme planning, school facilities or building design, building construction, furnishing and equipping the schools, school plan modernization or renovation if and when the need arises. The school plant is used not once to provide conducive environment for both teaching and learning but also to ensure safe, secure hygienic and comfortable shelter for students, teachers and other activities of the school takes place.

A number of studies have shown that many school system are plagued by decaying buildings that threatens health, safety and learning opportunities of students. Many researchers have linked students achievement and behaviour to physical building and overcrowding. Bulama (2000) identified poor state of infrastructure in schools as one of the principal factors militating against the effective academic achievement in secondary schools.; this modern schools require suitable classrooms, libraries, laboratory, recreational facilities, assembly hall, school farms, staffrooms, offices, vehicles etc. For the comfort and convenience of both staff and students. The nature condition adequacy and relevance of plant have directed impact on the teaching- learning processes. The teaching-learning process is a systematic series of activities carried out by teachers to ensure learners (student) behave in a pre-determined way or imbibe certain attributes (curriculum). These include change of behaviour, attitude and performance in achievement test, learning is a complex activity that puts students motivation and condition to test, It have been long held assumption that curriculum and teaching only have impact on learning, but it is now becoming apparent that the physical conditions of the school can influence students achievement.

Many investigation have shown that secondary school students are exhibiting dwindling interest in science (Esiobu, 2005) science has been regarded as the bed rock on which modern technological breakthrough is built. Most countries all over the world like Nigeria are striving hard to develop technologically and scientifically. Science comprises the basic disciplines such as Biology, Physics, Chemistry and Mathematics.

Bassey (2002) opined that science is a resources intensive and in a period of economic recession, it may be difficult to find some of the electronic gadgets and equipment for teaching in schools. Obioha (2006) and Ogunleye (2002) reported that there were inadequate resources for teaching science subjects in secondary schools in Nigeria.

They further stated that the available ones are not usually in good condition as this are the important aspect of the school plants. In agreement to these Mark (2002) and Ajayi (2007) maintains that high level of students' academic performance may not be guaranteed where in structural/spaces such as classrooms, libraries, technical workshops and laboratories are structurally defective, they further emphasized that structural effectiveness, proper ventilation and well sited instructional space leads to successful teaching and learning process in Nigeria Secondary Schools.

Statement of the Problems

Public secondary schools in Nigeria are observed to be faced with combined challenges of deteriorating school plants, out of date design and capacity utilization pressure, the effect of these deteriorating conditions and poor maintenance of school infrastructure are threats to school management, curriculum delivery and students' academic performance. Many studies have revealed that students' academic performance are sometimes occasioned by ill-equipped science laboratories and technical workshops, inadequate and poorly maintained instructional facilities and overcrowding. Science has been regarded as the foundation and key to technological development of the modern world. Nigeria as a developing country is striving hard to advance technologically and scientifically.

The abysmal performance of students in examinations, including persistent mass-failure of students in senior secondary certificates examination (SSCE) conducted by West African

Examination Council (WEAC) drug abuse, cultism, examination Mal- practice, lateness to school, rudeness to school authority, high rate if indiscipline, absentees, stealing, rape etc are daily occurrence, secondary schools has been largely attributed to inadequate and poorly maintained learning facilities.

In most public secondary schools, instructional facilities, administration offices, conveniences such as toilets and urinals are poorly managed, circulation space and recreational facilities like park fields and school garden which are directly linked with students behaviour are lacking or poorly managed and maintained. These factors constitute important challenges to the teaching-learning process and may prevent the system from achieving the desired secondary education goals.

Scope of the Study

This study delimited to 25 out of the 86 public secondary schools in Afikpo Education Zone of Ebonyi State. Only SS2 students in 2018/2019 academic year in public secondary schools in Afikpo Education Zone of Ebonyi State were selected for the study, school plants selected for this study were instructional facilities, administrative office, circulation space, conveniences and recreational facilities.

Purpose of the Study

The purpose of this study was to examine the relationship between school plant management by principals and students' academic performance in Public in public secondary schools in Afikpo Education Zone.

The Specific Objectives of the Study are:

1. To examine the relationship between instructional facilities management and students academic performance in public secondary schools.
2. To determine the relationship between administrative office management and students' academic performance.
3. To examine the relationship between circulation space management and students' academic performances.
4. To determine the relationship between management of recreational facilities and students' academic performance.
5. To determine the management of conveniences and students' academic performance.

Justification of the Study

The school plant plays a significant role in facilitating of curriculum reforms and innovation. Therefore its importance as part of the education process cannot be overemphasized as it will enhance the effective decision in making the sequential order as to which the required facilities will have the profound effect on the academic performance of students. This study will reveal the difference between the academic achievement of students in schools with better and functional instructional facilities and those without or with substandard and infrastructural facilities and those without or /with sub-standard infrastructural facilities.

The study was justified as it will help students in their academic performance in education as whole. The study would also reveal the need for good sanitation habit among students and staff which enhances school development and academic achievements.

The findings will also draw the attention of school administrators, managers and indeed the state government to the state of decadence of infrastructure in the public secondary schools and therefore its effect on academic performance of students which have the need for remedy.

Research Questions

1. What is the relationship between the management of instructional facilities and students' academic performance in public secondary schools in Afikpo Educational Zone in Ebonyi State.
2. What is the joint relationship between management of administrative office, circulation space, conveniences and recreational facilities on students' academic performance in Afikpo Educational Zone?

Research Hypothesis

HO1: There is no significant difference between the management of instructional facilities and students' academic performance in Afikpo Educational Zone.

HO2: There is no significant difference between the management of administrative office, circulations space, conveniences and recreational facilities on student's academic performance in Afikpo Educational Zone.

Research Design

Correlation design was used for the study, the design was considered appropriate in the sense that it aimed at investigating the relationship between the management of school plants and students' academic performance in Afikpo Educational Zone.

Area of the Study

The research area of this study will, be Afikpo Education Zone in Ebonyi State, Nigeria. Ebonyi have Thirteen (13) Local Government Areas whose major occupation are farming, trading, civil servant and artisans while the study area is the management of school plants and students academic performance in Afikpo Educational Zone.

Population of the Study

The population of this study, comprises all public secondary schools teachers numbering 2,813 and all SS2 students numbering 18,573 in Afikpo Education Zone of Ebonyi State.

Sample and Sampling Technique

The sample of the study consist of 281 teachers representing 10% of the teachers and 371(SS2) student representing 2% of the students population giving at total sample of 652 respondents for the study. Simple random sampling techniques were used in selecting the respondents from the schools.

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Instrument for Data Collection

The researcher develop an instruments tagged 'school plant Management Questionnaire [SPMQ] and Students Achievement Test in Public Secondary Schools [SATPSS] which were used for the study. The study used the lickert style of strongly agree [SA], Agree [A], Disagree [D] and Strongly disagree [SD], weighted 4,3,2,1 respectively and the instrument were used to elicit information from the respondents.

Development and Validation of the Instrument

The two instruments 'school plants management questionnaire (SPMQ) and student Achievement Test in Public Secondary Schools (SATPSS) was evaluated by colleagues in the department and their input were used for the validation of the instruments.

Reliability of the Instrument

Cronbach Alpha analytical methods was used to establish the reliability of the instrument. To this end, 20 randomly selected members of the population who did not take part in the study was administered, the instrument and the resulting data analysed with cronbach Alpha techniques had a reliability of 0.81 which was considered reliable.

Method of Data Analysis

Data for statistical analysis were collected from the scores gotten from the respondents to the questionnaire, the independent variables scores from students achievement test was used as independent variable, mean, standard deviation was used to answer research questions while Simple regression analytical method was used in testing the hypothesis at 0.5 level of significance.

Presentation and Analysis of Results.

Variable	n	x	SD	t
In structural Facilities Management	281	9.32	2.39	0.4141
Student's Performance	371	3.60	2.72	
N=652				

The value of t of 0.4141 shows the nature of the relationship between instructional facilities and student performance in Afikpo Educational Zone of Ebonyi State as being low (0-414) the t^2 of 0.1715 indicated that infrastructural facilities management relates to performance in Public Secondary Schools by just 17.15% (0.1715×100) only. In other words, instructional facilities management account for 17.15% of students performance in Afikpo Educational Zone.

Research Questions 2:

What is the joint relationship between management of instructional facilities administrative office, circulation space, convenience and recreational facilities on student academic performance in Public Secondary Schools.

Variable	n	x	SD	t
All independent variables	281	10.53	2.59	0.5463
Student's Performance	371	3.60	2.72	

N=652

The value of r of 0.5463 showed that the joint relation between all the independent variables and students' performance in Public Secondary Schools test was just average. The result of t^2 of 0.2984 indicated that 29.84% of variation in students' performance in Public Secondary School was accounted for by the joint independent variable.

Hypothesis Testing

HO1: There is no significant relationship between instructional facilities management and students' academic performance in Public Secondary School.

Regression Coefficient	t	=	0.4141
	t^2	=	0.1715
Adjusted	t^2	=	0.1326
Standard error		=	4.3834

Analysis of variance

Source	Sum of Square	df	Mean Square	Fcal	Fcrit
Regression	143.80	1	143.80	4.57*	3.84
Residual	20445	650	31.46		
Total	20592	651			

N=652 *Significant $p < 0.05$

Since the calculated $F = 4.57$ was greater than the critical F of 3.84 at df 1 and at 0.05 level of significance the null hypothesis is rejected. Therefore, there is significant relationship between instructional facilities management and students academic performance in Public Secondary Schools.

HO2:

There is no significant joint relationship between management of instructional facilities administrative office, circulation space convenience and recreational facilities on student academics performance Public Secondary Schools.

Regression Coefficient	t	=	0.5463
	t^2	=	0.2984
Adjusted	t^2	=	0.27252

$$\text{Standard error} = 3.2847$$

Analysis of variance

Source	Sum of Square	df	Mean Square	Fcal	Fcrit
Regression	143.80	1	88.35	2.82*	2.37
Residual	20238.16	647	31.46		
Total	20491.56	651			

N = 652 *Significant $p < 0.05$

Since the computed F of 2.82 was greater than the critical F of 2.37 at df 4, 647 and at 0.05 level of significant. The null hypothesis is rejected. Therefore there is significant joint relationship between management of instructional facilities, administrative offices, circulation space, convenience and recreational facilities and students' academic performance in Public Secondary Schools.

Summary of Finding

1. There is an established relationship between instructional facilities management and students' academic performance in Public Secondary Schools.
2. There is an established joint relationship between management of instructional facilities, administrative office, circulation space, convenience and recreational facilities and students' academic performance in Public Secondary Schools.
3. There is significant relationship between instructional facilities management and students' academic performance.
4. There is significant joint relationship between management of instructional facilities, administrative office, circulation space, convenience and recreational facilities and student academic performance.

Conclusion

The researcher concluded that instructional facilities in most of the public secondary school were dilapidated, obsolete and inadequate to provide the desired qualitative education, classrooms in most of the schools were inadequate in terms of space, ventilation, decency and isolation from heat, no functional libraries, poorly equipped laboratories and obsolete instructional materials the available one, were poorly maintained these deficiencies constituted a major gap in the teaching and learning process thereby affecting students' academic performance which were also very poor

Recommendation

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

1. Parent-teachers association should be supported by government in informing the state of instructional facilities in public secondary school in the state.
2. The school principal should direct the availability budgeted resources to the maintenance of Administrative office as they are important in the actualization of educational goals

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3. Institutional planner and the school principals should ensure that circulation space are strategically located as they encourage health, safety among others. It enhances conducive learning environment.
4. The principal should ensure adequate provision and maintenance of recreational facilities in the school. The teachers and the students should be encouraged to utilize these facilities considering their contribution to normal growth development and the enhancement of the teaching/learning process.

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