

School Facilities Planning and Secondary School Students' Learning Outcomes in South-South States of Nigeria

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Abstract

The study investigated the relationship between school facilities planning and public senior secondary school students' learning outcomes in South-South Nigeria. The correlational research design was used in the study. Three research questions and two hypotheses tested at 0.05 level of significance. The sample for the study consisted of 2500 respondents made up of 500 principals and 2000 teachers of public secondary schools in the south-south geo-political zone of Nigeria. Purposive sampling technique was used to select the sample for the study. The instrument used for the study was self-designed and reliability co-efficient of 0.88 was established for the study. The relationship between variables in research questions 1 and 2 were obtained using Pearson's Product Moment Correlation while frequency and percentage were used to answer research question 3. Regression analysis was used to test the hypotheses at 0.05 level of significance. The findings revealed that school site planning and instructional space planning were significantly related to students' learning outcomes. The findings also revealed that the level of students' learning outcomes was relatively high in some of the secondary schools sampled for the study. Based on the findings, it was recommended among others that governments at the federal and state levels should lay more emphasis on school facilities planning especially school site and instructional space planning. The study concluded that adequate planning of school facilities could improve students' learning outcomes and lead to the realization of the goals of secondary education in Nigeria.

Keywords: Facilities, Secondary, Planning, Outcomes, Learning, Public.

INTRODUCTION

The goals of secondary education in Nigeria are to prepare and equip the individual for useful living within the society and for higher education. According to the National Policy on Education (FRN, 2014), secondary education is the education children receive after primary school and before the tertiary level. Secondary education is of two levels, the junior secondary level and the senior secondary level. The policy document states that the Junior Secondary School (JSS) shall be both pre-vocational and academic in nature, and shall aim at preparing students for useful living within the society, providing high quality education to primary school graduates, equipping students to live effectively in this modern age of science and technology, raising a generation of people who can think for themselves, respect the view and feelings of others and dignity of labour and inspiring students with a desire for achievement and self-improvement both at school and in later life (FRN, 2004).

In order to achieve the stated objectives, a conducive teaching and learning environment are indispensable. Teaching and learning environment include educational facilities and

equipment, infrastructure, class size, teachers and other environmental factors. The importance of educational facilities in the accomplishment of desired educational goals cannot be overemphasized. No matter the efforts expended in the pursuance of desired educational goals, whether through improved funding or professionally trained teachers, little or nothing may be achieved in the absence of essential school facilities. School facilities are the material resources that facilitate effective teaching and learning in the school. They include school buildings such as classrooms, assembly halls, laboratories and workshops, libraries, textbooks, desks and chairs (Ibara, 2016). Others include teaching aids and devices such as modern educational hardware and software in the form of magnetic tapes, and films. Durosaro (1998) described educational facilities as those things of education which enable a skillful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided.

Availability and adequate planning of school learning space involve all the rooms, laboratories, workshops designed to facilitate teaching and learning process. Here, the type of equipment and materials, structural arrangements of the space, storage requirements and similar functions are considered and carried out. The educational planning of facilities for specific programmes through the survey of needs is required. For each *instructional auxiliary or service area* of a planned facility, information is needed on the required number of students to be served, instructional and learning activities, relationship to other building areas, equipment needs special environment requirements (Ibara, 2017; Babalola, 2010). The learning space should be a place where both the expansion of facilities and new buildings are considered as these are always inevitable.

Facilities are essential to the achievement of goals of secondary education. As a social system engaged in production, schools need adequate facilities, equipment, materials, education personnel, finance and students to function effectively (Yusuf, 2001; Adesina, 1981). Thus, school facilities planning such as school site planning, instructional space planning, administrative space planning, space of convenience planning and circulation space planning are essential in teaching and learning process in the school system. The extent to which, these spaces may enhance better teaching and learning depends on their location, structure and facilities within the school premises (Ajayi, 2007). It is likely that well-planned school plants in terms of location, structure and facilities could facilitate effective teaching and learning process and enhance better learning outcomes of the students. While emphasizing the importance of school facilities planning to students' learning outcome.

Oyesola (2007) and Amirize (2000) noted that the main objective of school plants planning is to satisfy educational goals which have been pre-determined by educational planners. He emphasized that better planned school plants will enhance better school programmes and the community needs by providing a place for psychological and physical safety for students and teachers and enhancing the good, quality and quantity of instruction. Similarly, Ajayi (2007) maintained that high level of students' learning outcomes may not be guaranteed where school plants such as school site planning, instructional space planning, administrative space planning, space of convenience and circulation space planning are ill-sited, structurally defective, not properly ventilated and spacious enough for use.

Site location and selection are very important aspects of school plant planning. Factors such as the type of education and curriculum to be offered, economy, accessibility, centrality, aesthetic factors, locational factors and space for future expansion need to be considered (Adeboyeje, 1994; Candoli, 1988). The location of school buildings should be decided upon after the existing schools have been identified. The information needed are as follows:

- Location and enrolment of the existing primary schools;
- Location and capacities of schools; and

- Location capabilities of other institutions which will be potential for the secondary school.

A site for the school building should be considered as important to the educational programme as are classrooms and other instructional areas. Much of the physical education, recreation, and other activities in connection with this phase of educational programme are carried on out of the building. Trends in the development of school ground may be listed as follows:

- More acreage per school
- Greater utilization of the site, and
- School and community use of the property,
- The site should have space for allocation for sports and agriculture.

Other criteria for site selection are as follows:

- The site should be healthy and safe. This means it should be free from excessive noise, odour, smoke, dust and congested traffic.
- The site should be suitable, having adequate space for all types of buildings, future expansion, drives, walkways, recreation, pathways. In the location of school the element of beauty should be taken care of.
- The economy which includes site features like construction and maintenance of long access drives, excessive excavation, special footings.

Site location and selection should be made in advance of actual needs and site acquisition plans should be made hand-in-hand with educational specification. Also, learning space involve all the rooms, laboratories, workshops designed to facilitate teaching and learning process. Here, the type of equipment and materials, structural arrangements of the space, storage requirements and similar functions are considered and carried out. The educational planning of facilities for specific programmes through the survey of needs is required. For each instructional auxiliary or service area of a planned facility, information is needed on the required number of students to be served, instructional and learning activities, relationship to other building areas; equipment needs special environment requirements (Ibara, 2018). The learning space should be a place where both the expansion of facilities and new buildings are considered as these are always inevitable (Glenn, Picus & Calvo, 2006; Stevenson, 2002).

Statement of the Problem

The unfortunate practice of holding classes under tree shades at the inception of the Universal Primary Education (UPE) and studies taking place in overcrowded and unconducive learning environment appear not have abated in some parts of Nigeria. It is obvious that such practice is intellectually retrogressive. The student-oriented approach to school facilities planning, therefore, views designs and equipment as means of ensuring and enhancing students' learning outcomes. Nwangwu (2005) maintained that poor mastery of English language, lack of requisite technical skills, oral and written communication as well as applied technical skills are the order of the day in Nigerian secondary schools. All these are indication to poor students' learning outcomes in secondary schools. Also, it is likely that poor school site and instructional space planning could lead to poor teaching and learning situation which in turn may lead to poor students' learning outcomes (Osagie, 2001; Hallack (1997) observed that students' achievement lags in shabby school buildings with poor or no

science laboratory, library, technical workshop, inadequate ventilation and faulty heating system. Kennedy (1999) and Knapp, Noschis and Pasalar (2007) observed that classroom design affects learning outcome and advocates that planners should look at students' developmental needs and curriculum in order to make proper planning and re-designing as well as expanding classroom to fit needs and requirements. Thus, the place of school plants planning in the development of effective educational programme of the school system cannot be under-estimated. Hence, the present study sought to investigate the relationship between school facilities planning and student learning outcomes.

Purpose of the Study

The main purpose of the study was to examine the relationship between school facilities and students' learning outcomes in public senior secondary schools in south-south geo-political zone of Nigeria. However, the specific objectives of the study sought to:

- Determine the relationship between school site planning and students' learning outcomes in public senior secondary schools in south-south states of Nigeria.
- Determine the relationship between instructional space planning and students' learning outcomes in public senior secondary schools in south-south states of Nigeria.
- Determine the level of students' learning outcomes in public senior secondary schools in south-south states of Nigeria.

Research Questions

The following research questions guided the study:

- What is the relationship between school site planning and public senior secondary school students' learning outcomes in South-South states of Nigeria?
- What is the relationship between instructional space planning and public senior secondary school students' learning outcomes in South-South states of Nigeria?
- What is the level of public senior secondary school students learning outcomes in South-South states of Nigeria?

Research Hypotheses

The following null hypotheses were tested in the study:

- There is no significant relationship between school site planning and public senior secondary school students learning outcomes in south-south states of Nigeria.
- There is no significant relationship between instructional space planning and public senior secondary school students learning outcomes in south-south states of Nigeria.

METHODOLOGY

A correlational research design was utilized in the study. The population of the study consisted of all secondary schools in south-south states of Nigeria. A total of 2500 respondents comprising 500 school principals and 2000 teachers constituted the sample for the study. The purposive sampling technique was used to select the sample for the study. Self-designed instrument tagged "School Facilities Planning Questionnaire (SFPQ)" was used to collect data for the study. A reliability index of 0.88 was established for the study.

The analysis involved the use of frequency counts, percentages and Pearson Product Moment Correlation. Hypotheses formulated for the study were tested at 0.05 level of significance.

RESULTS

Research Question One: What is the relationship between school site planning and public senior secondary school students' learning outcomes in south-south Nigeria?

Table 1: Relationship between School Site Planning and Students' learning Outcomes

School site planning	Pearson correlation	Students' learning outcomes
	Sig. 2-tailed	0.657
		.000
	N	2500

Table 1 shows that Pearson Product Moment Correlation Coefficient (r) between school site planning and students' learning outcomes is high (r = 0.657). This means that students' learning outcomes increases with school site planning. It further shows that school site planning is a predictor of students' learning outcomes.

Research Question Two: What is the relationship between instructional space planning and public senior secondary school students' learning outcomes in south-south Nigeria?

Table 2: Relationship between Instructional Space Planning and Students' learning Outcomes

Instructional space planning	Pearson correlation	Students' learning outcomes
	Sig. 2-tailed	0.618
		0.000
	N	2500

Table 2 indicates that Pearson Product Moment Correlation Coefficient (r) between instructional space planning and students' learning outcomes is of high relationship (r = 0.618). This infers that instructional space planning contributes to students' learning outcomes.

Research Question Three: What is the level of public senior secondary school students learning outcomes in South-South, Nigeria?

Table 3: Level of students' learning outcomes in south-south Nigeria secondary schools

Students' learning outcomes	Frequency Counts	Relative Percentage
Low (0 – 25)	124	24.8
Moderate (26-45)	138	27.6
High (46-100)	238	47.6
Total	500	100.0

Table 3 reveals the level of students' learning outcomes in secondary schools. The result shows that out of the 500 schools sampled, 124 schools representing 24.8 percent had low level of students' learning outcomes, while 138 schools representing 27.6 percent had moderate level of students' learning outcomes and 238 schools representing 47.6 percent had

high level of students' learning outcomes. These results indicate that the level of students' learning outcomes was relatively high in public senior secondary schools sampled for the study.

Testing of Hypotheses

Hypothesis One: There is no significant relationship between school site planning and public senior secondary school students' learning outcomes in south-south Nigeria?

Table 4: Regression Analysis on the Relationship between School Site Planning and Students' Learning Outcomes

Model	Coefficients			T	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta (β)		
(constant)	17.456	.578		45.706	.000
1. School site planning	.050	.027	.438	1.273	.000

a. Dependent variable: Students' Learning Outcomes

$R^2 = .401$ for Model 1

Table 4 showed that the summary of linear regression on the relationship between school site planning and students' learning outcomes is of moderate or average relationship and significant relationship (Beta = 0.438, $P < 0.05$). Hence, the null hypothesis is rejected. This test shows that instructional space planning can contribute to improved students' learning outcomes.

Hypothesis Two: There is no significant relationship between instructional space planning and public senior secondary school students' learning outcomes in South-South, Nigeria.

Table 5: Regression Analysis on the Relationship between Instructional Space Planning and Students' Learning Outcomes

Model	Coefficients			T	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta (β)		
(constant)	14.531	.423		44.521	.000
1. Instructional space planning	.192	0.30	.598	9.578	.000

a. Dependent variable: Students' Learning Outcomes

$R^2 = .502$

Table 5 indicates the summary of linear regression on the relationship between instructional space planning and students' learning outcomes. Data presented in table 5 indicates that the relationship is high and significant Beta = .598. Hence, the rejection of the null hypothesis. The result infers that improved instructional space planning could contribute to enhanced students' learning outcomes.

DISCUSSION OF FINDINGS

The study indicated that school site planning is a predictor of students' learning outcomes with $r = 0.657$. It equally revealed that there was significant relationship between school site planning and students' learning outcomes. It could be inferred from the finding that proper school site planning would enhance improved students' learning outcomes. Where there are

better job commitment, administrative effectiveness, better motivation of teachers and students without school site planning, improved students' learning outcomes may not be guaranteed. If schools are sited in wrong places like the market places and very close to cinema houses, it is likely that the learning outcomes of students could be adversely affected. The result of this study supports that of Osagie (2001), Lemaster (1998), Crandel, Smaldino and Flexer (1995) who established a correlate between school site planning and students learning outcomes.

The study showed that instructional space planning contributes to students' learning outcomes with $r = 0.618$. It equally revealed a significant relationship between instructional space planning and students' learning outcomes. It implies that good instructional space planning could enhance improved students' learning outcomes. This finding supports that of Kennedy (1999) and Stricherz (2000) who found that instructional space planning of classroom, laboratory, library and workshop design relates to students' learning outcomes.

The study equally revealed that the level of students' learning outcomes in secondary schools was relatively high. The result shows that out of the 500 schools sampled, 124 schools representing 24.8 percent had low level of students' learning outcomes, while 138 schools representing 27.6 percent had moderate level of students' learning outcomes and 238 schools representing 47.6 percent had high level of students' learning outcomes. The relatively high level of students' learning outcomes could be as a result of school site planning and other factors outside the context of the study. This finding contradicts that of Oyekanmi (1996) and Ayodele (2000) while it supports that of Adebayo (2004). Finally, the findings indicated that school plants planning components contributed significantly to students' learning outcomes. This implies that school facilities planning components such as school site and instructional space planning could enhance improved students' learning outcomes.

CONCLUSION

School facilities planning and its components such as school site and instructional space planning are essential in enhancing students' learning outcomes in secondary schools. It is likely that well-planned school facilities in terms of school site and instructional space facilitate improved students' learning outcomes. Also, impressive level of students' learning outcomes may not be guaranteed in situations where schools are ill-sited or structurally defective. In the context of the study, some secondary schools were well-planned and students' learning outcomes were relatively high. Thus, properly planned school facilities would enhance better students' learning outcomes in public senior secondary schools and could trigger the realisation of the goals of secondary education in South South, Nigeria.

Recommendations

Based on the findings of the study the following recommendations were advanced:

- To sustain the relatively high level of students' learning outcomes in some secondary schools as revealed in the study both the Federal and State governments should encourage school facilities planning in the education system.
- The Federal and State governments should collaborate with the relevant professional agencies in designing appropriate school site plans for secondary schools, given that school facilities planning is multi sectorial activity.
- Given that there is a relationship between instructional space planning and students' learning outcomes, the federal and state ministries of education should encourage and

support this component of school facilities planning to ensure improved students' learning outcomes.

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