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School facility planning as determinant of students' utilization of education resources in public secondary schools

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Abstract
In this study, the researcher investigated school facility planning as determinant of students' utilization of education resources in public secondary schools in Imo state. Four research questions and four hypotheses guided the study. A 16 item questionnaire was used to collect responses from the respondents. The instrument was divided into 4 sections with overall coefficient of 0.84 which was considered enough for the study. The reliability of the instrument was obtained by a pilot-test and analysis using Cronbach alpha. The population of the study consisted of 27,840 SS2 students of the 230 public secondary schools in Imo state and the proportionate random sampling was used to choose 522 students as the sample size. Pearson Product Moment Correlation Coefficient was used to answer research questions and test the hypotheses at 0.05 level of significance. In testing the hypotheses, where p-value was greater than 0.05 level of significance, the null-hypothesis is accepted but where it is otherwise, it was rejected. One of the findings of the study among others was that in most cases facilities planned and provided are available but students do not fully utilize them. It was therefore recommended that students should be made to utilize the education resources in the school made available through school planning facility.

Keywords: school facility, planning, education resources, public secondary schools

Introduction

School facility can be defined as the material objects that constitute the infrastructure of a school. They are the physical structures, plants and material resources that are used to make teaching and learning feasible. They are the school buildings, science laboratories, libraries, machinery, furniture works, chalk boards, offices, toilets, hostels, playing fields and all teaching materials that form part of the school environment (Oyedeji, 2000) [17].

The term school facility could be used alternatively as school plant, school infrastructure or school physical structures. Edumark (2014) [6] explained it as the totality of physical facilities, permanent or temporal that makes up the school environment and form part of what is known as school climate. Ogbodo (2004) [15] described it as educational facilities or material things that help teaching and learning process in the school. To Ogbodo (2004) [15], they are the raw materials that are used to transform the school into the collegiality it is supposed to be. The collegiality of an institution according to Akpan (2011) [6] is its ability to change the raw and naive human elements that come into the school into skilful, intelligent and dynamic persons that have the capacity to turn things around.

Mbipon (2000) stated that school facility consists of the ground, equipment and buildings that are used for teaching and learning. Adaja and Osagie (2015) [3] submitted that school facility comprised all the physical properties of a school which includes the ground, buildings and equipment located within the school.

School facility planning is the process of determining the physical structures needed in a school that will help to facilitate the provision of education. It is also every effort made to assess the educational needs of a school that will make for the success of teaching and learning. It could equally be considered as the comprehensive effort that starts with identifying needs of a school and terminates with the actual provision of those needs (Akpakwu, 2007). It covers both current and future needs of a school.

School facility planning models are the methods or strategies education managers and authorities employ to transform educational objectives or goal into achievement or success. They are bureaucratic planning model which has to do with the linear, top-down process that depends on the contributions of administrators and teachers. It is typologically orchestrated by pedagogical activities with focus on the teacher, while trying to create spaces within the existing facility (Edumark, 2014) [6].

There is also the long range or master planning model which involves a multi-disciplinary planning team that cut across tasks and responsibilities to ascertain facilities, Students demographics and education programmes so as to isolate problems, assess various options of solutions and decide a comprehensive course of action (Gbadamosi, 2005) [12].

The community based planning model looks at the community demographic and ethnographic constituents. The main objective of this planning model is to provide facilities that could be used by the school and the host community. Sometimes, it could be a multi-purpose school hall that could serve as school assembly hall and as a town hall meeting for the host community.

The vision planning model according to Onyesola (2000) looks at the school as a small part of a bigger learning environment. It makes use of community – wide educational stakeholders to evaluate and question school norms about

curriculum, staff engagement and use, programming assessment, facilities and how learning can adequately take place in a more civil society.

Finally, there is the sustainable planning model and it is concerned with the dynamic nature of learning spaces. This model has three guests and they are the notion that school facility will always anchor the present and future generations of students. The second is that school facilities that should be used for learning need to be efficient and less rigid and three that buildings in the school and their associated architectural designs should be durable and environmentally friendly (Oyebade, 2009) [16].

The need for school facility planning cannot be over-emphasized. The primary reason for school facility planning is to provide students with required education resources for learning. Teaching and learning cannot be effective in the absence of school physical facilities (Edumark, 2014) [6]. Utilization of education resources is another main reason for school facility planning. Students do well where there are enough and spacious school buildings, current book and non-book materials to consult. As a matter of fact, school as a place of intellectual interaction between teachers and students does not exist without teaching and learning materials (Fagbemi, 2005). The use of materials by staff and students enhances learning and justifies government budgetary allocation to education.

Another reason for school facility planning is that it affords education managers the opportunities to take stock or statistics of what is available. As Ogbodo (2004) [15] puts it, it makes for the provision of whatever is the gap between what is on ground and what is not available. More importantly, it makes learning rich, easy and comfortable. As students engage in research, they have an avalanche of resources in different format like visual and audio-visual materials available for them to use. Beyond this, is the fact that the provision of these facilities in school is an explanation of government budgetary allocation to Education. Even though very paltry, it is the evidence that government cares and that education managers are committed to the provision of good and quality education (FGN, 2004).

However, it is important to indicate that there are factors that constrain school planning facility. These problems are poor educational funding politics, religious and ethnic consideration, corruption, poor statistics or data and lack of skilled manpower (Adeboyeye, 2000) [4]. It is vital to point out that school mapping and school facility planning are related but not the same. While school mapping is concerned with the proper location and distribution of education resources, school facility planning deals with the adequate stock taking and fixation of learning facilities in order to facilitate teaching and learning in schools.

Statements of the Problem

School facility planning is the process of identifying the extent of physical facilities available in a school in order to provide what is needed for effective teaching and learning. The essence is to ensure that education resource materials are in place for students' utilization. It is the putting in place of school plant and other material objects to make teaching and learning feasible in the school.

Utilization of school facilities can be explained in terms of the consultation and use of these facilities by staff and students as they interface with each other in the classroom, science laboratories and as they go to the libraries to research and do their assignment.

However, there seem to be a situation where school facilities are in place but students do not regularly utilize them to facilitate their learning. This can be seen in their poor performance in their examinations (WAEC, 2017). It is against this background that this study investigated school facility planning as determinant of students' utilization of education resource in public secondary schools in Imo State.

Purpose of the Study

The study examined the relationship between school facility planning and students' utilization of education resources. Specifically, the study investigated;

1. How school facility planning can help to provide classroom for students in the school.
2. How school facility planning can help students utilize science equipment in the school laboratories.
3. How school facility planning can help students utilize book and non-book materials in the school library.
4. How school facility planning can help students utilize education resources in the school.

Research Questions

The following research questions guided the study;

1. How does school facility planning help to provide classrooms for students in school?
2. How does school facility planning help students to utilize science equipment in the school laboratories?
3. How does school facility planning help students to utilize book and non-book materials in the school library?
4. How does school facility planning help students to utilize education resources in the school?

Hypotheses

The following hypotheses were formulated to aid the study;

1. There is no significant relationship between school facility planning and the provision of classrooms in the school.
2. There is no significant relationship between school facility planning and students' utilization of science equipment in the school laboratories.
3. There is no significant relationship between school facility planning and students' utilization of book and non-book materials in the library.
4. There is no significant relationship between school facility planning and students' utilization of education resources in the school.

Method

The study investigated school facility planning as determinant of students' utilization of education resources in public secondary schools in Imo State. Four research questions and four hypotheses guided the study. The population of the study consisted of 27,840 SS2 students of the 230 secondary schools in Imo state. Through the proportionate random sampling 522 SS2 students of 6 secondary schools were chosen as the sample size for the study. 2 secondary schools were randomly selected from each of the 3 education zones of the state.

The instrument that was used for data collection was a 16 item questionnaire titled; "School Facility Planning as Determinant of Students' Utilization of Education

Resources in Public Secondary Schools in Imo State Questionnaire (SFPDSUERPSSISQ)" The questionnaire was divided into four sections which yielded an average of 0.86 considered high enough for the instrument to be reliable. Section A dealt with school facility planning and provision of classrooms for students. Section B was concerned with school facility planning and students' utilization of science equipment. Section C was about school facility planning and students' utilization of book and non-book materials in the school library while section D was concerned with school facility planning and students' utilization of other education resources.

The instrument is structured on a 4-point rating scale of Strongly Agee (SA) – 4, Agree (A) – 3, Disagree (D) – 2 and Strongly Agree (SD) – 1. The instrument was validated by three experts, two from the Department of Educational Management and Policy and one from the Department of Educational Foundations, all from the Faculty of Education, Nnamdi Azikiwe University, Awka. The reliability of the instrument of the instrument was established by a pilot-testing and analysis using Cronbach alpha. Mean and standard deviation was used to answer the research questions and determine the homogeneity of respondents' views while Pearson Moment Correlation Coefficient was used to test the hypotheses at 0.05 level of significance. In testing the null-hypotheses, when p-value is greater than 0.05, the hypotheses was accepted, but where p-value is less than 0.05 alpha level, it was rejected.

Results

Research Question 1

How does school facility planning helps to provide classrooms for students in school?

Table 1: respondents' mean ratings how school facility planning helps to provide classrooms for students n = 520

S/N	Questionnaire Item	$\bar{X}$	SD	Remarks
1.	School facility planning helps in providing classroom blocks in schools.	2.81	0.67	Agree
2.	It helps to provide space classrooms for students in the school	2.86	0.81	Agree
3.	The classrooms are always ventilated for free flow of air.	1.82	0.76	Disagree
4.	School facility planning helps to provide classrooms that allow movement of students and interaction with each other in the class.	3.86	0.91	Strongly Agree
	Grand Mean	2.84		Agree

Data in table 1 shows a grand mean score of 2.84 indicating that students agree that school facility planning helps to provide classroom for students in schools. The item by item analysis shows that item 4 is rated strongly agree with mean score of 3.86, two items (items 1 and 2) are rated agree with mean scores ranged between 2.81 and 2.86, while the remaining item (item 3) is rated disagree with mean score of 1.86. The standard deviation scores ranged between 0.67 and 0.91 showing that respondents are not wide apart in their mean responses.

Research Question 2

How does school facility planning helps students to utilize science equipment in the school laboratories?

Table 2: Respondents' mean ratings on how school facility planning helps students to utilize science equipment n = 520

S/N	Questionnaire Item	$\bar{X}$	SD	Remarks
5.	School facility planning helps to provide science equipment in the school laboratories.	2.86	0.64	Agree
6.	The equipments are Physics, Chemistry, Biology and Biology or Health Science.	3.02	0.76	Agree
8.	Teachers use the science equipment to teach science subjects.	3.51	0.48	Strongly Agree
9.	The science equipments are used to conduct practical examinations in the sciences.	3.66	0.87	Strongly Agree
	Grand mean	3.26		Agree

Data in table 2 reveals a grand mean score of 3.26 indicating that students agree that school facility planning helps students to utilize science equipment. The item by item analysis shows that items 8 and 9 are rated strongly agree with mean scores ranged between 3.51 and 3.66 while the remaining two items (items 5 and 6) are rated agree with mean scores ranged between 2.86 and 3.02. The standard deviation scores ranged between 0.48 and 0.87 showing that respondents are not wide apart in their mean responses.

Research Question 3

To what extent does school facility planning help students to utilize book and non-book materials in the school library?

Table 3: Respondents' mean ratings and standard deviation on how school facility planning helps students to utilize book and non-book materials n = 520

S/N	Questionnaire Item	$\bar{X}$	SD	Remarks
10.	School facility planning helps to provide books in the school library.	3.76	0.58	Strongly Agree
11	The books supplied to the library are relevant to the various subject curricular.	3.04	0.91	Agree
12.	It equally also helps to provide audio-visual materials in the library.	2.82	0.63	Agree
13.	It also provides serials and journal to the school library.	3.02	0.87	Agree
	Grand Mean	3.16		Agree

Data in table 3 shows a grand mean score of 3.16 indicating that students agree that school facility planning helps students to utilize book and non-book materials. The item by item analysis shows that items 9 is rated strongly agree with mean score of 3.76 while the remaining three items (items 10, 11 and 12) are rated agree with mean scores ranged between 2.82 and 3.04. The standard deviation scores ranged between 0.58 and 0.91 showing that respondents are not wide apart in their mean responses.

Research Question 4

How does school facility planning help students to utilize education resources in the school?

Table 4: Respondents' mean ratings and standard deviation on how school facility planning helps students to utilize educational resources n = 520

S/N	Questionnaire Item	$\bar{X}$	SD	Remarks
14.	Other education resources are furniture works used by staff and students	3.20	0.91	Agree
15.	They also include chalk boards, toilets and statutory books of records.	3.04	0.68	Agree
16.	These facilities facilitate teaching and learning in the school.	3.74	0.51	Strongly Agree
17.	School facility planning actually helps students to utilize physical facilities.	3.28	0.76	Agree
	Grand Mean	3.32		Agree

Data in table 4 shows a grand mean score of 3.32 indicating that students agree that school facility planning helps students to utilize educational resources. The item by item analysis indicates that item 15 is rated strongly agree with mean score of 3.74 while the remaining three items (items 13, 14 and 16) are rated agree with mean scores ranged between 3.04 and 3.28. The standard deviation scores ranged between 0.51 and 0.91 showing that respondents are not wide apart in their mean responses.

Hypothesis 1

There is no significant relationship between school facility planning and the provision of classrooms in the school.

Table 5: Correlation coefficient of the relationship between school facility planning and provision of classrooms

		Provision of classrooms
School facility planning	Pearson Correlation(*r*)	.871
	Sig. (2-tailed)	.002
	N	520

Table 5 shows that r is.871 with a p-value of.002 which is less than 0.05 alpha level (P < 0.05). Therefore, the null hypothesis was rejected. This shows that there is a significant relationship between school facility planning and the provision of classrooms in the schools in Imo State.

Hypothesis 2

There is no significant relationship between school facility planning and students' utilization of science equipment in the school laboratories.

Table 6: Correlation coefficient of the relationship between school facility planning and students' utilization of science equipment

		Utilization of science equipment
School facility planning	Pearson Correlation(*r*)	.815
	Sig. (2-tailed)	.006
	N	520

Table 6 shows that r is.815 with a p-value of.006 which is less than 0.05 alpha level (P < 0.05). Therefore, the null hypothesis is rejected. This shows that there is a significant relationship between school facility planning and students' utilization of science equipment in the school laboratories in Imo State.

Hypothesis 3

There is no significant relationship between school facility planning and students' utilization of book and non-book materials in the library.

Table 7: Correlation coefficient of the relationship between school facility planning and students' utilization of book and non-book materials

		Utilization of book and non-book materials
School facility planning	Pearson Correlation(*r*)	.855
	Sig. (2-tailed)	.020
	N	520

Data in table 7 shows that r is.855 with a p-value of.020 which is less than 0.05 alpha level (P < 0.05). Therefore, the null hypothesis is rejected. This shows that there is a significant relationship between school facility planning and students' utilization of book and non-book materials in the library.

Hypothesis 4

There is no significant relationship between school facility planning and students' utilization of education resources in the school.

Table 8: Correlation coefficient of the relationship between school facility planning and students' utilization of education resources

		Utilization of education resources
School facility planning	Pearson Correlation(*r*)	.784
	Sig. (2-tailed)	.000
	N	520

Data in table 8 shows that r is.784 with a p-value of.000 which is less than 0.05 alpha level (P < 0.05). Therefore, the null hypothesis is rejected. This shows that there is a significant relationship between school facility planning and students' utilization of education resources in the school.

Discussion

The findings of the study as shown in Table 1 are that there is a significant relationship between school facility planning and the provision of classrooms for students in their schools. School facility planning by definition is the process by which government takes stock of school facilities or infrastructure in order to ascertain the extent of availability and unavailability with a view to bridging the gap between the two situations (Edumund, 2017) [7].

This process has always resulted in the provision of more classrooms for students in their various schools. It is important to note that due to the ever increase in school enrolment, insufficient classrooms has been a perennial problem in public secondary schools, especially in Imo state. Government cannot do much in this regard without a period audit of school infrastructure in order to provide what is lacking and maintain the facilities that are already available. School facility planning is a veritable means of enhancing the school climate necessary for effective teaching and learning.

Another finding of the study as indicated in Table 2 is that there is a significant relationship between school facility planning and the utilization of science equipment in public secondary schools. Science equipment consists of those items or material objects that are used in science practical. They are always provided by the government and sometimes brought by the Parent-Teacher-Association.

Students use of science equipment with their teachers during practical lesson in the science laboratories is consequent upon their availability. Practical science lessons or experiments cannot take place without them, so students cannot use what is not available. As indicated earlier, school facility planning is concerned with school or education authorities knowing what is available and what is not available. It helps government or school authorities to identify the needs of the school in that regards and make provisions for them accordingly. Students utilize these science equipment or facilities during their practical science lessons.

One other finding of the study as could be seen in Table 3 is that there is a significant relationship between school facility planning and the utilization of books and non-book materials in the school. The school library is a repository of instructive and learning materials for both staff and students in the school. These are books and non-book materials that are considered relevant to the subjects offered in the school. The book materials are current editions and volumes that contain the results of current research conducted by experts in the various subjects. The government or school authorities have the financial capacity to provide them and make them available to students in the school libraries for their use.

Beyond the book materials, there are also the non-book materials that exist in different formats or platforms. Some of them are audio visual materials while some could be identified on-line. In most cases, these facilities are financially beyond the reach of students, yet they need them for their studies (Edundayo, 2017). School facility planning therefore helps government to identify the extent of these facilities that are needed by students for their use in quantity and in quality. It has been observed that in recent times, students utilize non-book materials more than book materials (Erondu, 2015) [9].

Another finding of the study as contained in Table 4 is that there is a significant relationship between school facility planning and the utilization of education resources. Education resources according to Abayomi (2014) [1], encompass all facilities tangible or abstract that account for the collegiality of a school. They range from school buildings, plants, books, non-book materials, the road network within the school, woodworks, toilet facilities and even the teaching and non-teaching staff that interface with students in and out of classroom.

One major method of providing these resources in school for students' use is through school facility planning. As stated earlier, it helps government and development partners to know what the school needs and to make them available. A school does not exist without those education resources and anywhere they are provided, students make use of them as they facilitate teaching and learning. They also give vent to efforts being made by education authorities and other stakeholders to provide collegiality in terms of pedagogy and general school climate that can enhance the academic achievement of students.

Conclusion

From the findings of the study, it could be understood that there is a significant relationship between school facility planning and the utilization of education resources in public secondary schools. Students are in school to learn and one thing that facilitates that is the availability of education resources which can be made possible through school facility planning.

Recommendation

In view of the findings and conclusion of the study, the following recommendations are made;

1. Government should carry out school facility planning annually to update schools with necessary facilities.
2. Students should be made to utilize school facilities especially the books and non-book materials in library. This can be achieved by teachers giving them assignments that will require students to go to the library for research.

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