

Spatial Distribution and Effectiveness of Secondary Schools in Ondo State, Nigeria

OyetaKin Akinrotimi Iyiomo

*Department of Educational Management
Faculty of Education, Adekunle Ajasin University,
Akungba-Akoko, Ondo State*

Abstract

The study examined the spatial distribution and effectiveness of secondary schools in Ondo State. The study made use of seven hundred and twenty (720) senior secondary schools students selected from the eighteen Local Government areas of Ondo State. A descriptive research of a survey type was used. The instrument used for gathering information is titled, Spatial Distribution and Effectiveness of Secondary School Questionnaire (SDESSQ). The instrument was validated and found reliable at $r=0.78$. Two research questions were raised and two hypotheses were formulated to establish the spatial distribution and effectiveness of secondary schools in Ondo State. Data were analysed using Pearson's product moment correlation coefficient (PPMCC) statistics. Analysis of data revealed that a significant relationship exists between spatial distribution planning ($r = 0.463$; $p > 0.235$), classroom planning, laboratory planning, library planning and students' effectiveness in senior secondary schools in Ondo State ($r = .221$; $p > 0.05$). These findings provide evidence for recommendations towards ensuring good spatial distribution planning, for proper supply of electricity to secondary schools in order to make use of educative gadgets that could enhance teaching and learning, for proper maintenance of instructional facilities and judicious utilization of spatial distributions that is classroom, laboratory, and library among others.

Keywords: *Spatial distribution, School Plant Panning, Students effectiveness, Space planning, Staff quality*

Corresponding Author: OyetaKin Akinrotimi Iyiomo

Background to the Study

School plant planning which include instructional spaces planning, administrative places planning, circulation spaces planning, spaces for conveniences planning and accessories planning are essential in teaching-learning process. School plant includes physical aspects, site, type of building, usage, capacity, teachers (numbers, qualification, and age), student's enrolment in school, individual data on age, sex, previous schools, home, location, mode of transport, time taken in home/school journey, parental background, rural and urban area data which include and use administration map on a large scale, planning reports, settlement patterns etc. The facility also includes classrooms, toilets, furnishings, materials and supplies, fire suppression systems, security, information technology etc. The school infrastructure consists of mechanical, plumbing, electrical and power, telecommunications etc. (Olaniyonu, Adekoya, and Gbenu, (2008).

Several studies have examined the vocational planning and their attendant consequences on achievement of students in various states of the Federation. The studies were intended to assist decision makers of various states to decide where a particular type of school should be located or the size of school in each location, whether a new school should be built or otherwise among others. Among the studies some has shown mapping the distribution of facilities and analyzing to show how the schools are distributed, it could be clustered, dispersed or randomly distributed and to see whether the facilities serves the people of the area .

Spatial Distribution of School Plant planning

It has been observed that adequate attention is now being paid to school plant planning throughout the world's educational systems including Nigeria. Educational facilities such as school plant have been repeatedly found to have positive relationship with standard and quality of educational system. (Ojedele, and Ilusanya, 2006).

Nigeria as a nation strives to experience real growth and development. This requires a clearly defined development strategy that allows intensive utilization of resources which is endowed. These resources are the various school physical facilities that are indispensable in the educational process. They include the sitting, the building and physical equipment, recreation places for the achievement of educational objectives (Adeboyeje, 2000).

Emphasizing the importance of school plant planning to students' academic performance Adeboyeje (2000), asserted school plant planning as an essential aspect of educational planning, he went further to explain that “unless schools are well suited, buildings adequately constructed and equipment adequately utilized and maintained, much teaching and learning may not take place. Corroborating these, Ajayi (2009), maintained that high levels of students' academic performance may not be guaranteed where instructional space such as classrooms, libraries, technical workshops and laboratories are structurally defective. They also emphasized that structural effectiveness, proper ventilation and well sited instructional space lead to successful teaching and learning process in Nigeria secondary schools. According to Olaniyonu, *et al* (2008). the poor state of schools has resulted to a high rate of dropouts at all levels of the education. In the words of Ajayi and Yusuf (2009), it has been observed that

dilapidated buildings, broken desks and chairs, lack of good ventilation and sanitation facilities are common sights in most Nigerian public schools especially in the rural areas.

In order to achieve the intended objectives of the 9-3-4 system, the school plant planning in secondary school systems must be sufficiently upgraded. One of the components of UBE as stipulated in the National Policy on Education (Federal Republic of Nigeria, 2004) is the nine (9) years of basic education and 3 years of secondary education. However, Oyetakin (2007) explains that UBE calls for huge investment in terms of putting up additional classrooms and teachers' requirements and the provision of necessary instructional materials. School facilities and educational goals should be viewed as being closely interwoven and interdependent. He also stated that apart from protecting students from sun, the rain, heat and cold, the school building represents a learning environment which has a tremendous impact on the comfort, safety and performance of the child.

According to Adigun (2007), College facilities management therefore entails planning, coordinating and controlling of all physical elements and components of the college operation which includes equipment, site operation, construction, renovation, modernization and maintenance. The influence of school plant/environment on school achievement is very important as discovered by some researchers. In a research conducted by Jayeola (2004) it was discovered that one of the factors responsible for falling standards of education in some selected schools in Ondo State was shortage of physical facilities.

Statement of the Problem

The number of schools, facilities and teachers available for basic education remain inadequate for the eligible number of children and youths. This is more so in urban areas where there is population pressure (Chohen, 2004 and Oyetakin, 2007). The Federal Government reported that the falling standard of education in Nigeria is caused by "acute shortage of qualified teachers in the secondary school level" with a large number of Grade II teachers and secondary school leavers teaching; uneven distribution of teachers between urban and rural schools; poor remuneration and motivation and low teacher support (Federal Ministry of Education - FME, 2009).

Objectives of the Study

The objective of this study is to examine the possible impact of spatial distribution planning on students' effectiveness. To this end, the objectives of this study are as follows.

- i. To find out the relationship between spatial distribution planning such as classrooms, libraries, technical workshops and laboratories and students' effectiveness in Ondo State senior secondary schools.
- ii. To find out the extent to which the availability of spatial distribution affects academic students' performance in senior school certificate Examinations (SSCE) in Ondo State senior secondary schools.

Research Questions

The following research questions were raised to guide the study:

- i. What is the level of spatial distribution in some selected secondary schools in Ondo State?
- ii. Does spatial distribution planning have any relationship with students' effectiveness?

Research Hypotheses

The following hypotheses guided this study:

- Ho₁:** There is no significant relationship between spatial distribution planning and students' effectiveness in Ondo State
- Ho₂:** There is no significant relationship between classroom planning and students' effectiveness in Ondo State.

Research Design

The descriptive research design of a survey type was used for this study. It aimed at finding out the spatial distribution and effectiveness of secondary school in Ondo State Nigeria.

Population of the Study

The population of this study comprises of all the 18 public secondary school students in Akure South Local Government Area of Ondo State, Nigeria.

Sample and Sampling Techniques

All the eighteen (18) public secondary schools in Akure South Local Government Area of Ondo State were purposively sampled. In each of the school, Forty (40) students were randomly chosen from SS1, SS2 and SS 3, and this gave a total number of seven hundred and twenty (720) students put together.

Method

Research Instrument

The instrument used is Spatial Distribution and Effectiveness of Secondary School Questionnaire (SDESSQ) The instrument is divided into two sections. Section A dealt with personal data of the respondent. While section B was designed to obtain information on spatial distribution and effectiveness of secondary school.

Validity of the Instrument

In order for the instrument to be valid, critical evaluation of the items in the questionnaire was carried out by colleagues and measurement expert within the faculty of education for proper assessment and modification.

Reliability of the Instrument

The validated instrument was administered on forty students' who were not among the sampled Secondary schools. The results were scored. After two weeks, the same instrument was administered to the same students' and the responses were correlated which gives a reliability co-efficient $r = 0.75$. The (r) calculated indicated that the instrument is reliable for the study.

Results

Hypothesis One

There is no significant relationship between spatial distribution planning and students effectiveness in Senior Secondary Schools in Ondo State.

Table 1: Summary of Relationship between Spatial Distribution Planning and Students' Effectiveness

Variables	Mean	N	df.	r- cal.	r-tab.	Decision
Spiral Distribution	37.89	720	718	0.463	0.235	*
Students Effectiveness	41.23	720				

* Significant at 0.05 Level (2 tailed)

From table 1, the data analyzed shows a positive relationship existed between spatial distribution planning and effectiveness of students in senior secondary schools in Ondo State. The result ($r = 0.463$; $p > 0.235$) indicates a significant relationship between the two variables. Hence, the hypothesis which states that there is no significant relationship between spatial distribution planning and effectiveness of students in senior secondary schools in Ondo State is rejected.

Hypothesis Two

There is no significant relationship between classroom planning and students effectiveness in senior secondary schools.

Table 2: Summary of the relationship between classroom planning and students' effectiveness

Variables	Mean	N	df.	t- cal.	r-tab.	Decision
Classroom Planning	10.11	720	718	0.221	0.20	*
Students Effectiveness	41.23	720				

* Significant at 0.05 Level (2 tailed)

The table 2 shows that there is a significant relationship between classroom planning and students' effectiveness in senior secondary schools in Ondo State. The result is ($r = .221$; $p > 0.05$) which revealed a positive relationship between the two variables. Thus, the hypothesis which states that there is no significant relationship between classroom planning and students' effectiveness in Ondo State senior secondary schools is rejected. It is expected that where classrooms are properly planned in terms of location, structure and facilities, effective teaching and learning process will be enhanced thereby leading to good effectiveness of the students.

Discussion of Finding

The aimed at to find out the spatial distribution of public secondary schools in Akoko South West Local Government Area, Ondo State.

The table 1 hypothesis which states that there is no significant relationship between spatial distribution planning and effectiveness of students in senior secondary schools in Ondo State is rejected. The result shows that there is no significant relationship between spatial distribution planning and effectiveness of students in senior secondary schools in Ondo State. This implies that spatial distribution planning directly linked with teaching and learning process in the school system and that better spatial distribution planning would enhance better students' effectiveness while poor spatial distribution planning could affect the effectiveness of students negatively. The finding also corroborates Mark (2000) and Chandra and Eric, (2000), found school facilities such as classroom, library, and technical workshop were significantly related to students' effectiveness in secondary schools. It is apparent that where spatial distributions are properly planned in terms of location, structure and facilities, enhanced teaching and learning will take place, thereby leading to better students' effectiveness. The finding corroborates that of Agada (2004), that there is positive correlation between school plants and students' effectiveness.

Table 2 hypothesis which states that there is no significant relationship between classroom planning and students' effectiveness in Ondo State senior secondary schools is rejected. It is expected that where classrooms are properly planned in terms of location, structure and facilities, effective teaching and learning process will be enhanced thereby leading to good effectiveness of the students. The finding corroborates that of Cohen (2004) that classroom design influences students' effectiveness. Hence he advocates that planners should look at students' developmental needs and curriculum in order to make proper planning, re-designing and expanding classroom to those needs and requirements. This finding aligns with the studies of Agada, (1994), Omisade (2005), Chohen (2004), and Ojedele, (2004), which heralded the significance of school plant planning (classroom planning) in the development of an effective educational programme at all level of the educational system with particular reference to the secondary school level. Stressing the importance of classroom planning, Olaniyonu *et al* (2008) maintained that classrooms with adequate lighting and ventilation and properly located within the school, play vital role in students' effectiveness.

Conclusion

Based on the findings of this study, it is pertinent to note that students' effectiveness in Ondo State Senior Secondary Schools cannot be separated from proper spatial distribution planning by the educational planner, school plant planner as well as classroom teachers. When spatial distribution is well planned and managed by the teachers, the end result is good effectiveness but if poorly managed the end result is otherwise.

Recommendations

Recommendations were provided based on the result of the findings and it was established that if spatial distribution is well planned and managed, it will have a positive impact on students' effectiveness in Ondo State Senior Secondary Schools. The following recommendations are made based:

1. The government and all stakeholders must give necessary financial and professional support to the secondary schools toward ensuring good spatial distribution planning. This will facilitate good effectiveness of the students.

2. The relatively high level of spatial distribution planning and students' effectiveness in senior secondary schools should be improved upon by the school administrators and other stakeholders.
3. Educational planners, managers and administrators should intensify efforts at ensuring that adequate provision is made in the budget for more provision of spatial distribution specifically classrooms.
4. The need for spatial distribution maintenance should be part of the orientation programme given to students, teachers and administrators in the educational system.
5. Educational planners, parents, government and philanthropists must see to the well-being of the school because the output of the school system determines the future of the societies.

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