



School Plant Planning as Correlate of Students' Academic Performance in Private Secondary Schools in Rivers State, Nigeria

Rosemary Chigoziri Imoh

Department of Educational Management

Faculty of Education,

Ignatius Ajuru University of Education, Nigeria.

rosmary_imoh@yahoo.com

Abstract

The study examined how school plant planning relates with students' academic performance in private secondary schools in Rivers State. Three (3) research questions and three (3) hypotheses guided the study. The study was anchored on Skinnerian Environmental theory. This research employed the correlation research design. The population of this study consisted of 4255 secondary school teachers from 2653 approved private secondary schools in Rivers State according to Ministry of Education (2018/2019). The sample size for this study was determined by taking 8.5% of the total population which was about 360 respondents. The instrument was validated by experts from the Department of Guidance and Counseling. Cronbach's alpha method of reliability was used in this study to obtain the coefficient of the reliability of .780 suitable for this study. The research questions were answered using mean and standard deviation scores and the hypotheses were tested using Pearson Product Moment Correlation co-efficient set at 0.05 significance levels with the aid of SPSS version 23.0. The findings revealed that there is a significant relationship between well-furnished library, quality of classroom blocks, provision of staffroom facilities, provision of equipped laboratory, provision of playground or school field and students' academic performance in private secondary schools in Rivers State. Based on the findings the study recommended among other things that private school proprietors and stakeholders should make adequate provision of state-of-the-art library, classroom blocks and staff room facilities for improve students' academic performance in secondary schools in Rivers State.

Keywords: Unsatisfactory, Condition, Educational System, Operation, Private, Secondary Schools, Plant Planning, Rivers State, Nigeria.

Reference to this paper should be made as follows:

Imoh, R. C. (2023). School plant planning as correlate of students' academic performance in private secondary schools in Rivers State, Nigeria. *International Journal of Scientific Research in Education*, 16(1), 43-61.

INTRODUCTION

Generally, education is seen to be the stand point of societal development. It forms the basis for literacy, skills developments, technological enhancement and tangible tool to harness human and material resources towards the achievement of societal goal (FRN, 2014). Education is very necessary in any given society and Nigeria is not an exception. By definition, it connotes the avenue through which people develop their abilities and capacities at a given point in time. These abilities might be physical, emotional, social and intellectual. It will not be wrong to say that the efficiency and effectiveness of any institution rest on the spectrum of the school plants planning. Therefore, no school can stand out academically without a convenient school plants planning and maintenance (Effanga, 2020).

Educational process of development occurs in physical, psychological, social and cultural environment. A proper and adequate environment is very necessary for a successful teaching and learning process. Environment plays a vital role in the development of the personality of the students. As students spend most of their time at school, the school environment becomes highly responsible for the inculcation of great values in them (Ololube, 2013). As students are the backbone of the nation it is important to maintain a healthy school plants to enhance teaching and learning. While school is the second most intimate environment next to the home, it has a fascinating influence on the child's academic performance, acts as an agency equipped with multiple opportunities that stimulates the child to explore, investigate and experiment in many ways. The students' academic performance might be influenced by various external factors other than their personal characteristics, including school plants and maintenance, peer group influence, home environment, socio-economic factors, etc. (Ololube & Kpolovie, 2013).

Children need safe, healthy and stimulating environment for effective teaching and learning therefore a well-planned school plant and maintenance cannot be over emphasized. There is no doubt that the school plant planning and maintenance contributes significantly to students' academic achievement which is usually measured in terms of cognitive, psychomotor and affective achievement (Akaniwor, 2016). Lack of school plant and maintenance may have negative influence on students' academic performance because students may not achieve academic excellence in a school with overcrowded classrooms, poor laboratory facilities, scantily furnished library stocked with old books, literatures and journals, uncomfortable staffroom and the absence of other schools plants are potent factor to qualitative education.

To Amanchukwu and Ololube (2015), a good school plants planning and maintenance established school conditions such as availability of the right functional and usable infrastructures, availability of the right quantity and quality of teaching materials and workforce, comfortable classroom, good relationship existing between the teachers and the students and appropriate methods which combined to enhance teachers and students for effective teaching and learning. More so, assets that are supportive and favourable to school system and are encouraged with enough learning facilities and favorable climate makes students more comfortable, more concentrated on their academic activities that resulted in high academic performance and as such a proper and adequate environment is very much necessary for a fruitful learning for the child (Ololube, 2018a,b).

Nwankwola (2018) posited that school plant are those material provisions that are seen in the school which aids the teaching and learning process, these material provisions include, school building, library, laboratories, playground, classrooms, furniture, staffrooms, school canteen, all these and more are school plants. school plant as in comprehensive term includes

apparatus, assembly hall, hostels, principal's offices, teachers' quarters, school farms, generators, chalkboard, chairs and tables, flowers vases, lawn tennis court etc.

Private secondary education in Rivers State have witnessed continuous increase in students' yearly enrollment, leading to the establishment of more private secondary schools in the state, expectedly, this increment weighs heavily on the available facilities, equipment and material resources with attendant effects on students' academic performance. Ololube et al. (2016a,b) recognized the poor state of infrastructural development in schools as one of the top most factors militating against the effective performance in secondary schools.

It is very important to note that for effective teaching and learning to take place, school plant and educational goals are meant to be seen as being closely interwoven and inter dependent. School plant, apart from protecting students from sun, rain, heat and environmental hazard has tremendous impact on comfort and safety for everyone within the school premises. The function of school plant generally is to provide the most suitable environment for effective teaching and learning process. The school plant are grouped into three major groups which are immovable properties these are seen as facilities and infrastructures which are seen to be permanent, then the movable are those facilities which are to be used by the educational body, this is basically for the purpose of improved teaching and learning process (Amanchukwu & Ololube, 2015).

Statement of the Problem

The problem under study has to do with an unsatisfactory condition of the educational system being operated in some private secondary schools in Rivers State. As mentioned earlier, over population, insufficient facilities for the teaching and learning and improper school plant planning are common among those factors that seems to contribute to the poor academic performance of students' in private secondary school in Rivers State.

The issue of overpopulation cannot be segregated among the major problems/challenges that impair students' academic performance which is a drawback to educational development. Classes designed to accommodate thirty-five (35) to forty (40) students comfortably are now taking seventy to eighty students which will certainly affect students' academic performance. Imagine learning science subjects like, Physics, Biology and Chemistry in an abstract form without practical's. Insufficient facilities such as tools and equipment for home economics practical and scientific experiment cannot be effectively used by overpopulated and congested laboratory, making most of the students miss practical.

Aim and Objectives of the Study

The aim of the study is to examine how school plant planning relates with students' academic performance in private secondary schools in Rivers State. Specifically, the study tends to:

- Determine the extent to which a well-furnished library enhances academic performance of students in private secondary schools in Rivers State.
- Investigate the extent to which quality of classroom blocks enhance academic performance of students in private secondary schools in Rivers State.
- Ascertain the extent to which provision of staffroom facilities enhance academic performance of students in private secondary schools in Rivers State.

Research Questions

The following research questions guided the study:

- To what extent does a well-furnished library enhance academic performance of students in private secondary schools in Rivers State?
- To what extent does quality of classroom blocks enhance academic performance of students in private secondary schools in Rivers State?
- To what extent does provision of staffroom facilities enhance academic performance of students in private secondary schools in Rivers State?

Hypotheses

The following null hypotheses guided the study:

- There is no significant relationship between well-furnished library and students' academic performance in private secondary schools in Rivers State.
- There is no significant relationship between quality of classroom blocks and students' academic performance in private secondary schools in Rivers State.
- There is no significant relationship between provision of staffroom facilities and students' academic performance in private secondary schools in Rivers State.

REVIEW OF RELATED LITERATURE

Skinnerian Environmental Theory

This theory was developed by B. F. Skinner in 1979 and it focuses on the idea that all behaviours are learned through interaction with the environment. This becomes important since the study is on school plant and students' academic performance in private secondary schools in Rivers State. Skinner insisted that humans were controlled by their environment therefore this theory is relevant to the study which is on school plants; the material provision of the school which includes library, classroom block, staff room, laboratories, play grounds/school field these and others has strong influence on the behaviour of the students. Skinner opined that experience and learning are basic and very essential to understanding of human behaviour. The environmental approaches conceived human behaviour as something that is acquired through the process of interaction with the environment, rather than inherited.

According to Skinner's model, behavioural development is controlled by and is a function of the physical and psycho-social environment which a school plant is a major player. Children's development is believed to be shaped by the pattern of reinforcement it receives from the environment. Skinner contributed in shaping the views expressed by environmental approach. Writers have these basic assumptions about the process of learning. They are: learning is manifested by a change in behaviour, and the environment shapes behaviour. Therefore, learning is the acquisition of new behaviour through conditioning. It has been observed that

sometimes children develop new behaviour by observing other people's behaviour and by observing the reinforcing or punishing experience of others.

The School Plant

The school plant is one of the major aspects of school administration and refers to the material provisions of the school (Ibara, 2018). The school campus, buildings, equipment, playgrounds library, laboratories, classrooms, furniture's, hostels, common room, canteen all these put together mean the same thing as what the school plant stands for. School plant as the entire physical infrastructure facilities provided in the school for the purpose of educating the child. They maintained that when these aspects of school plant is lacking the result will be poor learning and poor representation in all spheres of life (Ololube, 2013; Amanchukwu & Ololube, 2015).

School plant comprises the school site and all the structures that have been put in place to aid effective teaching and learning in the school system. He went further to describe the components of school plants as the school buildings, playground, furniture, staffroom, furniture, chalkboard, libraries, laboratories, school equipment which includes dustbin, waste paper basket, incinerators, water pots, cups, towels, wash hand basins, first aid box, latrines and others.

Amanchukwu and Ololube (2015) stated that school plant are those things which enable a skilful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided, thus, whatever materials that helps to facilitate teaching and learning rightly fall under the term school plant. Thus, school plant refers to all the material provisions in a school environment essential for teaching and learning in an educational institution. The environment, facilities, equipment and building constitute school plant. Adebayo (2000) averred that the facility consists of not only the physical structure and the variety of building system such as mechanical, plumbing, electrical and power, telecommunications, security and fire suppression systems. It also includes furnishing materials and supplies, equipment and information technology as well as various aspects of the building grounds namely: athletic field, playgrounds, areas for outdoor learning and vehicle access and parking.

Nnokam (2018) in Ololube et al. (2018a) grouped school plant into three categories of things that exists within an educational institution:

- Immovable properties which are programmes, infrastructures and assets designed for educational activities;
- Movable properties which are, equipment and facilities allocated to all educational institutions for effective teaching and learning;
- The capacity energy, knowledge and skills

Onwurah (2004) opined that the school plant is the space interpretation of the curriculum, noting that the programmes of the school are both expressed through the type of school plant available in the educational institution. Absence of school plant makes teaching ineffective and desired learning outcome will not be achieved. It becomes necessary to ensure that school plant is properly planned and maintained to facilitate the effectiveness of school system. The school plant is of great importance because of its impact on the educational processes and programmes and should be seen as an integral part of the learning environment.

Library as a School Plant

Library should find a dominating position in the centre of the academic life of the school. It is one of the most important facilities in the school and it improves academic life of a school. Today, it is considered the most powerful media to promote self-education, to acquire information and to provide research facilities (Khan, n.d).

Every school building should have a separate wing for library and reading room if resources permit, reading room should be separated from the library hall. The library room should be attractive, colourful and inviting. It should be well decorated, so as to present a homely look. It should be centrally located so that it may be easily accessible to pupils. Ibara (2018) is of the opinion that a separate room for library centrally located to all the teaching rooms should be a must in every school.

The Rivers State Ministry of Education guidelines on opening and running of schools (1992:19-20) stipulated that a library of 7x23 square meter would be adequate to meet the present educational needs. The library room should be provided with adequate natural light and ventilation with satisfactory window shades and provision for needed artificial light. The furniture, book shelves, tables, chairs, reading desks should be carefully designed with an eye to artistic effect as well as functional efficiency. It should be well equipped with current and nicely selected books and literature, which should be easily accessible to one and all. It should be kept neat at all times.

The library should create a conducive reading atmosphere to encourage students to read general books. It should provide useful social experience. Therefore, they should have a library with full-time librarian to stimulate learning. Academic libraries are essential contributors to knowledge generation and serve a wide spectrum for knowledge seekers (Khan, n.d). In fact, academic libraries have been described as the “heart” of the university, because they provide a place for students and faculty to do their research and advance their knowledge. The fundamental role of any academic library is to collect process and store, disseminate and utilize information to provide services to the academic and research community.

Librarians and library staff provide numerous services to their users in order to address their diver’s needs and interest. Both the faculty and students depend heavily on the library for information that is necessary in pursuing their individual and collective goals. Information is now considered as the fifth factor of production because it is needed in all stages of human development. People need information to learn new skills and also to satisfy their course/academic demands. One primary objective of any library is to maximize the intensive use of its resources and services. Library materials as a school plant are acquired to be used adequately in order to justify the huge amount of money invested in such resources. The effectiveness of a library as a school plant is determined by the success with which it is able to provide the students with relevant information (Amanchukwu & Ololube, 2015).

Library and Students Academic Performance

According to Ololube et al. (2016a), found out that students perform better when they frequently use the school libraries than when they do not. In order to achieve the aims of academic library’s provision of information resources and making same accessible and well consulted by users, thereby fulfilling the role of supporting the school in achieving the basic objectives of teaching, learning and research, the academic library’s architecture and aesthetic should be designed to

accommodate and serve its users effectively without any hindrance, and for a long period of time. The academic library should be aesthetically designed with adequate facilities in a beautiful and conducive environment. This would motivate the active reader and other potential users to visit the library to access information thereby enhancing students' academic performance.

Makinde and Oyewumi (2002) cited in Ololube et al. (2016b) averred that since the academic library is to serve all categories of students, staff, researchers and also visitors, it should be aesthetically designed to accommodate and serve its users effectively. It is important for a library building to be pleasing to look at, motivate students and staff to access its information comfortably and efficiently. It should be well structured to last a long time without expensive maintenance.

The Concept of Classroom blocks as a School Plant

Almost all educational authorities agree that thirty ideal numbers of students in a class but economic considerations stand in the way in achieving this ideal. Each classroom should be spacious, care should be taken that there is no over-crowding in the classrooms. The classroom should be well-ventilated. There should be adequate light in the classrooms; the classrooms should provide sitting arrangement to accommodate the students with adequate space for students and teachers to sit, stand and move freely for various instructional materials. The classroom should be ideal and a workable one according to the present need. The size of a classroom depends upon the number of students in the class. It should have a pleasant look, tastefully decorated with light colour paint. Each classroom should have essential equipment of desk and chairs for the students, black or white board, etc. A comfortable classroom will surely enhance students' academic performance.

Classrooms are considered to be the centres that facilitates learning among school children; therefore, teachers are supposed to create congenial environment for facilitating learning. This demands creative thinking, planning, organizing and management of classroom processes on the part of the teacher (Amanchukwu & Ololube, 2015). Teaching is an activity consists of verbal interaction between the students and their teacher as teacher aims to influence behaviour of his/her students. The role of the teacher is to impart knowledge ensure the physical development of the child. These roles of the teacher cannot effectively take place in an overcrowded classroom; because there is a limit to the number of students a teacher can manage (Ololube, 2009).

Classroom Block and Students Academic Performance

Overcrowding is over population of the classroom and the demand for western education far exceeds the capacity of the schools plant as well as the instructional materials. Uche (2012) quotes in Effanga (2020) averred that the availability of well-furnished classroom blocks are most important to be considered for effective teaching and learning. Alternatively, crowded classrooms and high-density of students often results in lower student's academic achievement and a poorer student disposition. The observed opinions suggest that schools with well-equipped and spacious classroom blocks make good results from the views of the scholars it could be understood that infrastructure and conducive classroom blocks and other school plant facilities are fundamental to effective teaching and learning shortage of which affects academic performance of students. Classroom is a building dedicated primarily for teaching and learning

activities. The classroom provides safe place where teaching and learning can take place uninterrupted. Teaching is an activity consists of verbal interaction between the students and their teacher as teacher aims to influence behaviour of his/her students. The role of the teacher is to impact knowledge ensure the physical development of the child.

Maintenance of School Plant Facilities

Maintenance culture is an attitude which is sadly lacking in Nigeria whether at home, office, and in educational institutions and has become a widely recognized problem in Nigeria (Ibara, 2018). Maintenance is the art of bringing back the operating condition of an asset into normal functioning at a minimal cost capable of enhancing the life span of the item (Bamboye, 2006). In other words, maintenance is the ability and skill of keeping infrastructure available for normal use. Similarly, Deighton (1971) noted that maintenance relates to the attempt to minimize the destruction effects of nature and over use. Maintenance refers to the process of keeping grounds, buildings, toilets, furniture, vehicle, equipment, machinery, generator and other school plants in their original, efficient, and functional condition.

UNESCO, (1984) defined maintenance as a combination of any action carried out to retain an item or restore it to an acceptable condition. Ibara (2018) viewed school plant maintenance as the keeping of the school building and equipment in as near to their original state as possible. Thus, maintenance specifically involves proper upkeep of facilities such as buildings, furniture, toilet facilities and other equipment in the school environments. This is necessary in order to restore these facilities as much as possible to their original condition. Thus, maintenance is an on-going process and is always necessary in any school however well equipped (UNESCO, 1984).

Therefore, maintenance involves those activities that help in prolonging the life-span of the school facilities/plant, prevent obsolescence and ensure maximum services. There are ways maintenance is widely undertaken in industry which are easily applicable in the maintenance of the school plant. Orugun cited in Ibara (2018) identified a number of maintenance techniques which can be specified either separately or in combination for each item of plant. The maintenance techniques include:

- **Preventive Maintenance:** This type of maintenance is scheduled to prevent equipment breakdowns and malfunctions through early detection and remedy.
- **Routine Maintenance:** This involves inspection and minor servicing of instrument and tools. Normal lubrication and other minor adjustments.
- **Fixed- Time Maintenance:** This type of maintenance is dependent on time, and is only effective in the following circumstances:
 - (i) When failure is early time dependent
 - (ii) When the components is expected to wear out within the life span of the unit. Examples of this type of maintenance is the service rendered to school buildings, equipment and other furniture's in order to prevent malfunctioning or early deterioration of buildings and other school plants.
- **Condition Based Maintenance:** The current condition of the equipment determines when it should be maintenance.

- **Corrective Maintenance:** This type of maintenance is directed at repairing faults. It is concerned with the detection, location and repair of faults as they occur.
- **Planned Maintenance:** This practice requires the workload for service team to be planned by scheduling the maintenance in advance. It is more detailed than routine maintenance.
- **Overhaul Maintenance:** Overhauling involves complete disassembly of machinery or equipment, locating and replacement of the faulty parts to maintain maximum efficiency.
- **Periodic Maintenance:** This is the type of maintenance done on school plant periodically or at regular intervals. Examples of such maintenance is painting the school buildings, servicing of the offices, changing of lockers and desk, and other equipment periodically.
- **Emergency Maintenance:** This type of maintenance is not often carried out in the school. It happens once in a while for example heavy wind pulls off the roof of the school building and this roof requires urgent repairs to avoid more damages.
- **Breakdown Maintenance:** This form of maintenance is aimed at rectifying breakdowns in any component of the school plant. Breakdown most times occurs due to negligence or carelessness.
- **Shut down Maintenance:** This is also known as turnaround maintenance. This type of maintenance is usually down when the students are on vacation to avoid accident or unnecessary disturbance.

Importance of School Plant Maintenance

School plants maintenance is of immense importance in school plant planning for the academic performance of students. Proper maintenance of school plants and facilities prevent sudden break down which could disrupt the normal school activities as well as the peace of the learning environment (Nwankwoala, 2018). To Nwankwoala, the importance of school plant maintenance includes but are not limited to these:

- It ensures that buildings and facilities in the school environment are well protected.
- It preserves the aesthetic and beauty of the school environment.
- It ensures that facilities are constantly in good working condition.
- It helps slowdown the rate of degradation of facilities and extends life span.
- It reduces health hazards and provides safety to both teachers and students.
- It provides adequate care and security to the facilities.
- Well maintained school facilities serve it purpose without stressing the users.
- Prompt attention to minor repairs will result in savings over the long run.
- Effective maintenance increases the life span of school facilities.
- Well maintained school plant correlates with students' academic performance.

Needs for Well-Planned School Plants/Facilities

According to Ibara (2018) the school plant can also be regarded as space interpretation of the curriculum. This concept stems from the fact that the realization of any curriculum objective largely depends on the arrangement and utilization of the plant facilities. There is a close

relationship between school curriculum and school plant. It is the curriculum that determines the type of school plant that should be put in place. In school plant planning, we ensure that the buildings are designed to satisfy the learners' physical and emotional needs. School plant planning is an essential aspect of education planning because unless schools are well sited, buildings adequately constructed and equipment adequately utilized and maintained teaching and learning may not take place.

The needs of the immediate society, the economy and availability of scarce materials should be a top priority while planning a school site and its plants. Many decisions have to be made right from the time the idea of embarking on school plant development is conceived. In taking some of these decisions or in seeking solutions to some problems of school plant planning and design, the planning team may have to rely on some principles that have been found over time to result in successful projects.

Walter (1964) in Ibara (2018) developed a set of eleven general principles for the planning, construction and utilization of school facilities. They are the principles of validity, utility, accessibility, isolation, supervision, durability, departmentalization, safety, hygiene and sanitation, maintenance and beauty, flexibility and expansibility, and economy. In order to meet the needs for the 21st century, school learning environment the above principles should be considered in planning school site and facilities.

It has been observed that many schools are now paying more attention to their school plant. School plant which includes all educational facilities has been repeatedly found to have positive relationship with quality of education. These educational facilities include the site, the buildings, physical equipment, recreational spaces, text books used for the achievement of educational objectives and others (Oluchukwu, 2000).

The benefit of school plant is unquantifiable in achieving educational set goals and objectives, in other words, without school plants educational delivery cannot be attained. Amanchukwu and Ololube (2015) stated that a well-planned school plant will gear up expected outcomes of education, that will facilitate good social, political and economic emancipation, effective teaching and learning and academic performance of students. Therefore, it can be said that the school plant is an essential aspect of educational planning because unless schools are well sited buildings adequately constructed and equipment adequately provided, much teaching and learning may not take place.

In fact, school plant plays a significant role in determining the relationship between the school and the community. This is because parents and pupils make their judgments and take their decisions on whether to associate themselves with a particular school after a careful evaluation and consideration of the school plant. In essence, if the quality and quantity of the school plant attracts the admiration of a parent, the conviction of a parent will be that since the quantity and quality of the school plant is of such level, the quality of the staff and school programmes will be of high standard.

Students' Academic Performance

Ololube et al. (2016b) defined academic performance as the degree of students accomplishment in their tasks and studies. Ololube (2006) examined teachers' effectiveness on students' academic performance and came to a conclusion that students' poor performance is as a result of teachers' performance in terms of school plant and other factors. The level of students' performance role would be defective when school plants such as staff room, school field,

laboratory, library, classroom and even school sites are ill-sited, structurally defective, not properly ventilated, not spacious enough and operations of an organization; specially to assist in actualizing educational objectives.

Nwankwoala (2018) opined that the school building should be simple, dignified and plain and should be built of the most enduring materials procurable first, because this contributes to satisfy, performance and endurance, because the true character of the building will be best expressed through such materials. Thus,

- School plant creates conducive and psychological balance for both parents and students;
- School plant boosts the ego of the host community;
- School plant acts as residence for both staffs and students in providing hostels and staff quarters; and
- School plant offers enough space for extracurricular activities as in school field/playground and even car park.

METHODOLOGY

This research employed the use of correlation research design. Correlation research design determines a mutual relationship between two variables without the researcher controlling either of them. Correlation- research design is important in this study because it determines the relationship between school plant planning and maintenance and students' academic performance, hence the choice of correlational research design.

The population of this study consists of 4255 secondary school teachers from 2653 approved private secondary schools in Rivers State according to ministry of education (2018/2019). The classroom teachers were considered in this study because they are in better position to determine the academic performance of their students as correlates to school plant planning and students' academic performance.

The sample size for this study was determined by taking 8.45% of the total population which was about 360 respondents. Stratified sampling was used to group Rivers State into three senatorial districts. Multi-stage was used in three phases. Simple random sampling technique was also used to select 5 Local Government Areas each from the three (3) senatorial districts to make it 15 local government areas in phase one (1). In phase two (2) simple random sampling techniques was used to select 30 schools from the selected local government areas. In phase three (3) simple random sampling techniques was used to draw 11 teachers and one (1) proprietor from the schools selected to make up the sample size for the study.

The instrument for data collection was a questionnaire titled, "School Plant Planning Questionnaire (SPPQ)", divided into three sections. Section A was personal information about the respondents (Bio data) Section B contains a four (4) point modified liker scale of very High extent to very Low extent was used to measure the school plant planning (SPPQ) and Section C which was used to measure the students academics performance (SAPQ).The rating scale with the response mode of Very High Extent (VHE) = 4 points, High Extent (HE) = 3 points, Low Extent (LE) = 2 points, and Very Low Extent (VLE) = 1 point.

The instrument was validated by three experts from the Department of Guidance and Counselling. Corrections made were effected and suggestions made were included to make the face and the content validity of the study acceptable.

Twenty questionnaires were administered to the respondents who were not be part of the population of this study and after two weeks interval; these questionnaires were administered to the same respondents. The first and final scores were correlated using Cronbach’s Alpha method to obtain a reliability index of .781.

The researcher and two trained research assistants from the department of educational management, Ignatius Ajuru University of Education administered the instruments to the respondents. Before the administration process, the researcher explained the purpose of the study to the respondents. This enabled the respondents who are classroom teachers to respond accurately and collection was on an agreed date for maximum retrieval rate. The researcher issued 385 questionnaires and, in the end, retrieved only 370, of which 10 questionnaires were not discarded, leaving only 360(93.5%) valid ones.

The research questions were answered using mean and standard deviation scores and the hypothesis tested using Pearson Product Moment Correlation co-efficient at 0.05 significance level. This was made easy using SPSS version 23.0. The criterion mean of 2.50 and above was accepted while below 2.50 was rejected.

RESULTS

Research Question One: To what extent does a well-furnished library enhance academic performance of students in private secondary schools in Rivers State?

Table 1: Descriptive statistics of mean and standard deviations on the extent to which a well-furnished library provided for improved academic performance of students in private secondary schools in Rivers State

S/N	Items	Mean	SD.	Remarks
1.	A well-furnished and equipped library is provided for improved students’ intelligence in their academics	2.90	0.95	High Extent
2.	Current textbooks and literatures are provided to enhance students’ reading habit	2.88	1.10	High Extent
3.	There is access to electronic resources in the library to student’s excellent academic performance	3.28	0.90	High Extent
4.	There is provision of serene and quiet library environment to motivating students’ reading habit	3.33	0.67	High Extent
5.	There aesthetic physical structure of the library is well designed for the students	2.58	1.28	High Extent
6.	The library available is a well-modern reading facility	2.83	1.01	High Extent
Grand Mean		2.97	0.98	High Extent

Table 1 showed the extent a well-furnished library is provided for improved academic performance of students in private secondary schools in Rivers State. It was well-furnished and equipped libraries are provided for improved students’ intelligence in their academics such that current textbooks and literatures are provided (Mean=2.88, SD=1.10), there is access to electronic resources in the library (Mean=3.28, SD=0.90), the library is located in the a serene and quiet library environment (Mean=3.33, SD=0.67), The aesthetic physical structure of the library is well designed (Mean=2.58, SD=1.28), and that the library available is a well-modern reading facilities, all geared towards achieving improved academic performance of students in private secondary schools in Rivers State. Thus, to a very high extent, well-furnished libraries

are provided for improved academic performance of students' in private secondary schools in Rivers State.

Research Question Two: To what extent does quality of classroom blocks enhance academic performance of students in private secondary schools in Rivers State?

Table 2: Descriptive statistics of mean and standard deviations on the extent quality classroom blocks provided for enhanced academic performance of students in private secondary schools in Rivers State

S/N	Items	Mean	SD.	Remarks
7.	There is spacious and well-ventilated classroom	2.78	1.00	High Extent
8.	There is limited number of students' in a class to aid quick understanding and assimilation of academic curriculum	2.86	1.15	High Extent
9.	There is aesthetically designed classroom blocks to motivates students' academic performance	3.23	0.78	High Extent
10.	There is comfortable seating position in the classroom results to students better academic performance	2.81	1.20	High Extent
11.	Students who study in a classroom with instructional materials performance better in their academics	3.42	0.89	High Extent
12.	The availability of instructional aides improves students' interest in learning	3.22	1.09	High Extent
Grand Mean		3.05	1.02	High Extent

Table 2 showed the extent quality classroom blocks provided for enhanced academic performance of students in private secondary schools in Rivers State. From the table with grand mean of 2.96, SD=1.04), it was found that the extent quality classroom blocks provided for enhanced academic performance of students in private secondary schools in Rivers State is high. It was seen in the teachers' responses indicating that there is spacious and well ventilated classroom (Mean=2.78, SD=1.00), limited number of students' in a class to aid quick understanding and assimilation of academic curriculum (Mean=2.86, SD=1.15), aesthetically designed classroom blocks to motivates students' academic performance (Mean=3.23, SD=0.78), comfortable seating position in the classroom results to students' better academic performance (Mean=2.81, SD=1.20), and also because the availability of instructional aides improves students interest in learning (Mean=3.22, SD=1.09). Thus, to a very high extent, it is agreed that quality classroom blocks are provided for enhanced academic performance of students in private secondary schools in Rivers State.

Research Question Three: To what extent does provision of staffroom facilities enhance academic performance of students in private secondary schools in Rivers State?

Table 3: Descriptive statistics of mean and standard deviations on the extent provision of staffroom facilities relates with academic performance of students in private secondary schools in Rivers State

S/N	Items	Mean	SD.	Remarks
13.	There is teachers' staffroom which in turn motivates students' learning.	2.92	0.82	High Extent

14.	The staffrooms are conducive	3.42	0.77	High Extent
15.	There is adequate staffroom facilities to enhance the teacher students relationship	2.98	0.57	High Extent
16.	The availability of standard staffrooms determines the academic productivity of the students	2.90	0.97	High Extent
17.	Poor staffroom facilities affect students' academic performance	2.93	0.89	High Extent
18.	Students access to teacher's staffroom can enhance their academic performance	2.87	1.15	High Extent
Grand Mean		3.00	0.86	High Extent

Table 3 showed the extent staffroom facilities are available for teachers for enhanced academic performance of students in private secondary schools in Rivers State. With the grand mean of 3.00 and Standard deviation of 0.86, it was found that the extent to which staffroom facilities for teachers enhanced academic performance of students in private secondary schools in Rivers State is high. It was evidently identified in the respective means of items such as; there is teachers' staffroom which in turn motivates students' learning, staffrooms are conducive, presence of adequate staffroom facilities which all tend to influence students' academic performance in general. Thus, to a high extent, staffroom facilities are made available for teachers for enhanced academic performance of students in private secondary schools in Rivers State.

Testing of Hypotheses

Hypothesis One: There is no significant relationship between well-furnished library and students' academic performance in private secondary schools in Rivers State.

Table 4: Pearson Correlation Coefficient of respondents' answer to well-furnished library and students' academic performance

		Well-Furnished Library	Students' Academic Performance
Well-Furnished Library	Pearson Correlation	1	.077
	Sig. (2-tailed)		.015
	N	360	348
Students' Academic Performance	Pearson Correlation	.077	1
	Sig. (2-tailed)	.015	
	N	360	348

** . Correlation is significant at the 0.05 level (2-tailed)

The results from table four of the analysis for hypothesis one stated above showed that there is a significant relationship between well-furnished libraries, and students' academic performance in private secondary schools in Rivers State, where (correlation value $r=.077$, $p<0.015$). The implication of this result is that the respondents agreed that having access to well-furnished libraries, often positively influences students' academic performance in private secondary schools in Rivers State. Thus, hypothesis one was rejected.

Hypothesis Two: There is no significant relationship between quality of classroom blocks and students' academic performance in private secondary schools in Rivers State.

Table 5: Pearson Correlation Coefficient of respondents' to answer classroom blocks and students' academic performance

		Quality of Classroom Blocks	Students' Academic Performance
Quality of Classroom Blocks	Pearson Correlation	1	.019
	Sig. (2-tailed)		.023
	N	360	348
Students' Academic Performance	Pearson Correlation	.019	1
	Sig. (2-tailed)	.023	
	N	360	348

** . Correlation is significant at the 0.05 level (2-tailed)

The results from table 5 of the analysis for hypothesis two stated above showed that there is a significant relationship between quality of classroom blocks, and students' academic performance in private secondary schools in Rivers State, where (correlation value $r=.019$, $p<0.023$). The implication of this result is that the respondents agreed that having access to quality classroom blocks, often positively influences students' academic performance in private secondary schools in Rivers State. Thus, hypothesis two was rejected.

Hypothesis Three: There is no significant relationship between provision of staffroom facilities and students' academic performance in private secondary schools in Rivers State.

Table 6: Pearson Correlation Coefficient of respondents' answer to provision of staffroom facilities and students' academic performance

		Provision of Staffroom Facilities	Students' Academic Performance
Provision of Staffroom	Pearson Correlation	1	.756
	Sig. (2-tailed)		.017
	N	360	348
Students' Facilities Academic Performance	Pearson Correlation	.756	1
	Sig. (2-tailed)	.017	
	N	360	348

** . Correlation is significant at the 0.05 level (2-tailed)

The results from table six of the analysis for hypothesis three stated above showed that there is a significant relationship between the provision of staffroom facilities, and students' academic performance in private secondary schools in Rivers State, where (correlation value $r=.756$, $p<0.017$). The implication of this result is that the respondents agreed that being provided with adequate classroom facilities, often positively influences students' academic performance in private secondary schools in Rivers State. Thus, the hypothesis was rejected.

DISCUSSION

Well-furnished Library and Students' Academic Performance

Research question one and its corresponding hypotheses showed the coefficient of relationship between well-furnished library and students' academic performance in private secondary schools

in Rivers State. The Hypothesis one states that: there is no significant relationship between well-furnished library and students' academic performance in private secondary schools in Rivers state. The hypothesis was rejected after obtaining a correlation value of $r=.077$, $p<0.015$.

The study is in line with the finding made by Orlu (2013). The study revealed that spacious classrooms, desks current books, well equipped laboratory and much more, constitutes the area of influence to the academic of the students. Environment plays major role in the life of every individual whether students, teachers, employer or employee. The health of students and the teachers may be adversely affected if learning environment is not conducive for learning. Therefore, for the students to achieve efficient and effective learning outcome, it is necessary that learning takes place in a conducive environment. The study's finding is also in conformity with the work of Akinyemi and Orunbon (2017) which affirmed that significant relationship exist between teaching, space planning, classroom planning, laboratory planning and students' academic performance in Lagos State Senior Secondary Schools. It was recommended that government and all stakeholders should give necessary financial and professional support to the secondary schools towards ensuring good teaching space planning as this will facilitate good academic performance of the students.

Quality of Classroom Blocks and Students' Academic Performance

The data in Table four above showed the coefficient of relationship between quality of classroom blocks and students' academic performance in private secondary schools in Rivers State. The Hypothesis two states that: there is no significant relationship between quality of classroom blocks and students' academic performance in private secondary schools in Rivers state. The hypothesis was rejected after obtaining a correlation value of $r=.019$, $p<0.023$. The above finding is in agreement with the work of Okafor (2003) on 'A survey to evaluate the school plant in terms of adequacy, usage and maintenance in secondary schools in Idemili North Local Government Education Area'. The findings of this study include the following: it was the opinions of the principals and teachers that they supply physical plant facilities in the post primary schools in Idemili North, Anambra State, which includes science laboratories, classrooms, furniture, staffroom facilities, library, and laboratory equipment. The principals and teachers posited that students should not be charged for the cost of repairing the school plant.

The post primary schools management board should employ officers and other workers to be in charge of school plant management and maintenance, repairing and distributing. Both the principals and teachers' were of the opinion that community in which the school is located should help in refurbishing the school plant by building block classroom to improve students' learning. The above finding is also in consonant with the work of Boma et al. (2018), which investigated quality of classroom blocks and academic performance of secondary school students' in Tai/Elemo Local Government Area of Rivers State. The results of their analysis showed that a significant relationship exist between quality of classroom blocks and academic performance of secondary school students.

Provision of Staffroom Facilities and Students' Academic Performance

Information in Table six above showed the coefficient of relationship between provision of staffroom facilities and students' academic performance in private secondary schools in Rivers State. Hypothesis three states that: there is no significant relationship between provision of

staffroom facilities and students' academic performance in private secondary schools in Rivers state. The hypothesis was rejected after obtaining a correlation value of $r=.756$, $p<0.017$. The finding above is in consonant with the work of Akani (2015) who investigated. 'The Role of staffroom in the Academic Achievement of Students in Ebonyi State, Nigeria'. The result showed that provision and the used of the staffroom helps to develop scientific attitude in students towards the academic performance especially in developing practical skills for problem solving in students. Concomitant with the above finding is the work of Ogundele, (2012) which investigated the relationship between staffrooms and students' academic performance of secondary schools in Kwara State, Nigeria. The findings revealed that high positive significant relationship exist between staffrooms availability and student's academic performance in secondary schools in Kwara State Nigeria'

The above finding was also supported with the work of Wordu and Oneobari (2019) which investigated the relationship between staffroom facilities provision and academic performance of secondary school students in Tai and Eleme Local Government Area of Rivers State. The result of the analyses showed that a significant relationship exist between staffroom facilities provision and academic performance of students in the secondary schools. The conclusion was that staffroom facilities are basic necessities in educational system and their provision improves teachers' teaching skills and students' academic performance.

CONCLUSION

The study examined how school plant planning correlates with students' academic performance in private secondary schools in Rivers State. Based on the result of the study it was concluded that well-furnished library enhance students' academic performances to a high extent; quality of classroom block as a school plant enhance students' academic performance high extent; and the provision of staffroom facilities enhance students' academic performance of students to a high extent in private secondary schools in Rivers State. A good school environment encourages learning. Students' academic performance is always high in a school that have a conducive environment. On the other hand, poor school environment discouraged learning thereby resulting to low academic performance. Therefore, the provision of the above facilities improve students' academic performance.

Recommendations

Based on the finding in the study the following recommendations were made:

- Proprietors and stake-holders of private secondary schools in Rivers State should make adequate provision of state-of-the-art library in all secondary schools in Rivers State. This will enable students have access to modern library with state-of-the-art-technology for improve academic performance. The availability of modern library will help in improving students' academic performance thereby reducing the rate of examination mal-practices in Rivers State.
- Proprietors and stakeholders should provide schools with classroom block. This will help in given the students adequate shelter during raining season; thereby boosting their morale to study hard.

- Staffroom facilities should be provided to all schools in Rivers State. Empirical findings revealed that adequate and well-furnished staffrooms motivate teachers to put their best towards their profession in the schools.

REFERENCES

- Adeboye, R. A. (2000). *A practical approach to effective utilization and maintenance of physical facilities in secondary schools*. Fountain Publications.
- Akani, O. (2015). Laboratory teaching: Implication on students' achievement in chemistry in secondary schools in Ebonyi State, Nigeria. *Journal of Education and Practice*, 2(1), 10-35.
- Akaninwor, G. I. K. (2016). *A handbook on research methods and statistics paradigms in Education, Science and Technology*. Wilson Publishing Co. Ltd.
- Akinyemi, M., & Orunbon, D. (2017). Teaching space planning and public secondary schools students' academic performance in Education District II of Lagos State, Nigeria. *International Journal of Humanities Social Science and Education (IJHSSE)*, 4(7), 19-24.
- Amanchukwu, A., & Ololube, N. P. (2015). Managing School plant effective service delivery in public secondary schools in Rivers State. *Human Resource Management Research*, 2(15), 95-102.
- Amanchukwu, R. N., & Ololube, N. P. (2015). Managing school plant for effective service delivery in public secondary schools in Rivers State of Nigeria. *Human Resource Management Research*, 5(4), 95-102. DOI: 10.5923/j.hrmr.20150504.02.
- Boma, P. B., William, J. U., Dagogo, A. L. (2018). School Plant and Academic Performance of Secondary Schools Students in Tai/Elemo Local Government Area of Rivers State. *International Journal of Innovative Psychology & Social Development*, 6(3), 23-31.
- Deighton, L. C. (1971). *The encyclopedia of education*. New York: The Macmillan company and the Free Press 1, 28-32.
- Effanga, O. V. (2020). *Provisions of school plant and students academic performance in public secondary schools in Rivers State*. Unpublished dissertation. University Press.
- Federal Republic of Nigeria (FRN) (2014). *National Policy on Education*. FGN Printers.
- Ibara, E. C. (2018). *School mapping and plant management in Nigeria*. Harey publications.
- Karnataka, D. E. (2012). *Planning, organization and management of school/classroom processes*. Bengalum.
- Khan, Z. (n.d). 12 Major Components of a School Plant. <https://www.yourarticlelibrary.com/schools/12-major-components-of-a-school-plant/45253>.
- Nwankwoala, N. L. (2018). *School plant planning*. Harey Publication.
- Ogundele, M. O. (2012). Recreational facilities and secondary school students' academic performance in Kwara State, Nigeria. *Journal of Economics and Sustainable Development*, 9(125), 97-107.
- Okafor, F. O. (2003). Evaluation of School Plant Adequacy, Usage and Maintenance in Secondary Schools in Idemili North Local Government Authority. Unpublished M.Ed. Thesis, Nsukka: Department of Educational Foundations, University of Nigeria.
- Ololube, N. P. (2006). *Teacher education, school effectiveness and improvement: a study of academic and professional qualification on teachers' job effectiveness in Nigerian secondary schools*. Doctoral Dissertation, December 2006. University of Helsinki,

- Faculty of Behavioral Sciences, Department of Applied Sciences of Education.
University of Helsinki Press.
- Ololube, N. P. (2009). *Understanding teachers' professional competencies for education effectiveness*. Springfield Publishers.
- Ololube, N. P. (2013). The problems and approaches to educational planning in Nigeria: a theoretical observation. *Mediterranean Journal of Social Sciences*, 4(12), 37-48. DOI:10.5901/mjss.2013.v4n12p37.
- Ololube, N. P. (2018a). Leadership use of strategic planning as a tool for the successful education Management. N. P. Ololube (Ed.), *Handbook of Research on Educational Planning and Policy Analysis* (pp. 1-10). Pearl Publishers.
- Ololube, N. P. (2018b). Leadership use of scenarios and alternatives in policy analysis in Nigerian educational systems. N. P. Ololube (Ed.), *Handbook of Research on Educational Planning and Policy Analysis* (pp. 201-224). Pearl Publishers.
- Ololube, N. P., & Kpolovie, P. J. (2013). Literature and focus group analysis of the approaches and obstacle to effective educational planning in higher education in an emerging economy. *International Journal of Scientific Research in Education*, 6(3), 233-254.
- Ololube, N. P., Ololube, D. O., & Aiya, F. (2016a). Investing in building resilient infrastructures, promoting inclusive and sustainable industrialization to foster innovation through effective higher education. *Journal of Global Economics, management and Business Research*, 7(4), 257-273.
- Ololube, N. P., Onyekwere, L. A., & Agbor, C. N. (2016b). Effectively managing inclusive and equitable quality education to promote lifelong learning opportunities (LLO) for all. *Journal of Global Research in Education and Social Science*, 8(4), 179-195.
- Oluchukwu, S. (2000). *Challenges of educational planning in the 21st century*. Ben Ray.
- Onwurah, C. (2004). *School plant management in T. O. Mgbodile (ED) Fundamentals of Education*. Magnet Business Enterprise.
- Orlu, C. (2013). Environmental influence on academic performance of secondary school students in Port Harcourt Local Government Area. *Journal of Economics and Sustainable development*, 1(3), 31-47.
- Oyesola, G. O. (2007). Planning educational building and facilities. Alphabetic list of Journal articles. <http://www.ifeumilorin.net>.
- Skinner, B. F. (1979). *The shaping of a behaviorist*. Knopf.
- Smith, T. L. (2018). The roles of the analogy with natural selection in B.F. Skinner's philosophy. <https://doi.org/10.1016/j.beproc.2018.02.007>.
- UNESCO (1984). *Management and maintenance in use of education buildings and equipment*. UNESCO Press.
- Wordu, H., & Oneobari, D. O. (2019). School plant provision and academic performance of secondary school students in Tai and Eleme Local Government Areas, Rivers State. *International Journal of Innovative Education Research*, 7(1), 7-14.