

SCHOOL PLANT UTILISATION AND ADMINISTRATIVE EFFECTIVENESS IN SENIOR SECONDARY SCHOOLS IN SOKOTO STATE, NIGERIA

¹SHI'ITU Bello Goronyo, ²Lateef Adeyemi YUSUF, ³Sani Dantanin MANGA and ⁴Bello MUSA

^{1,2,4}Department of Educational Management, Sokoto State University, Sokoto

³Department of Educational Foundations, Usmanu Danfodiyo University, Sokoto

Abstract

The study examined school plant utilisation and administrative effectiveness in senior secondary schools in Sokoto state, Nigeria. Correlational survey research designed carried out at ex-post facto was adopted with questionnaire as the major instrument of data collection. The population of the study comprises all the senior secondary school teachers in Sokoto state. Proportionate sampling technique was used to sample 360 teachers (participants) across the six education zones which comprises total population of 3,457 teachers in the state. An instrument tagged Administrative Effectiveness Questionnaire (AEQ) adopted for the study. A reliability coefficient of 0.87 and School Plant Utilisation Inventory –Checklist (SPUI-C) were. Linear regression analysis was used to test the hypotheses at 0.05 level of significance. Findings showed that there exist significant and positive relationship between school plant utilisation (classroom utilization $p=.76$, library utilization $p=.68$, and laboratory utilization $p=.72$) and Administrative effectiveness in senior secondary schools in Sokoto state. Based on the findings, it was recommended that government should build sufficient modern and conducive classroom and equally embark on renovation of those in dilapidated conditions. More importantly, the school administrators should encourage teachers on the need to improve their classroom management techniques in order to make the classroom environment comfortable and conducive for smooth teaching-learning process.

Keywords: School Plant Utilisation, Administrative Effectiveness, Senior Secondary Schools, Sokoto State, Nigeria

Introduction

Education is an indispensable instrument for national empowerment and progress of a nation. It is a tool for developing individual potentials which enable them to contribute meaningfully to the society at large. Formal education takes place in learning institutions such as primary, secondary and tertiary, one of the objectives of educational institutions in Nigeria is to produce the required manpower for all sectors of the economy. In order to actualize this objective, school plant plays an

important role in our educational system (Asiabaka, 2008).

The physical facilities in the school are known as school plant. This could be the reason why Okeke (2013) defined school plant as all the equipment, tools, and consumables that enable effective teaching and learning to take place. According to Iheanyichukwu, Nwosu, Gomma, Ekanem and Edet (2018), the durable facilities are school buildings while the temporary facilities are furniture, laboratory apparatus and electrical fixtures. Contextually, school plant is all the physical facilities and

material resources in the learning environment which promote instructional delivery.

There are numerous benefits of school plant. School plant shade students from sun and rain and also creates an enabling learning environment. Atolagbe (2019) pointed out that school plant is the most prominent indicator of shelter that protect administrators, teachers, students from rain, sun, hot and cold weather and destruction which has tremendous negative impact on the comfort, safety and academic performance of students. It also prevents students and staff from violent storm. Provision of sufficient school plant creates an inspiring learning environment that satisfies the needs of staff and students. Huge amount of money is usually expended for the procurement of school plant; hence proper utilization is important to justify the investment. Consequently, School plant utilization is concerned with judicious use of school physical facilities. According to Ekpoh (2018), school plant utilization implies putting into proper use, available school plant to achieve educational goals, as well as, avoiding wastages. At secondary school level, the principal is the custodian of school plant. One of the responsibilities of principals as the chief administrators is to ensure maximum utilization of the available resources.

As noted by Manga (2023) classrooms provide conducive environment for theoretical lessons and other instructional activities, library provides place for students to read and conduct research, Laboratory provides place for students to conduct scientific experiments and practical work. Workshops provides a place in an environment for practical and skill acquisition, and playground provides

convenient place for sporting, games, festivals and entertainment. Adesina (2012) observed that a deplorable school environment offers little or no stimulus to learning.

Precisely, it is the duty of the principal as the custodian of school plant to ensure that the school facilities are ready for use as at when due and that they are correctly used for the purpose of which they are meant for. Livala, Bulus and Daver, (2021) noted that when facilities such as classrooms, library, laboratory, workshop, teaching aids, among others are available, they need to be skillfully and adequately utilized in order to influence learning and making it more meaningful. Similarly, Ibrahim, Yahaya, and Sahabi (2020) pointed out that whenever, the school plant is utilized in teaching, conducting practical, it satisfies learners' learning need and fosters attainment of educational goals.

As noted by Ovwigho (2014) the utilization of teaching facilities in the instructional process makes the contents of the lesson more practical and less vague. For secondary schools, the main indicators that are used to determine the rate of utilization of school plants are Time Utilization Rate (TUR), the Space Utilization Rate (SUR) and the Global Utilization Rate (GUR). The Space Utilization Rate is used to compare the number of students occupying a classroom with the theoretical capacity of the classrooms.

The logical implication is that school plant under-utilization and over utilization may lead to poor lesson delivery. In most cases unavailability or inadequate and misuse of school plant by Non-Governmental Organizations (NGO), and other agencies lead to misuse of school facilities which affects teaching and learning activities.

Administration could be described as the acts of getting things done to achieve a particular set goals, aims and objectives through the judicious use of the available human and material sources. Ukpong and Ezeigwe (2020) defined administration as a discipline that is centered on facilitating accomplishment of organizational goals through systematic utilisation of available human and material resources. Precisely, administrative effectiveness is described as the timely and rightly application of the basic fundamental principles of administrative functions of planning, organizing, leading, staffing and controlling towards achieving organization goals (Abosedo, Oresanjo and Lasisi, 2021).

Review of Related Literature

Effective Utilization of school plant is a collective responsibility of the school heads, teachers and students. Onyiriuka (2023) stated that every physical facility found in school has its prescribed usage. Optimal utilization of physical facilities in school will enhance effective teaching and learning leading to smooth achievement of educational goals. The provision of facilities should therefore be with optimal use to avoid over utilization and under-utilization. Smith and Johnson (2016) opined that owing to the downward trend in the Nigeria's economy, expansion of existing facilities and provision of new facilities to cope with the explosion on enrolment has been a major area of concern. According to Ukeje (2006), existing facilities have become over-stretched resulting in frequent maintenance issues.

Fabunmi and Ayeni (2004) maintained that excellent classroom utilization is the basic ingredients for good education programmes and basis to

achieving set targets and achieving the literacy rate and students conducts in a country like Nigeria. Research has shown that a good classroom increases students attention and focus, promotes meaningful learning experience, encourages high level of students performance, and motivates students to practice high level critical thinking skills. According to Allen (2014), conducive classroom helps teachers to teach effectively and students to learn with ease and perform better academically. Use of proper reliable teaching and learning resources in classroom enhances learning outcome of students, it also make it easier for teacher and students to interact effectively and efficiently.

Herbert (2013) opined that good classroom arrangement inspires and encourages students to easily interact with each other and develop various skills including language, and social behaviour. Poor classroom physical arrangement may affect students free movement and can result into social behavioural problems, that normally erupt in places that are not well managed, have no guiding rules and have mixed objectives to achieve. Effective arrangement of classroom helps students to spend their learning time in the learning areas that interest them. Materials that are placed in the classroom must engage students in various activities and learning should be attractive and on the aspect of the children.

According to Jane (2023), library is an institution that provides access to information and resources for all members of the community. Library exist in physical and digital forms and offer various services including but not limited to books, magazines, newspapers, movies, music, e-books,

audiobooks, database and more. Most libraries also provide computers and other services such as internet access, faxing, photocopying, printing and scanning. Some libraries also have student areas, meeting room, etc. Library Utilization refers to the use of information sources in the library by users which could be students, lecturers or researchers etc. This involved the frequency of borrowing books and writing assignment, conduct research and source information. (Cohn, 2022).

According to Avundaa (2023), it is disheartening to see students share reading and writing materials like desk and chair. Overcrowded libraries make learning process cumbersome with little result. They need to be spacious, controllable, accessible, available and easy for use and maintenance (Smith, 2016). An overcrowded library will no longer serve its purpose. Ejeh (2010) indicated that, library utilization like any other school plant is based on time, space and global utilization rate. In general, library spaces offer open study space for groups or individuals, designated area for quiet study. Dabo (2012), further indicates that library must be functional, adaptable, accessible, variety, interactive, conducive, safe in terms of security and environmentally suitable, Also for effective spacing the following needs must be considered, collection space, user seating space, staff working space, meeting space, resting space, special use space and non-assignable areas. (Davis & Martin 2017).

Laboratory is a facility that provides controlled conditions in which scientific or technological research, experiments and measurements may be performed. At this juncture, we have seen the introductory part of laboratory utilization in secondary schools.

Ekpoh (2018), Under-utilization occurs where the number of students is less than the capacity of the laboratory facility while assigning more students to a facility above appropriate number is over-utilization. He further opined that, teaching of school subject should be carried out in their specified spaces. For example, fine art lesson should be carried out in the art room; biology lesson should be taught in a biology laboratory, etc.

Federal Ministry of Education is one of the national body in Nigeria that offers well equipped science laboratory in Federal Colleges for students to understand different concepts of science and develop the benefit of science. FME (2015). Mury (2016) outlined the types of science laboratories in secondary schools to include Chemistry, Physics, Biology, Agricultural science, Home Economics and Computer laboratory,

In a study conducted by Avundaa and Anthonia (2023) titled Utilization and maintenance of School Plant in Public Secondary School in Rivers State. Two research questions and two hypotheses guided the study. A questionnaire titled Utilization and Maintenance of School Plant in Public Secondary school Questionnaire (USMPPSSQ) was used for data collection, which was designed on 5 point Likert type scale. The instrument was validated and had the reliability coefficient of 0.31. The questionnaires were analyzed using mean which was rated at 2.50 midpoint and standard deviation. The major findings of the study revealed that in a classroom, desk, chairs, staff room tables and chairs were utilized at high extent, science laboratory facilities were also utilized to a large extent, However library and workshop facilities were not adequately provided for.

In another study by Manga (2007) on school plant construction, utilization, maintenance and school effectiveness in secondary schools in Kebbi State, Nigeria. The study adopted the descriptive research design conducted ex-post-facto. Stratified and simple random sampling technique was used to select 63% of 41 schools and 69% of 500 participants for the study respectively. A validated questionnaire with reliability index of 79 was used to generate data. The result of multiple regression and analysis of variance shows that school plant construction, utilization and maintenance were positively, highly and significantly correlated with school effectiveness with calculated value of 76.68.

Akomolafe & Adesua (2015) conducted a study titled classroom environment: a motivating factor towards high academic performance of senior secondary school students in South West Nigeria. The study adopted descriptive survey research design. The population of this study comprises all students of senior secondary schools in the South West Nigeria which consist of Lagos, Ogun, Ondo, Osun, Oyo and Ekiti State. The sample for this study comprised one thousand and fifty (1050) senior secondary schools; three students from three states out of the six states in the south west Geo Political zone. The sample states are Osun, Ondo and Ekiti. The researcher made use of a questionnaire and inventory to collect data. A self-designed questionnaire tagged "Motivation and Academic performance of Senior Secondary Students (MAPSSS) was used to elicit information from the respondents. The results showed that there is a significant relationship between classroom environment and the academic

performance of senior secondary school students.

Philomena (2016) conducted a study on Library use and students academic achievement: Implication for counseling. The researcher explained that, libraries are set up in any educational institution to enhance academic output of students. The findings showed that there exist a significant association between Library Use and Students' academic achievement. The study revealed a significant association between counseling and students' use of school library, it was recommended that school counselors should be proactive in tackling the issue of non-use of school library by students in both secondary and tertiary institutions across Nigeria.

In another study conducted by Gbadamosi (2022) on the availability and utilization of laboratory research and achievements in senior secondary school in the south east Nigeria. The data was analyzed on the basis of two hypotheses using Pearson product moment correlation. Result shows that there is significant relationship between the utilization of laboratory resources and students' academic achievements in Chemistry. The result obtained revealed that most secondary schools do not have adequate resources for Chemistry and the few available are not properly utilized for chemistry instructions in schools. This has a strong influence on students' academic achievement in the subject.

A study was conducted by Pareek (2019), on An Assessment of Availability and Utilization of Laboratory facilities for teaching science at secondary school level. The study was a joint collaboration with India's Ministry of Human Resource Development, the Government of India and the National Council of Educational

Research and Training. Study adopted descriptive survey design. The findings of the study revealed that in most participating schools, there were no separate science laboratories also it was found out that many teachers faced difficulties when conducting science activities due to the large number of students in each class as well as inadequate equipment and materials. The findings highlighted that there was no assessment of science laboratory practical activities, these activities did not contribute directly to the measurement of students' academic performance in science.

Statement of the Problem

School plant is an important ingredient in the promotion of effective teaching-learning activities in our secondary schools. Therefore, it becomes necessary for government and stakeholders to ensure provision and effective utilization of school facilities in order to promote teaching and learning in secondary schools. The important message is that neither over utilization nor under-utilization constitute effectiveness. This logically implies that both over utilization and under-utilization has a negative impact on instructional delivery and subsequently impact administrative effectiveness in public secondary schools in Sokoto State. Therefore, the need to carry out studies of this nature is of paramount importance.

Hypotheses

The following null hypotheses were formulated to guide the study.

1. There is no significant relationship between classroom utilization and administrative effectiveness in senior secondary schools in Sokoto State.
2. There is no significant relationship between library utilization and administrative effectiveness in senior secondary schools in Sokoto State.
3. There is no significant relationship between laboratory utilization and administrative effectiveness in senior secondary schools in Sokoto State.

Methodology

This study employed correlational survey research design with questionnaire as the major instrument of data collection. The population for the study comprises of all the 3,457 teaching staff in the public secondary schools across the six education zones in Sokoto state; (Bodinga, Goronyo, Gwadabawa, Sokoto North, Sokoto South and Yabo Zone). 360 teachers that formed participants were sampled across the six education zones using proportionate and simple random sampling techniques. Research adviser table (2006) was used as a guide.

Instrumentation

Research developed instrument tagged Administrative Effectiveness Questionnaire (AEQ) of four (4) point Likert type rating scale (Strongly Agree (S.A) = 4, agree (A) = 3, Disagree (D) = 2, Strongly Disagree (S.D) = 1) and School Plant Utilization Inventory-Checklist (SPUI-C) were used for data collection. The instrument (AEQ) was moderated by experts in the Department of Educational Foundations, Sokoto State University in order to ascertain its face and content validity. Objectives of the study were taken into consideration during validation exercise. Reliability indexes of 0.87 was established for the AEQ using test-retest method of two weeks interval.

Data collection was carried out with the help of four trained research assistants.

Results

HO₁: There is no significant relationship between utilization of classroom and administrative effectiveness in Senior Secondary Schools in Sokoto State.

Table 1: Summary of Analysis on relationship between utilization of classroom and administrative effectiveness

Variable	N	Mean	Std. Dev.	Rcal	P	Remarks
Utilization of Classroom	60	16.24	6.46	.76	.000	Sig.
Administrative effectiveness	354	42.97	3.17			

Level of Significance = .05

The Pearson Product Moment Correlation (PPMC) used to analyze the relationship between utilization of classroom and administrative effectiveness in senior secondary schools in Sokoto State. R-value of .76 with a p-value of .000 was obtained at a .05 level of significance. Since P-value (.000) is less than .05. Therefore, the null hypothesis was rejected, this means that there was a significant relationship between utilization of classroom and administrative effectiveness in Senior

Secondary Schools in Sokoto state. This implied that there is a possible association between utilization of classroom and administrative effectiveness in Senior Secondary Schools in Sokoto state.

HO₂: There is no significant relationship between utilization of libraries and administrative effectiveness in Public Senior secondary schools in Sokoto State.

Table 2: Summary of on Analysis on relationship between utilization of libraries and administrative effectiveness

Variable	N	Mean	Std. Dev	Rcal	P	Remarks
Utilization of Libraries	63	1.02	.146	.68	0.000	Sig.
Administrative effectiveness	354	32.97	3.17			

Level of Significance = .05

Pearson Product Moment Correlation (PPMC) was used to analyze the relationship between utilization of libraries and administrative effectiveness in senior secondary schools in Sokoto State. R-value of .68 with a p-value of .000 was obtained at a 0.05 level of significance, since P-value (.000) is less than .05. Therefore, the null hypothesis was rejected this means that there is significant relationship between utilization of libraries and

administrative effectiveness in Senior Secondary Schools in Sokoto state. This implies a significance positive association between library utilization and administrative effectiveness in Senior Secondary School.

HO₃: There is no significant relationship between utilization of Laboratory and administrative effectiveness in Public Senior secondary schools in Sokoto State.

Table 3: Summary of Analysis on relationship between utilization of Laboratory and administrative effectiveness

Variable	N	Mean	Std. Dev	Rcal	P	Remarks
Utilization of Laboratory	55	5.92	1.28	.72	0.00	Sig.
Administrative effectiveness	354	42.97	3.17			

Level of Significance = .05

Pearson Product Moment Correlation (PPMC) was used to analyze the relationship between utilization of laboratory and administrative effectiveness in senior secondary schools in Sokoto State. R-value of .72 with p-value of .000 was obtained at .05 level of significance. Since P-value (.000) is less than .05. Therefore, the null hypothesis was rejected this means that there was a significant relationship between utilization of laboratory and administrative effectiveness in public senior secondary schools in Sokoto state is accepted. This implies a positive association between laboratory utilization and administrative effectiveness in senior secondary Schools in Sokoto state.

Discussion

Finding from hypothesis one, as shown in Table 1, revealed that there is significant positive relationship between utilisation of classroom and administrative effectiveness in senior secondary schools in Sokoto state. The finding aligns with Akomolafe & Adesua (2015) submission that there is a significant relationship between classroom environment and academic performance of senior secondary school students in South West, Nigeria; from all indications good classroom increases students' attention and focus and promote meaningful learning and critical thinking skills.

Finding as shown in Table 2, revealed that there is a significant relationship between utilization of

libraries and administrative effectiveness in senior secondary schools in Sokoto state. The study is in line with Philomena (2016) submission that there exist a significant association between library use and student academic achievement. He further explained that libraries are set up in an educational institution to enhance academic output of students. Importantly, libraries need to be spacious accessible and easy for use in order to serve its purpose.

Result as shown in Table 3, revealed that there is a significant relationship between utilization of laboratory and administrative effectiveness in senior secondary schools in Sokoto state. This finding corroborates Gbadamosi (2022) submission that there is positive association between utilisation of laboratory resources and student academic achievement in chemistry. This necessarily implies that secondary schools are expected to provide well equipped science laboratory for students in order to understand different concepts of science and develop the benefit of science.

Conclusion

School plant is an important ingredient in the provision of effective teaching-learning activities in secondary schools. School plant comprises of all the physical facilities and materials resources in the learning environment which promote instructional delivery. Classroom provides conducive

environment for theoretical lessons and other instructional activities, library provide place for students to read and conduct research, laboratory provide place for students to conduct scientific experiments. Effective utilisation of school plant is a collective responsibilities of school heads, teachers, and students. Precisely, excellent school plant utilisation is the basic ingredient for good education programme and basis for achieving set targets.

The present study established significant positive association between the identified school plant utilisation (classroom, library and laboratory) and administrative effectiveness in secondary schools. This necessarily implies that effective school plant utilisation could be instrumental to school organizational goal attainment.

Recommendations

The following recommendations were generated from the findings:

1. Government should build sufficient modern and conductive classrooms and equally embark on renovation of those in dilapidated condition. Not only that the school administrators should encourage teachers on the need to improve their classroom management in order to make the classroom environment comfortable and functional for learning to take place so that students can learn and perform better.
2. Ministry of Education must ensure that all secondary schools are provided with well-furnished and equipped libraries with sufficient books and ensure that students are making optimal use of it in order to ensure smooth attainment of educational goals in the state.

3. State government through the ministry of education and ministry of science and technical education must ensure that well-furnished and properly equipped laboratories are provided in all the senior secondary schools in the state.

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