

ASSESSMENT OF SCHOOL PLANT AVAILABILITY AND UTILISATION IN PUBLIC SECONDARY SCHOOLS IN DAURA ZONAL EDUCATION QUALITY ASSURANCE, KATSINA STATE, NIGERIA

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Abstract

This study was carried out in order to assess school plant availability and utilisation in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state, Nigeria. To achieve this purpose, three research questions were formulated, and three hypotheses were tested. Descriptive survey research design was adopted for this study, the population of the study consisted of all public secondary schools in Daura Zonal Education Quality Assurance Katsina state, estimated to be 744, while the sample of the study comprised 260 respondents, selected through simple random sampling and stratified sample technique. Data was collected using self-developed questionnaire on modified Likert scale type titled Questionnaire for Assessment of School Plant Availability and Utilization (QASPAU). Data collected was analysed using both descriptive and inferential statistics. One Way Analysis of Variance was used in testing all the hypotheses at 0.05 level of significance. Based on the result of the study, it was found that there was significance difference in the opinion of the respondents regarding the availability and utilisation of school plant for effective teaching/learning. Based on these recommendations were offered which included among others the need for relevant authorities to prioritize building more and provide adequate classrooms and other needed facilities to ensure the sustainability and utilization of teaching facilities by both staff and students as this will promote effective teaching and learning.

Keywords: availability, assessment, education, school, school plant, utilization

Introduction

Education is the process of facilitating learning or the acquisition of knowledge, skills, values, morals, beliefs and habits. Education helps to build good character and make people to learn different cultures and how other people live. Education is a social institution through which society provides its members with important knowledge, such as basic facts, job skills and cultural norms and values. Education improves personal life of people and helps towards the peaceful co-existence of the society. The school plant is the total sum of buildings, equipment, offices and the surrounding where effective teaching and learning take place. In short the school plant includes all permanent and semi - permanent structures in the school or erect and non-erect building used by staff and students.

In Nigeria, education has been adopted as an instrument for achieving the national objectives, Federal Government of Nigeria (FGN, 2014). As an independent and developing nation confronted with the problems of nation-building, social integration and economic development, education is seen and adopted as a means of dealing with the great problem of national development. It is through education that the sense of national unity, patriotism and loyalty, are transmitted into members of the society. Any nation desires to have a well-educated workforce with the ability to think and analyse, using

varied reasoning and problem solving skills in an integrated manner. This is necessary for national developments. Basically, every subject in tertiary institutions system should be able to provide skills like critical thinking, desirable moral standards, problem- solving skills, positive attitudes, mutual respect and many others (FRN, 2014).

School plant is an integral part of educational programmes in which its availability and utilization require to be assessed in order to ensure an effective management of the available school plant. Therefore, principals in secondary school are charged for regular inspection and supervision to ensure proper utilization of available school plants.

However, School plant is described as the site, the buildings, the equipment and all the essential structures, permanent and semi-permanent as well as such machines and laboratory equipment, the blackboard/chalkboard needed for effective teaching. According to Obi (2013) school plant includes the school buildings, play-ground, furniture, class-room, library, hostel, apparatus and equipment, school offices, black-boards, school records etc. Planned organization of these materials or physical resources in the school is known as school plant. School plant according to Austin (2014) is the site, building, equipment and all the facilities within the school which enhance the teaching and learning process and at the same time protects the physical well-being of the teachers and the learners. Realizing the important role, a functional school plant plays in the educational process, school administrators constantly strive to improve on available facilities by utilizing various management practices to ensure that the school plant is kept in a functional state to serve its purpose. School plant maintenance has been described by Okeke (2013) as the keeping of school site, building and equipment in their original state of utility as possible. School buildings and grounds must inevitably have tears and wears resulting from use, there must be regular maintenance for them to have a long life. It is important to provide high-quality education programme. More important, by investing in strong preventative maintenance programme, because school facilities can continue to serve students for long periods of time.

According to Adeboyeje (2010) and Emetarom (2014), school facilities are the physical and spatial enablers of teaching and learning which will increase the production of results. School facilities serve as pillars of support for effective teaching and learning. Oyesola (2011) posits that school plant include permanent and semi-permanent structures such as machinery, laboratory equipment, the blackboard, teacher's tools and other equipment as well as consumables. Good quality and standard of school depend largely on the provision, adequacy, utilization and management of education facilities. Akinsolu (2014) asserted that Education Curriculum cannot be sound and well operated with poor and badly school plant. From all indication, school facilities are physical resources that facilitate effective teaching and learning. They include blocks of classrooms, laboratories, workshops, libraries, equipment, consumables, electricity, water, visual and audio-visual aids, tables, desks, chairs, playground, storage space and toilets.

In Nigeria, public schools' enrolment has continued to increase without corresponding increase in facilities for effective teaching and learning, (Okeke 2013). As a result of underfunding of education in Nigeria, the government has been encouraging proper maintenance of available school facilities. School plant management entails ensuring that the facilities are kept near their original state as possible. This involves keeping the school sports and football field clean, periodic renovation of the buildings, servicing the school bus and generator sets, repairs etc. for the purpose of restoring the facilities to optimum working condition. Olagboje (1998) sees school plant maintenance as any work carried out on any component of the plant with a view to keeping it at good working condition. According to Hinum (1999) the quality and durability of a building largely depend on the type and

level of servicing, repairs and the rate at which the needs and requirements change. School facilities management involves keeping records of the facilities, supervising the facilities, planning for the facilities, motivating students and teachers to participate in facilities maintenance and evaluating the available facilities.

School plants are the material resources provided for staff and students to optimize their productivity in teaching and learning process. The realization that the transfer of knowledge does not only take place in the four walls of the classroom from teacher to students but rather that, learning takes place through discovery, exploration, interaction with the internal and external environment has necessitated the creative and innovative development of teaching and learning facilities that reflect these changes (Asiabaka, 2018). The concept of school plant according to Peretomode (2015), are “those things of education” which enable a skilful teacher to achieve a level of instructional effectiveness that far exceeds what is possible when they are not provided. This definition failed to provide basis for distinguishing school and plant facilities from human resources. The things of education“ is a wider scope, because „things of education“ is much more than school plant and facilities in educational circle, for it included the administrators, teachers, non-teaching staff and even the stakeholders of education who are not in any way school plant and facilities. Wunti (2014) defined school plant and facilities as “engines of growth in learning” which support the teacher and the learner for effective and efficient teaching and learning for the attainment of goals and objectives of education. Tahir (2013), refers school plant and facilities “as physical and spatial enablers and enhancers of teaching and learning. In the context of secondary school education, school plant and facilities include classrooms, libraries, farms, gardens, laboratories, workshops, offices, stores, school buildings, staff quarters, chairs, tables, text books, magazines, journals, pictures, filmstrips, charts, bulletin board, posters, cartoons, school museums and archives, chalk-boards, play fields etc. Such physical structures that are available in Nigeria includes permanent structures, semi-permanent, temporary, mobile, collapsible, boat-school and even under the tree shade (Roy, 2018). He asserted also that the goal of school plant and facilities development in primary education is to increase school attendance, motivation and to improve academic performance of students.

A study by Muraine, Joshua and Kayode (2021) was conducted on empirical analysis of school plant planning as a determinant of secondary school students’ academic performance. The result of the findings resulted to recommend by the researcher that, schools should be supplied with electricity and need for proper maintenance among others. Study conducted by Chukwu, Ishiwu and Nwobodo (2023) investigated the Influence of school plant planning and school community relationship on Principals’ Effectiveness in Secondary School Administration in Enugu State. The findings of the study revealed that school plant planning and school community relationship influences principals’ effectiveness in secondary school administration.

The system approach to management views the organization as a united purposeful system composed of interrelating parts. This approach gives managers a way of looking at the organization as a whole part of the larger external environment. Systems theory tells us that the activity of any segment of an organization affects in varying degrees the activities of every other segment. The point of the systems approach is that managers cannot function wholly within the confines of the traditional organizational chart. They must harmonize their departments with the whole enterprise and to do that, they have to communicate with other employees and departments and frequently with representatives of other organizations as well.

This assertion can be related to the present study because the school management cannot make effective decision concerning the assessment of public secondary school plant and its challenges

without relating to the people within the school environment and outside the environment (stakeholders). That is, the staff, Principals, parents and the quality assurance staff in which the schools is situated. The above contention is supported by Oboegbulam (2004) in her opinion that no school can operate in vacuum without the society or community it serves.

Statement of the Problem

It is the duty of the school administrators to ensure that the school plant is ready for use as at when due and that they are correctly used for the purpose for which it is meant. This is imperative in order to prevent any interruption of educational programmes. It has been noted that using school plant (equipment and buildings) in the right manner prolongs the life spans and prevents avoidable damage. Today many of secondary schools in Daura Zonal Education Quality Assurance, Katsina state are in a situation of disrepair. As observed by the researcher, most of them have dilapidated buildings, cracked walls, broken windows and leaking roofs due to poor maintenance culture of the buildings by the appropriate stakeholders.

Also, it was observed by the researcher that the available classrooms are poorly ventilated with little or no source of power. Students barely find chairs to sit and teachers find it difficult to achieve effective teaching. Teaching equipment of all sorts are increasingly in short supply in schools. Most of the secondary schools teach science, agricultural science, ICT, basic technology etc. without carrying out practical experiments in such subjects. It is against this background that the researcher was motivated to carry out this research which focused on the assessment of school plant and its challenges among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state, Nigeria. The main purpose was to investigate the extent to which the school plants are available, adequate and are being utilised among public secondary schools in the study area.

Objectives of the Study

The following objectives were set out to guide the study:

1. To determine the availability and utilisation of classrooms in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.
2. To determine the availability and utilisation of equipment in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.
3. To determine the availability and utilisation of libraries in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Research Questions

The following research questions were formulated and answered:

1. Are classrooms available and utilised in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state?
2. Is equipment available and utilised in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state?
3. Are libraries available and utilised for in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant difference in the opinions of the respondents regarding the availability and utilisation of classrooms in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.
2. There is no significant difference in the opinions of the respondents regarding the availability and utilisation of equipment in public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.
3. There is no significant difference in the opinions of the respondents regarding the availability and utilisation of libraries public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Methodology

In this study, descriptive survey research design was adopted. The population of the study comprised of 744 respondents which contained 675 teachers, 34 principals and 35 Quality Assurance officials respectively. The study covers a total of 34 public secondary schools located across the three local government areas of Daura Zonal Education Quality Assurance, Katsina State. The sampling technique used in the study was simple random sampling technique which determined the sample size of 191 teachers and 34 principals and 35 quality assurance officials using Research Advisor (2010). A questionnaire titled as Questionnaire for Assessment of School Plant Availability and Utilization (QASPAU) was used for data collection. The instrument is validated by an expert in Educational Management and reliability coefficient of the instrument is obtained 0.765. The instrument was designed in two sections such as A and B sections. Section A which contained the demographic data of the respondents. Section B contained statements for School Plant availability and utilization in a four Likert Scale as Sufficient Available (SA); Available (A); Not Sure (NS); and Not Available (NA) for availability while for utilization the following options were used: Maximum Utilisation (MU); Utilisation (U); Not Sure (NS); and Not Utilised (NU). Also, for the remaining sections, the following options were used (SA) for Strongly Agree, (A) for Agree, (D) for Disagree, and (SD) for Strongly Disagree. The data collected was analysed using ANOVA at 0.05 level of significance.

Results

There is no significant difference in the opinion of the respondents regarding the availability and utilisation of classrooms among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Table 1. Difference in the Opinions of the Respondents regarding the Availability and Utilisation of Classrooms in Public Secondary Schools in Daura Zonal Education Quality Assurance, Katsina State

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	45.705	2	22.852	7.100	.001
Within Groups	827.199	257	3.219		
Total	872.904	259			

From Table 1 above, the differences in the opinion of the respondents regarding the availability and utilisation of classrooms among public secondary schools in Daura Zonal Education Quality

Assurance, Katsina state was $F(2/257) = 7.100$, and $p = .001$. Now since the p-value (.001) was less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis is adopted. So, the researcher concluded that there is a significant difference in the opinion of the respondents regarding the availability and utilisation of classrooms among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Since significant difference was observed, there was need to conduct the Scheffe's test to find out which pairs of means were significant. The test was conducted and it was found that the mean difference is significant among Principals and Teachers, as well among Principals and Quality Assurance staff as shown in the Table 2.0. There is no significant difference in the opinion of the respondents regarding the availability and utilisation of equipment among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Table 2: Difference in the Opinions of the Respondents regarding the Availability and Utilisation of Equipment in Public Secondary Schools in Daura Zonal Education Quality Assurance, Katsina State

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	18.657	2	9.328	3.206	.042
Within Groups	747.728	257	2.909		
Total	766.385	259			

From Table 2 above, the differences in the opinion of the respondents regarding the availability and utilisation of equipment for among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state was $F(2/257) = 3.206$, and $p = .042$. Now since the p-value (.042) was less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis is adopted. So, the researcher concluded that there is a significant difference in the opinion of the respondents regarding the availability and utilisation of equipment among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Since significant difference was observed, there was need to conduct the Scheffe's test to find out which pairs of means are significant. The test was conducted and it was found that the mean difference was only significant within each group and not between groups as shown in the table 2.0.

There is no significant difference in the opinion of the respondents regarding the availability and utilisation of libraries among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Table 3: Difference in the Opinions of the Respondents regarding the Availability and Utilisation of Libraries in Public Secondary Schools in Daura Zonal Education Quality Assurance, Katsina State

Source	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	72.747	2	36.373	10.006	.000
Within Groups	934.249	257	3.635		
Total	1006.996	259			

From Table 3 above, the differences in the opinion of the respondents regarding the availability and utilisation of libraries among public secondary schools in Daura Zonal Education Quality Assurance,

Katsina state was $F(2/257) = 10.006$, and $p = .000$. Now since the p-value (.000) is less than the alpha value (.05), the null hypothesis is hereby rejected and the alternate hypothesis was adopted. So, the researcher concluded that there is a significant difference in the opinion of the respondents regarding the availability and utilisation of libraries among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Since significant difference was observed, there was need to conduct the Scheffe's test to find out which pairs of means were significant. The test was conducted and it was found that the mean difference was significant among Principals and Teachers, as well among Principals and Quality Assurance staff as shown in the above table.

Summary of Findings

Based on the results presented, the following are the major findings of the study:

That, there was significant difference in the opinion of the respondents regarding the availability and utilisation of classrooms for effective teaching/learning among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state ($F(2/257) = 7.100$, $p = .001$).

That, there is significant difference in the opinion of the respondents regarding the availability and utilisation of equipment for effective teaching/learning among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state ($F(2/257) = 3.206$, $p = .042$).

That, there is significant difference in the opinion of the respondents regarding the availability and utilisation of libraries for effective teaching/learning among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state ($F(2/257) = 10.006$, $p = .000$).

Discussion

Findings from testing the hypothesis One revealed that although the respondents differed in their opinion regarding the availability and utilisation of all the school plant being considered as classroom, but in most of the cases the differences observed were on the extent of the availability and the utilisation and not on whether the school plant facilities were available or not and as well not on whether the available ones were being utilised for effective teaching/learning or not. This can be established when the raw scores and the mean scores are carefully studied as well as the differences within each group of respondents and between the three groups as well.

The implication of this finding is that almost majority of the respondents agreed that most of the school plant facilities that are needed for ensuring effective teaching/learning were not adequately available in most of the schools and the available ones were not put under proper utilisation for that purpose.

In the second hypothesis, the finding shows that there is a significant difference in the opinion of the respondents regarding the availability and utilisation of equipment among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

While the third hypothesis shows that, there is a significant difference in the opinion of the respondents regarding the availability and utilisation of libraries among public secondary schools in Daura Zonal Education Quality Assurance, Katsina state.

Conclusion

Based on the findings of this study, the researcher concluded that many of the required school plant facilities that enhance effective teaching/learning among the teachers and students were not readily available in the study area. This is because, among the seven school plant facilities under

investigation, only classrooms, sport facilities, and staff offices were found to be available and were being utilised. Other facilities such as equipment, libraries, laboratories, and furniture were not adequately available, and the available ones were not being fully utilised for effective teaching/learning purpose

Recommendations

In line with findings, the study recommended that:

There is need for relevant authorities to prioritize building more and provide adequate classrooms to ensure the sustainability and utilization of teaching facilities by both staff and students as this will promote effective teaching and learning.

Teaching equipment need to be provided by relevant stakeholders in almost all the public secondary schools in the study area.

Functional libraries need to be provided with modern ICT facilities to ensure effective teaching/learning to take place in almost all the public secondary schools in the study area

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