

**SCHOOL PLANT MANAGEMENT AND STUDENTS' ACADEMIC
PERFORMANCE IN KWARA STATE SECONDARY SCHOOLS, NIGERIA.**

By

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Abstract

This study examined the existing relationship between school plant management and students' academic performance in Kwara state secondary schools, Nigeria. A descriptive survey research design of a correlation type was adopted. Stratified random sampling technique was used to select 450 respondents from 124 public secondary schools in Kwara central, while only principals, vice-principals and heads of departments were selected as the respondents. One questionnaire titled School Plant Management Questionnaire (SPMQ) comprises of fifteen item statements and Students' Academic Performance Format (SAPF) were used to collect the required data. The instrument was face and content validated, while test-re-test was used to test for the reliability of SPMQ. The value of the reliability was 0.87. Pearson Product Moment correlation was used to find the relationship between school plant management and students' academic performance at 0.05 level of significance. The result reveals that school plant management had a positive significant relationship with students' academic performance in Kwara State public secondary schools, Nigeria. Therefore, it was recommended that the issue of school plant management be taken serious and promoted in order to enhance the academic performance of students in Kwara State secondary schools. Also management of school plant should be directly related to the implementation of educational programme in order to provide adequate, appropriate and organized spaces to facilitate and support teaching and learning activities in secondary schools among others.

Introduction

Nigeria, like other nations of the world, has an obligation to prepare her children and youth for life as adults in a world characterized by rapid social, economic and technological changes. The federal and state governments have invested huge resources in setting up educational institutions from primary through the tertiary levels of the educational system for this purpose. The development, maintenance and operation of these institutions are an important aspect of public school administration in the country. The extent to which this important function is effectively performed will determine the extent to which the country will meet its educational goals and aspirations for the young ones. Effective and efficient management of institutions of learning in the country is as important as building the structures.

For the purpose of this study, the term school plant means the school building, all materials, furniture and equipment attached and unattached to the building; all structures and features on the school site, including path-roads, parking lots, playgrounds, open grounds, trees, flowers and other objects used for supporting and implementing educational programmes. School plant management is the application of scientific methods in the planning, organizing, decision-making, co-ordination and controlling of the physical environment of teaching and learning to achieve educational goals and objectives.

Secondary education has the broad aim of preparing students for useful living within the society and preparing them for higher education. However, school plant in addition to human resources constitutes vital input into educational system. School plant includes non-human resources such as the site, school buildings, classroom, accommodation, libraries, laboratories, furniture, recreational equipment, apparatus and other instructional materials.

The availability, relevance and adequacy of these facilities contribute to academic achievement. Adesina (1981) asserted that the quality of education that our children receive bears direct relevance to the availability or lack of physical facilities i.e. school plant and overall atmosphere in which learning takes places. Other scholar (Wilcockson 1998, Lawal 1999, Ajayi 2004 & Suleiman 1996) has variously identified the significance of school plant in teaching-learning process.

According to Hallak (2000), school plant form one of the potential factors that contribute to academic achievement in the school system. Thus, absences or poor (and or deteriorating) quality of educational facilities can affect academic performance negatively. For School plant to play effective role and to enhance productivity in educational system, it must be relevant, adequate, utilized and well maintained. London (2003) stated that in many developing nation certain physical facilities are not in existence, and that those instances where facilities are available many are of sub-standard quality.

Many research studies have revealed that a significant relationship existed between school environment and student's attitude to schooling (Akinsolu, 2007; Ikoya and Onoyase, 2008). Studies have also shown that the conditions of school facilities have a strong effect on academic performance

of pupils. Chan (1999) found that students who were taught in modernized buildings scored consistently higher across a range of standardized tests.

In addition, Adewumi (1999) stressed that the quality and quantity of educational facilities available within an educational system positively correlate with the quality and standard of the educational system. Many scholars, researchers, administrators and educational planners have confirmed that school facilities in Nigerian schools are inadequate and few available ones are being over utilized due to the astronomical increase in school enrolment. Ikoya and Onoyase (2008) reported that only 26% of secondary schools across the country have school infrastructures in adequate quality and quantity. Ajayi (2004) reported that most of the Nigerian primary schools are dilapidated due to inadequate funding while most tertiary institutions are living in their past glories. Such situation hinders effective teaching and learning, making the process rigorous and uninteresting to students and teachers.

Wilcockson (1994), Lawal (1999), Ajayi (1999) and Owioye (2000) have long identified the importance of school facilities in teaching and learning while the inadequacy, deterioration and lack of maintenance of these facilities will spell doom for the teachers and students in the teaching and learning activities. Negligence in the maintenance of school facilities has many negative consequences. When school plants are not well managed and maintained, they constitute health hazards to pupils and teachers who use the facilities. Even large amount of money invested on school facilities are wasted.

It has been observed that school plants are not been maintained by school administrators and hence their depreciation. The administrators appears to spend much time on instructional planning, curriculum development, personnel development and community relations claiming that the management and maintenance of the school facilities is the sole preserves of the government. The adequacy of the school facilities maintenance provided and the roles of school administrators in the management and maintenance of school facilities encourages student's academic achievement (Sulaiman, 1996).

It is against this background that the study sought to examine the relationship between school plant management and students' academic performance in Kwara state secondary schools, Nigeria. It would further determine the relative contributions of each component of the independent variables (school plant management) to dependent variable (students' academic performance) with a view of generating some necessary recommendations towards improving students' academic performance.

Purpose of the Study

The main purpose of this study is to examine school plant management as a determinant of students' academic performance in Kwara state public secondary schools, Nigeria. Other purposes include to examine the relationship between;

1. School buildings management and students' academic performance in Kwara state public secondary schools.

2. School furniture and equipment management and students' academic performance in Kwara state public secondary schools.
3. School playgrounds management and students' academic performance in Kwara state public secondary schools.

Scope and Delimitation of the Study

This study covered the three senatorial distinct of Kwara state, Nigeria. They are Kwara Central, North and South, but the study was limited to only Kwara central senatorial distinct. The indicators of school plant management includes school buildings, furniture and equipment, playing grounds, flowers, trees, open grounds etc. only three of these indicators were examined in this study; these are school buildings, furniture equipment and playground. While students' academic performance were measured through the students' performance in Senior Secondary School Examination Certificate (SSCE) in five consecutive years (2000-2014 academic sessions).

Significance of the Study

This study would assist principals to be familiar with the responsibility of managing the school plant. The principals may not be knowledgeable in some aspects of school plant management such as school facility design and building construction, but his/her inputs and, in some cases, the inputs of other school staff during decision making in these areas may be necessary as it is the principals and the staff that will make use of the buildings upon completion.

It would also assist the principals that part of his/her responsibilities is to ensure that the school plant is open for use effectively and efficiently on daily basis and that it is kept neat and tidy always.

School Plant Management and Students' Academic Performance

The primary purpose of the teaching and learning process is to bring about in the learner desirable change in behaviour through critical thinking. This process does not take place in a vacuum but rather in an environment structured to facilitate learning. Stoner, Freeman and Gilbert (2001) described the environment of an organization as all elements relevant to its operation and they include direct and indirect action elements. School facilities constitute the major component of both direct and indirect action of the element in the environment of learning. Several studies have shown that a close relationship exists between the physical environment and the academic performance of students. For example, Nwagwu (2002) as well as Ogunsaju (1990) maintained that the quality of education that children receive bears direct relevance to the availability or lack thereof of physical facilities and overall atmosphere in which learning takes place. The school facilities consist of all buildings for academic and non-academic activities, equipment for academic and non-academic activities areas for sports and games, landscape, farms and gardens. Others include furniture, toilet facilities, lighting acoustics, storage facilities and parking lot, security, transportation, ICT, cleaning materials, food services and special facilities for the physically challenged persons. These facilities play important role

in the actualization of the educational goals and objectives by satisfying the physical and emotional needs of the staff and students of the school.

Knezevich (2001) emphasized that the physical needs are met through provision of safe structure, adequate sanitary facilities, a balanced visual environment, appropriate thermal environment and sufficient shelter space for his work and play. His emotional needs are met by creating pleasant surroundings, a friendly atmosphere, and an inspiring environment. The educational system has undergone tremendous changes in the form of its philosophy, broadened goals and objectives, new approaches to service delivery and architectural design, quantum leap in school enrolment, multiplicity of curricula programmes and extra-curricular activities introduction of information and communication technology ICT and expanded academic support service such as guidance services to students teachers and the community, integration of the school and community. The resultant effect of all these changes is the need for creative and innovative steps in the management of school facilities. For examples, research findings have shown that students learn better when a combination of method and materials are employed during teaching.

Furthermore, emphasis has shifted towards giving individual attention to students as against teaching large classes which presuppose that all students in a class have the ability to learn at the same pace. The implication of the foregoing is that in designing school plant, provision should be made for individual and small group interaction and for large groups for academic and social activities. Fenker (2004) stated that facilities' management is a process that ensures that building and other technical systems support the operations of an organization.

Earthman (2002) described facilities management as the practice of co-ordination of the physical workplace with the people and the work of the organization; it integrates the principles of business administration, architecture and the behavioural and engineering sciences. School facilities management is the application of scientific methods in the planning, organizing, decision-making, co-ordination and controlling of the physical environment of learning for the actualization of the educational goals and objectives. This involves among other things, collective decision making in relation to selection of site for establishment of new schools, design and construction of new school plants including grounds, renovation and modernization of old plants, provision of equipment for academic and non-academic activities, maintenance of all facilities and review of management practices and processes.

Main Hypothesis

There is no significant relationship between school plant management and students' academic performance in Kwara state secondary schools, Nigeria.

Operational Hypotheses

H₀: There is no significant relationship between school buildings management and students' academic performance in Kwara State Public secondary schools.

Ho: There is no significant relationship between school furniture and equipment management and students' academic performance in Kwara State Public secondary Schools.

Ho: There is no significant relationship between school playgrounds management and students' academic performance in Kwara State Public Secondary Schools.

Methodology

The study adopted a descriptive survey research design, using questionnaire as the major instrument for data collection. Stratified random sampling technique was used to select 450 respondents from 124 public senior secondary schools in Kwara central. Only principals, vice-principals and heads of departments were purposely selected as the respondents because they are the major elements that appropriately satisfy the requirements of the study. School population stratification was based on the dimensions of Local Government Areas. There are five local governments in Kwara Central and six schools were sampled from each local government. The sample characteristics could therefore be described as a better approximation of the population characteristics and this enhances proper generalizability of the results of the sample.

For the purpose of this study, one questionnaire and one format were used as instrument. The questionnaire titled "School Plant Management Questionnaire" (SPMQ) comprises of fifteen items in the areas of school buildings school furniture and equipment and school playgrounds management. On the other hand "Students' Academic Performance Format" (SAPF) supplied information on the schools West African Senior Secondary Schools Certificates Result between 2010 and 2014 academic sessions.

The instruments were validated for face and content validities, while test re-test reliability technique yielded co-efficient of 0.87 for SPMQ only. The data collected were analyzed through Pearson Product Moment correlation statistics for main and operational hypotheses at 0.05 level of significance.

Results and Discussion of Findings

Main Hypothesis

There is no significant relationship between School Plant Management and Students' academic performance in Kwara State secondary schools, Nigeria.

Table 1: Correlational Analysis of School Plant Management and Students' Academic Performance

Variables	N	Mean	S.D	df	Cal-r-value	Crit-r-value	Decision
School plant management	450	78.59	21.26	449	0.7481	0.196	Ho: Rejected
Students' academic performance	450	57.68	12.28				

From table 1, the Pearson calculated r-value is 0.7481 which is greater than the critical r-value of 0.196 at 0.05 level of significance and for 449 degrees of freedom. Hence, the null hypothesis is rejected. This shows that there is significant relationship between school plant management and students' academic performance in Kwara State Secondary Schools, Nigeria.

The finding of this study shows that the school plant in the selected schools were adequately managed and utilized effectively towards achieving good academic performance in selected schools. This finding is in line with results of some studies on specific quality factors have been summarized by Young, Green, and Roehrich - Patrick (2003) that students had higher achievement scores in newer facilities. As the age of the facilities decreased, there was a corresponding increase in mathematics, reading and composition. The studies further stressed that stimulating environments promoted positive attitudes in students.

The implication of this finding is indicated that the school plants were used not only to provide conducive environment for both teaching and learning, but also to ensure a safe, secure hygiene and comfortable shelter for students, teachers and other staff as teaching, learning and other activities of the school take place. The whole school plant, and not just the school building, can thus be conceived as an instrument in education (Hagman, 1956).

American Federation of Teachers (1997) also believed that the physical conditions under which teachers work have direct positive and negative effects on their morale sense of personal safety, feelings of effectiveness in the classroom and the general learning environment.

Operational Hypotheses

Ho: There is no significant relationship between school buildings management and students' academic performance in Kwara State Public Secondary Schools.

Table 2: Correlational analysis of school buildings management and students' academic performance

Variables	N	Mean	S.D	df	Cal-r-value	Crit-r-value	Decision
School building management	450	42.96	9.268	449	0.6224	0.196	Ho: Rejected
Students' academic performance	450	57.68	12.28				

Table 2 revealed that the Pearson calculated r-value of 0.6224 is greater than the critical r-value of 0.196 at 0.05 level of significance and for 449 degrees of freedom. This, the null hypothesis is rejected. Therefore, there is significant relationship between school building management and students' academic performance in Kwara State Public Secondary Schools.

This supports the outcome of the study carried out by Ayoku (2005) which shows that there was significant relationship between utilization of school buildings and school effectiveness in Kwara State Secondary Schools. The study of Oshodi (1991) was also in line with this finding, where he

discovered that there was a positive significant relationship between resources utilization and students' academic performance in Kwara State Secondary Schools.

Ejeh, Feidipe and Ajadi (2004) stressed the important of school buildings that the school building generates its own ethos to the learners' by virtue of its appearance, design and general environment in which it is set. However, it is observed that a child's or learners' sense of belonging to any school would be strengthened if its physical plant (school building) is sound, functional and pleasing to the eye.

Ho: There is no significant relationship between school furniture and equipment management and students' academic performance in Kwara State Public Secondary Schools.

Table 3: Correlational analysis of school furniture and equipment management and students' academic performance

Variables	N	Mean	S.D	df	Cal-r-value	Crit-r-value	Decision
School furniture and equipment management	450	38.41	10.36	449	0.5986	0.196	Ho: Rejected
Students' Academic performance	450	57.68	12.28				

Table 3 indicates that the Pearson calculated r-value of 0.5986 is greater than the critical r-value of 0.196 at 0.05 level of significance and for 449 degrees of freedom. Hence, the null hypothesis is rejected. This shows that there is significant relationship between school furniture and equipment management and students' academic performance in Kwara State Public Secondary Schools.

This implies that school furniture and equipment is one of strong development of students' academic performance in secondary schools. This is because a well furnished school would automatically enhance students' academic performance. This result corroborates the earlier finding of Afolabi (2004) that school furniture had significant relationship with organizational effectiveness in Kwara state owned tertiary institutions. The study of Ayoku (2005) also supported this finding that there was positive significant relationship between availability of school furniture and school effectiveness in Kwara State secondary schools.

Oyedeji (2000) further elucidated that variation in students' academic performance can be related to the availability or otherwise of physical facilities such as furniture and other related materials in the school. Therefore, it concluded that a school that is well equipped with furniture has the capacity of encouraging students to engage in a studying process hence, it is assumed that school infrastructure such as buildings and furniture have the capacity of affecting scholastic performance of students.

Ho: There is no significant relationship between school playgrounds management and students' academic performance in Kwara State Public Secondary Schools.

Table 4: Correlational analysis of school playgrounds management and students' academic performance

Variables	N	Mean	S.D	df	Cal-r-value	Crit-r-value	Decision
School playgrounds management	450	31.27	11.27				
				449	0.4826	0.196	Ho: Rejected
Students' Academic performance	450	57.68	12.28				

Table 4 shows the Pearson calculated r-value is 0.4926 greater than the critical v-value of 0.196 at 0.05 level of significance and for 449 degrees of freedom. Thus, the null hypothesis is rejected. Therefore there is significant relationship between school playgrounds management and students' academic performance in Kwara state public secondary schools.

The result of this finding showed that playgrounds management has positive effect on students' academic performance. Ladani (2007) identified facilities as a major factor contributing to academic achievement in secondary school system. These facilities include; all recreational facilities such as playgrounds. Ayoku (2005) earlier confirmed in his study that there is significant relationship between availability of school recreational facilities and school effectiveness in Kwara state secondary schools which was in line with the finding of the present study.

Conclusion

The findings of this study shows that school plant management had significant relationship with students' academic performance in Kwara state public secondary schools, Nigeria. This is because the curriculum finds its physical expression in the construction and arrangement of the school plant. Therefore, the number and types of equipment and materials available, the sizes of learning spaces within the school plant have an influence on the methods and quality of teaching and learning which adversely resulted to good students' academic performance

Recommendations

Based on the findings of this study, it is therefore recommended that;

1. The issue of school plant management be taken serious and promoted in order to enhance the academic performance of students in Kwara state secondary schools.
2. A smooth implementation of an educational programme can only occur and the chances of actualizing its goals can be enhanced if the school plant possesses some desirable qualities or standards. In doing this, government efforts should be directed to planning, designing and constructing school plants that would improve the present standard of school plant management.

3. The management of school plant should be directly related to the implementation of educational programmes in order to provide adequate, appropriate and organized spaces to facilitate and support teaching and learning activities in secondary schools.
4. There should be an improvement in the present conditions of furniture and equipments through rehabilitation of existing ones and procuring new ones where necessary in order to meet the target goals of the education reforms in the state.
5. The existing playgrounds in all the schools need to be reconstructed and rehabilitated to serve its purposes of sporting and recreational activities of students.

References

- Adesina, S. (1981). *Some aspects of school management*. Ibadan: Board Publications Ltd.
- Adewumi, J.K. (1999). *Resource situation and internal efficiency of technical colleges in Nigerian*. Unpublished Ph.D. Thesis, University of Ibadan, Ibadan, Nigeria
- Afolabi, S. O. (2004). *Influence resource utilization on organization effectiveness in Kwara State government owned territory institutions*. Unpublished Ph.D. thesis, department of educational management, university of Ilorin, Ilorin, Nigeria
- Ajayi, T. A. (2004). *Effective Planning Strategies for the UBE programme in Nigeria*. In T. Ajayi, et. al. (eds). Planning and administration of universal Basic Education (UBE) in Nigeria. Ondo: NIEPA
- Ajayi, A. O. (1999). *Resources utilization: The Mandate of Education managers*. Faculty lectures series, faculty of education, university of Ibadan, Ibadan
- Akinsolu, R. A. (2007). *Provision and management of facilities in Nigeria Primary Schools*. In E.O. Fagbemiye, J.B. Babalola, M. Fabunmi and Ayeni (eds). Management of Primary and Secondary education in Nigeria. NAEAP publications
- American Federation of Teachers (1997). *Poor Physical Plant Affects student Achievement and Discipline*. *American Teacher*
- Ayoku, O. B. (2005). *Influence of Physical resources availability and utilization on secondary school effectiveness in Kwara State*. An unpublished Ph.D. thesis, university of Ilorin, Ilorin, Nigeria.
- Chan, T. (1999). *The impacts of school building age on pupils' achievement*. Greenville school districts (Ed 191238)
- Earthman, G. I. (2002). *School facility conditions and students Academic Achievement*. Los Angeles, C.A.: UCLA'S Institute for Democracy, Education and Ideas.
- Ejich, M.U.C, Fadipe, O.J, & Ajochi, T (2014). *Course guide EDA713 school plant management*. National Open university of Nigeria.
- Fenker, M. (2004). *Organisational change, Representations and Facilities*. In K. Alexander (Ed) *Facilities and Management: Innovation and Performance*. UK: Taylor and Francis.
- Hagman, H.L. (1956). *Administration of Elementary Schools*. New York: Mc Graw Hill
- Hallak, J. (2000). *Investing of future: setting education priority in development world*. Paris: UNESCO. ILEP
- Ikoya, P. O. and Omoyase, D. (2008). *Universal basic education in Nigeria: Availability of infrastructures for effective programme implementation*. *Educational studies*

- Knwzevich, S.I. (2001). *Administration of Public education*. New York: Harper and Row
- Ladami, B.A. (2007). *An introduction to Sports Management*. Department of Physical and Health Education, A.B.U, Zaira.
- Lawal, A. O. (1999). The role of supervisors and inspectors in improving educational students' language arts. *Journal of studies in education, Ilorin* 1, (3), 14-16.
- London, J. O. (2003). *Economic of education and the planning challenge*. New Delhi: Anmol Publications
- Nwagwu, N.A. (2002). *Primary school administration*. Lagos Macmillan Nigerian Publishers.
- Ogunsaju, S. (1990). *A guide to school effectiveness in Nigeria*. Ibadan: Lavilla Publications.
- Oshodi, A. O. (1991). *Resources utilization and students' academic performance in Kwara State secondary schools*. An unpublished M. Ed. thesis, university of Ilorin, Ilorin
- Owoeye, J. S. (2000). *The effect of interaction of location, facilities and class size on academic achievement of secondary school students in Ekiti state, Nigeria*. Unpublished Ph.D. Thesis, University of Ibadan, Ibadan.
- Oyedepi, N. B. (2000). *The role of school plant in educational productivity*. In E. O. Fagbemiye & D. O. Durosaro (eds). *Education and Productivity in Nigeria*. Nigerian Association for Educational Administration and Planning Unilorin. pp. 128-133.
- Stoner, J. A. F; Freeman, R. E. and Gribert, D. R. (2003). *Management*. New Pelhi: Prentice Hall.
- Suleiman, A.T. (1996). *Management and maintenance of school facilities and students' academic performance in Ilorin-West LGA secondary schools, Kwara State*. An unpublished M.Ed. Project, University of Ilorin, Ilorin.
- Wilcokson, D. (1998). Teachers' Perspective on under achievement. *Journal of the college of perceptions*, 44 (4), UK, Longman Publishers.
- Young, E., Green, H.A, & Roehrich, P. (2003): Do K-12 School Facilities Affect Educational outcomes"? Tennessee Advisory Commission on Inter governmental Relations: *Staff Information Report*.