



## PRINCIPALS' SCHOOL PLANT MANAGEMENT PRACTICES FOR IMPROVED STUDENTS' ACADEMIC PERFORMANCE IN OYI LOCAL GOVERNMENT AREA, NIGERIA

Eboatu, V. N.<sup>1i</sup>,

Agobua, Obianuju Nnenna<sup>2</sup>

<sup>1</sup>PhD, Department of Educational Management and Policy,  
Nnamdi Azikiwe University, Awka, Nigeria

<sup>2</sup>Department of Educational Management and Policy,  
Nnamdi Azikiwe University, Awka, Nigeria

### Abstract:

This study investigated principals' school plant management practices for improved students' academic performance in Oyi local government area of Anambra State, Nigeria. The descriptive survey research design was adopted for the study. Three research questions and two hypotheses were formulated to guide the study. The target population for this study was all the secondary school teachers in Oyi Local Government Area, numbering 239. All were studied due to the manageable size of the population. The instrument for data collection was a questionnaire which was validated by experts in Educational Management and in Measurement and Evaluation. The data collected were analysed using mean scores to answer the research questions, with 2.50 as decision point, while t-test was used to test the hypotheses at 0.05 level of significance. The findings among other things were that principals of secondary schools in Oyi Local Government Area use rules and regulations to operate school plants, they assign teachers to cater to the cleanliness of the schools and use students to carry out routine plant operational activities in schools. It was recommended, among others, that principals should organize workshops for students, staff and other stakeholders to sensitize them on the need to imbibe appropriate school plant maintenance and operation culture.

**Keywords:** students' academic performance, school management, Nigeria

### 1. Introduction

Principals, as Chief Executives at the secondary level of education are vested with the authority for the day-to-day management of teaching and learning as well as the

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<sup>i</sup> Correspondence: email [vn.eboatu@unizik.edu.ng](mailto:vn.eboatu@unizik.edu.ng)

general administration of the schools. Their positions are pivotal in the entire school process and for achieving improved educational outcomes. To this end, principals' competence, practices and leadership abilities determine the extent schools achieve educational goals and objectives. Concurring with the above, Fajana (2002) opined that effective principals demonstrate the capacity to give leadership and achieve school improvement, especially in the area of school plant management.

The concept of School Plant refers to the sum total of the educational facilities provided in schools to enhance the implementation of educational programmes. They include material and physical resources such as school sites, school buildings, equipment, machines, laboratories, white boards, and others. Yusufu (2008) defined school plant as space interpretation of the school curriculum. Without physical facilities, curriculum interpretation through effective teaching and learning will be difficult. The study by Hamdallah, Ozovehe and Olanrewaju (2013) found that adequacy of school plants has significant positive relationships with science students' academic performance. The outcry about poor students' performance in national examinations such as National Examination Council (NECO) and the Joint Admissions and Matriculation Board (JAMB) in Nigeria could be attributed to ineffective management of school facilities (Uko, 2015). Ukeje (2000) argues that the unsatisfactory performance often experienced in schools could be attributed to lack of basic infrastructure. In public schools, the government provides school plant but government officials are not always in school to ensure that facilities are well taken care of and used. That is why, for effective school plant management, the principal who is in charge of day-to-day management is imperative.

School plant management is the process of planning, organizing, coordinating and controlling material and physical resources for effective teaching and learning processes in schools. Effective management of school plant is vital because the success of any educational programme depends largely on handling of school's facilities in terms of planning for provision, maintenance and monitoring of usage of available plants. Principals of schools as Chief Executives must possess good school plant management practices to be able to give effective leadership. Ukeje, Akabogu, Ndu (1992) described management practices as entailing seeing what is being done, knowing what ought to be done, knowing what facts and forces assist or impede leadership. Principals' school plant management practices encompass all activities undertaken by the school authorities to keep facilities in the school ready and providing enabling environment for staff and students to work effectively. The head of the school must work with staff and students to encourage the imbibing of positive school plant management culture. Principals should, for example, not give out school plant for commercial use; culprits who intentionally spoil school facilities should be made to replace them; and students, staff and the community should participate in maintenance of school plant (Amanchukwu & Ololube, 2015).

Contributing further on school plant management, Ukeje *et al* (1992), Alonsabe, (2011) and Uko (2015) distinguished some aspects or stages of school plant management. They include provision of school plant, utilization of school plant, school

plant operation, school plant maintenance, school plant improvement and school plant audit. This study focused on school plant operation and school plant maintenance which are complimentary.

The operation of school plant is defined to mean those activities connected with keeping the physical plant open and ready for use (Ukeje *et al*, 1992). School plant operation includes activities such as sweeping, clearing and keeping of school grounds, house-keeping, dusting and oiling of machines and equipment, which are regularly done to keep plants ready for use. Students could assist in keeping the school environment tidy by sweeping, dusting and scrubbing, while teachers and other staff supervise them. The staff and students should work with the principal to maintain a conducive school environment by eschewing bad behaviour such as vandalisation of school plant by students.

School plant maintenance, on the other hand, entails those activities done on facilities to keep them in their best condition of efficiency through repair services and replacement (Ukeje *et al*, 1992). For effective management to be achieved, the right operational and maintenance activities must be carried out on school plants using professional knowledge, skill and expertise when needed. Unfortunately, lack of maintenance culture in the use of school facilities is a major problem that bedevils education in Nigeria (Amanchukwu & Olube, 2015; Uko, Umosen & Caleb, 2015). Broken chairs, doors, windows, dirty toilets, dilapidated school buildings, broken down and unfixed equipment are common sights in our secondary schools. There is a dire need for good management of facilities in schools in order for schools to achieve the numerous benefits that accrue from proper keeping and utilization of school plants. However, it is known that principals are constrained by inadequate funding. Adequate budgetary provisions are not usually made for maintenance of plants and sometimes the community has to be involved.

Udosen (2012) enumerated some obvious advantages of effective school plant management; one of which is improved student academic performance. Studies such as Yusuf, Ajayi and Sofoluwe (2005) show that students who lack adequate facilities are likely to have lower test scores. School success is also linked to regular school attendance, and attendance depends on how conducive the school environment is. Udosen (2012) posits that esthetics of the school such as beautiful surroundings, internet accessibility and air conditioners can motivate students to attend school regularly. On the other hand, poor school environments with poorly ventilated classrooms, broken seats etc. can constitute irritants to students. In addition to improving students' attendance to school, positive learning environments also affect students' attitudes to learning and their behaviour in the classroom. Lackney (1998) found that classrooms without inadequate ventilation had students with more negative attitudes than children exposed to natural light. Good school plant operation and maintenance practices by principals, staff and students will prolong the life-span of school plants, make them ready for use and, in addition, make teaching more effective for teachers and learning more engaging and interesting for the students.

Gender analysis recognizes that men and women may react differently to the same situation and that equal opportunity may not necessarily lead to equal outcomes. Oyoyo (2014) is of the opinion that gender can influence principals' decision-making capacity with regard to school management. This study will also investigate whether there is a significant difference between the responses of male and female teachers regarding principals' school plant management practices.

## **2. Statement of the Problem**

That improved students' academic performance depends on effective school facility management through adequate and proper school plant operation and maintenance cannot be overemphasized. Studies have severally confirmed this, but the state of school plant in some schools leaves much to be desired. School plants don't seem to be properly operated and maintained in Oyi Local Government Area of Anambra State; though since 2011, the State Government has done a lot better to equip schools through its ANIDS (Anambra Integrated Development Strategy) Programme. Nonetheless there seems to be a lack maintenance culture. Equipment do not get repaired as they break down and other school plant maintenance/ operations don't seem to be adequately put in place. There are no known studies on the school plant practices of principals specifically in Oyi Local Government Area of Anambra State. The problem of this study, therefore, was to establish the school plant operation and maintenance practices of principals for improved academic performance of students in Oyi Local Government Area of Anambra State.

### **2.1 Purpose of the Study**

Generally, the purpose of the study was to investigate principals' school plant management practices for improved academic performance of students in Oyi Local Government Area. Specifically, the objectives of the study were to determine:

1. Principals' school plant operation practices for improving students' academic performance in Oyi Local Government Area.
2. Principals' school plant maintenance practices for improving students' academic performance in Oyi Local Government Area.
3. The problems associated with Principals' school plant management practices for improving students' academic performance in Oyi Local Government Area.

### **2.2 Research Questions**

The following research questions guided the study:

1. What are the principals' school plant operation practices for improved students' academic performance in Oyi Local Government Area?
2. What are the principals' school plant maintenance practices for improved students' academic performance in Oyi Local Government Area?

3. What are the problems associated with principals' school plant management practices for improved students' academic performance in Oyi Local Government Area?

### 2.3 Hypotheses

1. There is no significant difference in the mean responses of male and female teachers on Principals' school plant operation practices for improving students' academic performance.
2. There is no significant difference between the mean responses of male and female teachers on Principals' school plant maintenance practices for improving students' academic performance.

### 3. Method

This study adopted the descriptive survey research design which, according to Alli (2007) examines peoples' opinions, motivations, interests and perceptions on a subject through the use of questionnaire and/or interview. The survey design is considered appropriate for this study, because it falls within the purview of this particular design.

The population for this study consisted of the 239 secondary school teachers in Oyi Local Government Area. The entire population was used for the study. This was informed by the fairly small and manageable number of the population for the study.

The instrument used for data collection was a questionnaire containing 26 items structured on a four-point rating scale of: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) and were weighted 4, 3, 2 and 1 respectively. Section A of the instrument elicited information on the respondents' gender and school, while sections B, C and D had items based on the three research questions of the study.

The questionnaire was subjected to face validation by two experts in Educational Management and Policy Department and one Measurement and Evaluation expert from the Department of Educational Foundations, Nnamdi Azikiwe University, Awka. The experts, amongst other corrections, reduced the initial number of items from 30 to 26, corrected grammatical errors and re-phrased some of the statements.

The reliability of the instrument was ascertained through test-retest method. 50 teachers in secondary schools in Idemili North Local Government Area of Anambra State were twice administered the instrument within a time lag of 10 days. The scores collected from each of the tests were correlated using Pearson Product Moment Correlation and this yielded a coefficient score of 0.81 which was deemed as reliable for the study.

A total of 239 copies of questionnaire were administered to the respondents with the help of contact teachers in the sampled schools, while 228 were retrieved (90 male and 138 female) representing a 95.4% return rate. The data generated from the respondents were analysed using weighted mean for answering the research question. A mean score of 2.50 and above indicated agreement to the item, while those below

were judged non-acceptance. t-test was used to test the hypotheses at 0.05 significance level.

#### 4. Results

**Research Question 1:** What are Principals' School Plant Operation Practices for Improved Academic Performance of students?

**Table 1:** Mean ratings of teachers on principals' plant operation practices

S/N	Description of Items	F	Total Score	✳	Remarks
1	My school makes rules and regulations concerning cleanliness of buildings, equipment and facilities.	228	772	3.4	Agree
2	In my school, teachers are assigned to supervise the cleanliness of classrooms in their section.	228	748	3.3	Agree
3	My school uses experts or specialists for the operation of school plant such as cleaning of computer.	228	348	1.5	Disagree
4	My school pays attention to hedges, trees and flowers in order to boost the students' aesthetic quality.	228	776	3.4	Agree
5	My school makes use of anti-termite chemicals for the reservation of relevant school plant.	228	806	3.5	Agree
6	My school utilizes direct labour where applicable, in the operation of school plant.	228	756	3.3	Agree
7	My school sets up special committees to oversee different aspect of school plant.	228	396	1.7	Disagree
<b>Cluster Mean</b>				<b>2.9</b>	<b>Agree</b>

Table 1 showed respondents agreed to questionnaire items 1, 2, 4, 5 and 6 with mean scores above 2.5 while items 3 and 7 scored less than 2.5 indicating disagreement. The cluster mean of 2.9 showed agreement to principals' use of school plant operational practices.

#### Research Question 2

What are Principals' School Plant Maintenance Practices for Improved Academic Performance of students?

**Table 2:** Mean rating of teachers on principals' plant maintenance practices

S/N	Description of Items	F	Total Score	✳	Remarks
8	My school carries out repairs services on buildings, furniture and equipment.	228	776	3.4	Agree
9	My school carries out periodic replacement maintenance on school plant.	228	748	3.3	Agree
10	My school organizes periodic briefings on the proper maintenance of school plant by experts.	228	398	1.7	Disagree
11	My school exhibits seriousness in the issue of repair of school plant.	228	776	3.4	Agree
12	My school elicits the assistance of both P.T.A. and	228	796	3.5	Agree

S.B.M.C. in the maintenance of school plant.					
13	My school fails to mete out punishment for vandalism of school plant.	228	768	3.4	Agree
14	My school resorts to illegal levies in maintenance of school plant.	228	356	1.6	Disagree
<b>Cluster Mean</b>				<b>2.9</b>	<b>Agree</b>

Table 2 showed that the teachers agreed to items 8, 9, 11, 12 and 13 as principals' school plant maintenance practices while they disagreed to items 10 and 14. With cluster means of 2.9 this study established that principals use most of school plant maintenance practices.

### Research Question 3

What are the problems associated with Principals' School Plant Management Practices for Improved Academic Performance of students?

**Table 3:** Mean rating of teachers on the problems of school plant management practices in secondary schools

S/N	Description of Items	F	Total Score	✱	Remarks
15	My school faces the problem of financial constraints for plant maintenance.	228	756	3.3	Agree
16	My school faces the problem of vandalism of school plant by students.	228	776	3.4	Agree
17	My school faces the problem of providing security for school plant.	228	748	3.3	Agree
18	My school faces the problem of lack of commitment by teachers as regards school plant supervision.	228	394	1.7	Disagree
19	My school faces the problem of encroachment on school land by host communities.	228	776	3.4	Agree
20	My school faces the problem of accurate inventory of school plant due to wear and tear.	228	792	3.5	Agree
21	My school faces the problem of termite attack on wooden aspect of school plant.	228	756	3.3	Agree
<b>Cluster Mean</b>				<b>3.1</b>	<b>Agree</b>

Table 3 showed that the teachers agreed to items 15, 16, 17, 19, 20 and 21 with scores above 2.5. On the other hand, item 19 recorded a mean score of 1.7 which is below the cut-off point. The cluster mean scores of 3.1 indicate agreement to the problems of school plant management.

**Ho:** There is no significant difference between the responses of male and female teachers on Principals' School Plant Operation Practices for improved students' academic performance.

**Table 4:** t-test summary reviewing the differences in the responses of male and female teachers on Principals' School Plant Operation Practices for improved students' academic performance

Group of Teachers	No. of Respondents	Mean *	Standard Deviation	Degree of Freedom	Level of Significance	T-Calculated	T-Critical
Male Teachers	90	3.47	0.64	334	0.05	0.1	1.96
Female Teachers	138	3.71	0.76				

From Table 4 above, there is no significant difference between the responses of male and female teachers on Principals' School Plant Operation Practices for improved students' academic performance in secondary schools. The null hypothesis is, therefore, accepted.

**H<sub>02</sub>:** There is no significant difference between the responses of male and female teachers on Principals' School Plant Maintenance Practices for improved students' academic performance.

**Table 5:** t-test summary reviewing the differences in the responses of male and female teachers on Principals' School Plant Maintenance Practices for improved students' academic performance

Group of Teachers	No. Of Respondents	Mean *	Standard Deviation	Degree of Freedom	Level of Significance	T-Calculated	T-Critical
Male Teachers	90	3.32	0.74	334	0.05	0.7	1.96
Female Teachers	138	3.43	0.7				

From Table 5 above, there is no significant difference between the responses of male and female teachers on Principals' School Plant Maintenance Practices for improved students' academic performance in secondary schools. The null hypothesis is accepted.

## 5. Discussion

This study found that principals use rules and regulations, assign teachers to supervise cleanliness of school plants, aesthetics, anti-termite chemicals and students' labour to effect school plant operations in schools. On the other hand, they fail to use the services of experts and special committees to perform school plant operations. This is a major setback because committees will afford the principals extra resourcefulness and help from community members. Alonsabe (2011) posits that positive school maintenance requires the cooperation and joint efforts of the staff, students, school administrators and other stakeholders. In addition, Amanchukwu and Ololube (2015) contended that principals should not rest on their oars simply because they have delegated duty to



staff. According to them, principals should go the extra mile to look at what has been done because this type of supervision will make the staff diligent in whatever task they are given. That principals do not use the services of experts for operational activities is unprofessional. They probably wait until plants break down before they contract them; but as is universally known, stitch in time saves nine.

On principals' school plant maintenance practices, the respondents agreed that principals carry out periodic replacement maintenance, they elicit help from the PTA and SBMCs, carry out periodic maintenance of buildings, but do not give staff periodic briefing by experts on the use of school plants. Overall, majority of the items highlighted in the study received high agreement rates from the teachers as the factors that significantly influence principals' school plant maintenance practices. This tallies with the assertions of Allen (2015), Ehiamentor (2001), Castaldi (2004), Lawanson and Gede (2011) and Xaba (2004) that management of school plant entails good leadership, effective monitoring of both the users and the plant itself, applying sound maintenance culture of those facilities and other things required for the school plant to give maximum services. In addition, Oleforo and Maxwell (2015) stated that a positive school environment creates an optimal setting for teaching and learning, therefore since students' conduct could simply be an extension of the physical environment that surrounds them, school plant should be adequately provided, utilized and maintained to provide a stabilizing force for students and staff both emotionally and academically.

This study also established that financial constraints, vandalism by students, insecurity, encroaching on school property by host communities, accurate data bank and termite menace recorded mean scores above the cut-off point. The respondents disagreed with the item on teachers' lack of commitment regarding school plant supervision. The teachers can only be as committed to proper school plant management as the leader who in this situation is the principal. Overall, majority of the items earlier highlighted were unanimously accepted by the respondents as factors that positively reflect problems associated with principals' school plant management practices in the study area. This study corroborates Alonsabe's (2011) position that the poor position of most school plants can be traced to the fact that no budgetary provisions are made by federal and state governments for school plant maintenance. Schools require suitable classrooms, libraries, laboratories, recreational facilities, assembly hall, school farm, staff rooms, offices, vehicles and other infrastructure for improved performance. In addition, Alonsabe (2011) argued that considerable care should be exercised in the selection of custodial staff on the basis of their demonstrated skills, knowledge and personal character at an interview. He explained that they should see themselves as having been selected on merit like other workers in the school rather than on the basis of political patronage, sentiment or favouritism. There is also the need for host communities to be involved in schools' management because the schools are for them too.

The test of significant difference in the responses of male and female teachers on principals' school plant operation practices for improved students' academic performance in Oyi secondary schools showed that their responses did not differ

significantly. The findings also showed no significant difference in the responses of male and female teachers on principals' school plant maintenance practices for improved students' academic performance. This result indicates that principals in Oyi Local Government Area agree with the viewpoint of Udosen (2012) that school plant is very essential to achieving positive outcomes in the teaching-learning process and they put practices in place within the limits of their constraints, to maintain school plants. According to Udosen, school plant is the pillar and support of all teaching and learning activities. In addition, Oleforo and Maxwell (2015) stated that the principals should motivate staff as well as students to imbibe and internalize maintenance culture with respect to the school plant. Further, Amanchukwu and Ololube (2015) asserted that tasks should be shared in our institutions of learning and every person should bear the consequences emanating from lack of care of his/ her own task. According to them, those facilities and equipment should be properly maintained for them to render their services always.

## **6. Conclusion**

This study established that while principals in Oyi Local Government Area adopt school plant operation practices that include making use of rules and regulations and assigning teachers to effective cleanliness of school plants, they use direct and anti-termite chemicals to preserve school plants. Unfortunately, majority of the principals do not set up committees to oversee the maintenance of school plants, they do not organize periodic briefing on maintenance of school plants nor do they always use the services of experts to maintain school plants. They are also highly constrained to effectively manage school facilities by inadequate funding. These are indicative of poor school plant maintenance and operation culture.

### **6.2 Recommendations**

Based on the findings, the following recommendations are made:

1. Government should make more funds available to principals to organize workshops for students, staff, PTA, SBMC and other stakeholders in order to sensitize them on the need to imbibe appropriate school plant maintenance and operation culture.
2. Adequate security arrangement should be made by the school management to work the Town Vigilante groups in order to safeguard available school plants and prevent the vandalism of school plants.
3. Principals of schools should as a matter of necessity form committees made up relevant stakeholders to oversee the proper management of available school plants in schools in Oyi Local Government Area.

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