

## **School Plant Maintenance as a Determinant for Principals Effectiveness in Administration of Secondary Schools in Nigeria; Focus on Ebonyi State**

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**Abstract:** *This study examined school plant maintenance as a determinant for principal's effectiveness in the administration of secondary schools in Nigeria with its focus on Ebonyi State. The study is guided by three research questions and two null hypotheses. Descriptive survey design was adopted for the study. The population of the study comprised all the 223 public secondary school principals and 5,082 secondary school teachers in both urban and rural areas of the state. The sample consists of 100 principals, while 1,510 teachers were selected through disproportionate stratified sampling procedure. This gave a total of 1,610 respondents. The instrument for data collection was a structured questionnaire designed by the researchers. It is a 15-item questionnaire constructed on a 4-point scale by the researchers. It also received validation by two experts from Educational Administration and Planning from Ebonyi State University, Abakaliki. Reliability of the instrument was established using test re-test method at the interval of two weeks using Pearson Product Moment Corelation co-efficient which yielded an index of 0.74. The data collected were used to answer the three research questions while t-test statistic was used to test the two null hypotheses at 0.05 level of significant. Mean scores and standard deviation were used in data analysis. Findings among others were that school plant maintenance ensures prudent management of funds and that student's personnel management is enhanced by school plant maintenance for principal's effectiveness in administration secondary schools. One of the recommendations is that principals and teachers should be trained to acquire knowledge and skills in financial management.*

**Keywords:** *Plant, Maintenance, Determinant, Effectiveness, Administration and Secondary.*

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### **I. Introduction**

Education all over the world is a vehicle for rapid, meaningful and purposeful development. It is regarded as a major instrument "par excellence for effecting national development" [1]. The increasing awareness of the prominent role of education in the human, economic, political and socio-cultural development of any nation has led many nation of the world to commit huge amount of money to the education of their citizens through provision of educational facilities and infrastructure, otherwise referred to as school plants [1]. School plants are instrument, equipment and different kinds of structures used for implementation of educational programmes at all levels of institutions of learning. School plants constitute the bulk materials for both theoretical and practical work in and outside the school premises. The effective use of these school plants depends on the values attached to it by school principals. In the view of [2] school plants are spaces, interpretation of the school curriculum which includes the sites, buildings, equipments, and utilities, permanent, semi-permanent structures, like machines, laboratory equipment, blackboards, cleaner's tools, safety equipment, library materials, and billboards. Corroborating, [3] asserted that school plants also refer to the location of the school buildings, the equipment in the school for the purpose of enhancing teaching and learning.

However, [4] noted that the effectiveness in the implementation of educational programmes on the school curriculum, meeting the physical needs of students and staff of the school and imparting on students' academic performance depends, on its state, physical conditions or quality. It is therefore, necessary that school plants should always be maintained because the realization of educational objectives bears relevance to its proper maintenance. School plant maintenance according to [5] is the ability of school principal to keep them safe and dictating and repairing or replacing the worn out parts so that they can be used when necessary for the implementation of educational programmes. It is the responsibilities of both teachers and principals to maintain school plants as this will go a long way in portraying the effectiveness of the secondary school principal in his administration.

In his own contribution, [6] opined that school plant maintenance has been presented in many educational matters as a catalyst to the effective operation and display of the administrator's competence and effectiveness in secondary school administration. There is no gain saying that the role of school plant in the realization of educational goals and objectives in any country is very sacrosanct and in the same manner its maintenance goes together with principal's effectiveness in school administration. It is in this regard too, that [7]

said that the main objective of school plant maintenance is to satisfy educational goals which have been predetermined by educational planners. Accordingly, better maintained school plants will enhance better school programme and community needs by providing a place for psychological and physical safety for students and teachers and enhancing the good quality and quantity of instruction. In the same vein, the quality of academic programme in educational institutions bears relevance to the availability or the lack of physical facilities maintenance. School plant maintenance is an important aspect of educational planning that should not be neglected by educational planners [8].

Principals effectiveness in the administration of secondary schools presupposes that they are able to diligently influence both human and materials resources for the achievement of educational goals [9]. It should be noted and assumed that principal's effectiveness in the administration of secondary schools is anchored on such variable as prudent management of funds, effective co-ordination of materials resources and proper management of student personnel. This implies that whether a school is successful or not depends to a large extent on principal's effectiveness in secondary school administration. When principals are sensitive to the needs of teaching and non-teaching staff member awareness, sharing in setting up group goal, encouragement for individual free expression and recognition of consensus decision making process, be optimistic, full of confidence and keep good relationships with others, are all determinants of principals effectiveness in secondary school administration [10]. It should be noted also that since material resources are scarce and most of them are expensive, the ability of the school principal to effectively co-ordinate the available ones for meaningful teaching and learning in the classroom is a demonstration of principal's effectiveness in administration of secondary schools. Equal, maintenance of school plants calls for prudent management of school funds.

Regrettably, inadequate financial assistance that is being provided to maintain these school plants gave room for deterioration to the extent that some seen to even degenerate to the state of disrepair. The negative outcome of all these are poor student personnel management as they cannot be properly taught with these school plants that are in deplorable conditions and when not properly taught could transcend to students poor academic performance. Therefore, maintenance of school plants is necessary for the achievement of educational goals because when they are maintained, are always in good conditions to be used when needed and this will enhance principal's administrative effectiveness in secondary schools.

[11] Asserted that there is a relationship between the environment of a school and student's attitude to work as well as student's academic performance. This implies that the condition of facilities may have a strong effect on students' academic performance. Also the condition of facilities may have a strong effect on students' performance, family background, socio-economic status, school attendance and behaviour combined. [12] Pointed out that the quality and quantity of educational facilities (school plants) available and are properly maintained within an educational system have positive relationship with the standards and quality of that educational system.

However, in Ebonyi State, it is worthy to note that most secondary school plants are left unmaintained and uncared for which in no small measure have posed a serious threat to the achievement of the goals of education. For instance, a peep in most public secondary schools shows that the school premises are covered with bushes, poorly maintained sanitary conditions, leaking roofs, classrooms with rabbit and rats holes, inaccessible roads and path ways, broken windows and glasses, cobwebs, badly managed students' desks, dirty classrooms and offices, library and laboratory. [13] noted that when school plants are not maintained, they constitute health hazards to the users of the facilities as there had been cases where walls and roofs have collapsed killing both students and teachers in some part of the nation. Lending his voice, [8] stressed on the importance of effective maintenance of school plants in the actualization of educational goals by the educational administrators and noted that poorly maintained school plants destroys the interest of learners in the educational activities of the school as they see every educational activities as unwarranted suffering and a mere waste of time and energy. In line with the above statement, school plant maintenance by school principals determines the level of educational goals that will be achieved. In contrast, [4] blamed poor academic performance of students on poor maintenance culture of school plants by the school principals adding that the school plants are major tools for effective educational attainment in any society of the world. Negligence in the maintenance of school plants result in wastage of huge sum of money invested in their procurement when they are left to deteriorate in value. In fact the little money meant to assist principals are not being disbursed to them on time to maintain school plants in their schools and this gave room for the deterioration and depreciation in value of these school plants. [7]. These situations seem to pose a serious problem on the effectiveness of principals in secondary schools administration and teachers poor job performance as well as students low achievement in both internal and external examinations. Therefore, the issue of school plants maintenance in secondary schools administration in Ebonyi State cannot be overestimated. Thus, in order ensure effective secondary school administration by principals, there is need for proper and efficient maintenance of school plants so as to prevent damages, destruction and stealing of some of them. The issue as to whether school plants maintenance bear relevance on the affective administration of secondary school by principals calls for investigations. Therefore, it

is against these backdrops that the researchers deemed it necessary to investigate the extent school plant maintenance is a determinant for principal's effectiveness in the administration of secondary schools in Ebonyi State of Nigeria.

## **II. Statement of the Problem**

The uncared for and unmaintained school plants in Ebonyi State secondary schools to the best knowledge of the researchers has posed a serious threat to the actualization of educational goals. For example, most secondary schools are covered with bushes, leaking roofs, classrooms with rabbits and rats holes, dirty classrooms with cracked walls which has resulted in their collapse and killing students and teachers are all indications of poor school plants maintenance.

Again, inadequate financial assistance that is being provided to maintain school plants gives room for deterioration and depreciation in value of school plants to the extent that some seem to even degenerate to the state of disrepair. The resultant effects are poor student management, poor co-ordination of material resources and poor fund management by the school principal.

Similarly, the poor academic performance of secondary school students are blamed on poor maintenance culture of school plants by principals. More so, poor teachers job performance as well as students low achievement in both internal and external examinations are all manifestation of poor school plants maintenance. However, in Ebonyi state of Nigeria, school plant maintenance as a determinant for principals effectiveness in administration of secondary schools are still seem to be based on theoretical speculations without empirical backing. So, the template on which school plants maintenance could be adopted for effective secondary school administration by the principals could be transcribed seem still to be lacking and so constitute a challenge to researchers in educational administration. The problem of this study therefore, put in a question form "what is the extent to which school plant maintenance is a determinant for principal's effectiveness in administration of secondary schools in Ebonyi State of Nigeria"?

### **Purpose of the study**

The main purpose of this study is to explore school plant maintenance as a determinant for principal's effectiveness in the administration of secondary schools in Nigeria with focus in Ebonyi State. Specifically, the study sought to determine the extent to which:

1. School plant maintenance enhances effective co-ordination of material resources in secondary schools in Ebonyi State.
2. School plant maintenance ensures prudent management of funds in secondary schools.
3. School plant maintenance enhances student's personnel management in secondary schools.

### **Research Questions**

The following three research questions guide the study. They are to what extent do school plant maintenance:

1. Enhance effective co-ordination material resources in secondary school administration in Ebonyi State?
2. Ensure prudent management of funds in secondary schools.
3. Improve student's personnel management in secondary schools.

### **Hypotheses**

The following two null hypotheses guided the study.

1. **H<sub>01</sub>**: Mean responses of principals and teachers will not differ significantly on how school plant maintenance is a determinant to principals effectiveness in secondary school administration in Ebonyi State of Nigeria.
2. **H<sub>02</sub>**: The influence of school plant maintenance as a determinant for principal's effectiveness in secondary school administration in Ebonyi State of Nigeria does not significantly depend on location.

## **III. Method**

This study adopted a descriptive survey design. The researchers investigated school plant maintenance as a determinant for principals effectiveness in the administration of secondary schools in Nigeria, with focus on Ebonyi State. The population of the study comprised all the 223 public secondary school principal and 5,082 secondary school teachers in both urban and rural areas of the state. The total population is therefore, 5305 people. The sample consist of 100 principals while, 510 teachers were selected through disproportionate stratified sampling procedure. This gave total of 610 respondents. The instrument for data collection was a structured questionnaire designed by the researchers. It is a 15-item questionnaire constructed on a 4-point scale by the researchers. It also received validation by two experts from Educational Administration and Planning from Ebonyi State University, Abakaliki. Reliability of the instrument was established using test re-test method at the interval of two weeks using Pearson Product Moment correlation co-efficient which yielded an index of

0.74. The 4-point scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) were rated 4,3,2 and 1 respectively. Data collected were analyzed using mean scores and standard deviations. Mean scores of 2.50 and above indicated that school plants maintenance is a determinant to principals effectiveness in secondary school administration in Nigeria with focus in Ebonyi State to a Very High Extent and High Extent while below showed that it is a determinant to a low and very low extent. T-test was used to test the two null hypotheses. If the t-calculated is less than the t-critical, the hypothesis will be accepted and vice versa.

#### IV. Results

**Research Question 1:** To what extent does school plant maintenance enhance effective co-ordination of material resources in secondary school administration in Ebonyi State?

**Table 1:** Extent to which school plant maintenance enhance effective coordination of material resources in secondary school administration in Ebonyi State

S/N	Item Statements	$\bar{x}$	SD	Decision
1	School plant maintenance helps in assembling material resources for teaching.	3.54	0.57	VHE
2	It helps the principal to know the appropriate material for a particular subject.	3.20	0.59	VHE
3	It helps the school principal to know how to preserve the resources to avoid being worn out.	3.30	0.62	VHE
4	School plant maintenance aid the principal to know the maintenance culture to be adopted.	3.89	0.55	VHE
5	It helps principals detect inferior material resources.	3.48	0.35	VHE
<b>Grand Total</b>		<b>3.48</b>	<b>0.35</b>	<b>VHE</b>

**Key:** VHE = Very High Extent, HE= High Extent, LE = Low Extent and VLE = Very Low Extent.

Result on table 1 showed that respondents are of the opinion that school plant maintenance enhances effective coordination of material resources in secondary school administration. The grand mean which is 3.48 is an indication that school plant maintenance to a very high extent enhances principal's effective administration of secondary schools in Ebonyi State.

**Research Question 2:** To what extent do school plant maintenance enhance prudent manage of funds in administration of secondary schools in Ebonyi State?

**Table 2:** Extent to which school plant maintenance enhance prudent management of fund in administration of secondary schools in Ebonyi State.

S/N	Item Statements	$\bar{x}$	SD	Decision
1	School plant maintenance ensures that funds are not wasted in their procurement.	3.93	0.75	VHE
2	School plants maintenance helps in keeping them in good state thereby making sure that monies are not necessarily wasted.	2.51	0.56	HE
3	School plant maintenance help the principal to channel money in human resource development.	2.76	0.62	HE
4	School plants maintenance helps principals to channel money on other developmental projects in the school.	3.62	0.49	VHE
5	School plants maintenance helps principals to cushion the effect of economic recession.	3.50	0.37	VHE
<b>Grand Total</b>		<b>3.26</b>	<b>0.27</b>	<b>VHE</b>

Result on table 2 revealed that respondents are of the opinion that school plant maintenance enhances principal's prudent management of school funds. This assertion was buttressed by the grand mean of 3.26 showing that school plant maintenance to a very great extent enhances principal's prudent management of funds for administration of secondary schools in Ebonyi State.

**Research Question 3:** To what extent does school plant maintenance improve student personnel management by principals in the administration of secondary schools in Ebonyi State.

**Table 3:** Extent to which school plant maintenance improves student personnel management in the administration of secondary school in Ebonyi State.

S/N	Item Statements	$\bar{x}$	SD	Decision
1	The use of maintained sporting equipment help students practice sports and imbibe in spirit of sportsmanship	3.27	0.73	VHE
2	School plant maintenance is a sure way of reducing incidences of examination malpractices.	2.54	0.92	HE
3	It helps principals in maintaining discipline among students.	3.36	0.80	VHE
4	It helps principals to engage students in decision making.	3.23	0.81	VHE
5	The school library helps student imbibe silent reading culture taught them during orientation.	2.50	0.79	HE
<b>Grand Total</b>		<b>2.98</b>	<b>0.85</b>	<b>HE</b>

Result on table showed that school plant maintenance improves student’s personnel management in the administration of secondary schools. The grand mean which is 2.98 with standard deviation of 0.85 is an indication that school plant maintenance improves students personnel management by principals in secondary school administration in Ebonyi State to a high extent.

**Table 4:** t-test difference on the responses of principals and teachers on how school plant maintenance is a determinant to principals effectiveness in secondary school administration in Ebonyi State of Nigeria.

Variable	$\bar{x}$	SD	N	Df	t-cal	t-critical	Decision
Principals	2.78	1.08	100	608	0.23	1.96	Accept
Teachers	2.75	0.15	510				

Variables = External factors that are built into the study,  $\bar{x}$  = mean score, SD = Standard deviation, N= Number of respondents, Df= Degree of freedom, t-cal= calculated t-value, t-crit = table value of t and Dec = Decision rule

Result on table 4 showed that the t-calculated value of 0.23 is less than the t-critical value of 1.96 (0.23 < 1.96) needed for significance at 0.05 and 608 degree of freedom. This is evidence that the null hypothesis is accepted. Therefore, principals and teachers do not differ significantly on how school plant maintenance is a determinant to principal’s effectiveness in secondary school administration in Ebonyi State of Nigeria.

**Table 5:** T-test difference on the responses of rural principals and Urban principals on how school plant maintenance is a determinant to principals effectiveness in the administration of secondary schools in Ebonyi State of Nigeria.

Variable	$\bar{x}$	SD	N	Df	t-cal	t-critical	Decision
Urban Principals	2.98	0.05	100	608	0.26	1.96	Accept
Rural Principals	2.66	0.07	510				

Result on table 5 revealed that the calculated t-value of 0.26 is less than the critical t-value 1.96 (0.26 < 1.96) needed for significance at 0.05 and 608 degree of freedom. This showed that there is no significant difference in the mean responses of urban and rural principals on how school plant maintenance is a determinant to principal’s effectiveness in secondary school administration in Ebonyi State of Nigeria.

### **V. Discussion of Findings**

Result of findings of the study as indicated by the respondents generally showed that school plant maintenance is a determinant to principal’s effectiveness in secondary school administration in Ebonyi State of Nigeria. However, there is much needed improvement on the school plant maintenance if the tempo is to be maintained. The improvement is on regular and prompt maintenance of the school plants.

Table 1 examined the extent to which school plant maintenance enhance effective coordination of material resources for principal’s effective administration of secondary schools. Effective and efficient coordination of material resources such as sport equipment, functional libraries and laboratories, enough classrooms and halls will in no small measure help principals in their day-to-day school administration. The coordination of these material resources is one thing, their maintenance is also important as no school plant that is not maintained will be used in future for classroom instruction. Effective coordination of material resources enhances proper classroom instruction. It is in this regard that [2] noted that principals effectiveness in the administration of secondary schools presupposes that they are able to diligently influence both human and material resources for the achievement of educational goals.

Also, the respondents’ responses to research question 2 indicate that school plant maintenance enhances prudent management of funds. This is because when school plants are maintained regularly, they will not depreciate in value and the money which would have been used for replacement will be saved for another

project in the school. Maintenance of school plant is also important because money spent in procuring them is huge and as such should not be allowed to spoil or wear out some of its parts. Therefore, prudent management of fund is imperative for principal's effectiveness in his school administration as this will save them wastage of the meager financial resources available to him. This is in agreement with [9] who stressed that school plant maintenance enhances prudent management of school fund as this will avoid wastage of lean financial resources as government has other sectors of the economy to cater for.

Findings on table 3 equally brought to fore that school plant maintenance improves students personnel management by principals. This is because when school plants are maintained, students participate actively in classroom instruction, teachers teach with ease and explain concept without much difficulty. It will equally bring about low rate of indiscipline and high rate of discipline among students, reduce the incidence of examination malpractices and to crown it all, increase the level of academic performance of students. This is in line with [12] who asserted that there is a relationship between the environment of school and students attitude to work as well as students academic performance. Equally, [5] pointed out that quality and quantity of educational facilities (school plants) available and are properly maintained within the educational system have positive relationship with the standards and quality of that educational system.

Finally, the two hypotheses formulated to guide the study were all accepted. The respondents agreed on tables 4 and 5 that there are no significant differences between principals and teachers and urban and rural principals respectively, on how school plant maintenance is a determinant to principals' effectiveness in the administration of secondary schools in Ebonyi State of Nigeria.

## **VI. Conclusion**

Based on the findings of the study, it is concluded that school plant maintenance determine to a very high extent the principal will be effective in his secondary school administration. School plants when properly and regularly maintained will up lift the tone of the school, improve students personnel management and above all ensure prudent management of the lean financial resources at the disposal of the school principal. School plant maintenance is also an important strategy in achieving predetermined educational objectives and aids greater academic performance of students.

## **VII. Recommendations**

1. Government should generally organize workshops for both principals and teachers on skills of maintaining school plants.
2. Principals should be encouraged by government to continually coordinate material resources appropriately as way of plant maintenance for their effective secondary school administration.
3. Principals and teachers should be trained to acquire knowledge and skills in financial management.
4. School plants maintenance should be a joint responsibility of both principals and teachers as this will help in the proper arrangement of student personnel.

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