

## **Physical Resource Management for Senior Secondary School Effectiveness in Biu Education Zone of Borno State, Nigeria**

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### ***Abstract***

*This study determines the Physical Resource Management for Senior Secondary School Effectiveness in Biu Education Zone of Borno State, Nigeria. Correlation and survey research design were used for this study. Three objectives, two research questions and one hypothesis were used in the study. Correlation research design was used to determine the relationship between physical resources management and school effectiveness while survey was used to ascertain the availability in senior secondary school in Biu education zone. Correlation design according to Cohen and Manion, (2009) aimed at determining the nature, degree and direction of relationship between variables or using these relationships to make predictions. The population of this study comprised eighteen (18) senior secondary schools in Biu Education zone with 2781 as population. Simple random sampling was used in drawing the sample of ten (10) senior secondary schools and 326 teachers. Simple random sampling according to Johnson and Christensen (2008) is a sample drawn by a procedure which every member of the population has an equal chance to be represented in the study. Self-developed Checklist titled: Physical Resource Management (PRM) was used as instrument for data collection. The Checklist consisted of four (10) items which sought information on the Availability and utilization of physical resource where the respondents ticked the options which were scored as follows: Adequately Available (AA); Available (A); Moderately Available (MA); Not Available (NA). However, in determining the validity and reliability of the instrument, experts in Educational Measurement and Evaluation, Department of Education, Faculty of Education- University of Maiduguri validated the instruments. Cronbach's Alpha was adopted to measure the reliability of the instrument which stood at 0.93. The data was analyzed using simple percentage and Pearson Product moment correlation coefficient. Based on the above findings the researchers*

*conclude that physical resources are the major predictor of senior secondary school effectiveness. This implies that physical resources play a significant roles in determined the senior secondary school effectiveness. The researchers also recommended that Non-Governmental organization should complement the efforts of State Government in the provision of physical resources in senior secondary school as it found to influences it effectiveness in Biu Education Zone, Borno State*

**Keywords:** Physical Resources Management, School Effectiveness, Availability and Utilization.

### **Introduction**

Resources are essential to get our work done. Everything that we see and touch is a resource, which perhaps we could use. The management of resources by school head or Chief Executive Officers requires considerable skill. Physical resources are the raw materials which are used to achieve an objective or goal in an organization. They are resources that we can feel, move, smell and see. These are normal resources that are made by man and help us to do our daily activities much quicker and easier.

The physical resources of an organization include all the tangible resources owned and used by a company such as land, manufacturing equipment and office equipment. Information technology and its attendant equipment, computers, networks, servers and others, are included in the category of physical resources. According to Irfran (2014), physical resources are resources that are available in school in the form of buildings and other machineries for school effectiveness. Thus, physical resources are all the structures found in a school system apart from human beings, they are facilities which include all instructional and non-instructional.

According to Adeofun and Osifilia, (2008), physical resources include laboratories, libraries, classrooms and a host of other physical infrastructure, while material resources include textbooks, charts and maps among others for school effectiveness. Modern school put emphasis on the availability, adequacy and management of facilities as classrooms, workshops/laboratories, computers, good water source/supply, toilet facilities, functional libraries, transportation, and communication systems among others. All these facilities are required in appropriate quantity and quality for schools to operate effectively and efficiently (Mbakwem and Asiabaka 2007).

The major impetus for school effectiveness in secondary schools is to ensure effective used of physical resources. Morrison, (2004) suggests characteristics of effective secondary schools to include good leadership by senior and middle managers, clear aims and objectives that were translated into classroom practice, an emphasis on high academic standards, a relevant but orderly and firm classroom atmosphere, positive relationships with students, encouraging them to express their view, a well-planned curriculum and concern for students' overall well-being, with

effective pastoral systems.

School effectiveness in senior secondary in Biu education zone is rapidly tailored towards meeting set goals. This is why the success of any school program largely depends on the availability and utilization of physical resources. Research has also shown that physical resources in the secondary school are the determinant of all activities that take place in the school.

Over the years as a trained teachers and practice teacher, provision and maintenance of effective secondary school possess more challenges for the principals in the public schools especially in Biu Education Zone. These were attributed to the major goal of the school which is to provide conducive learning environment for school effectiveness. The Zone has 18 senior secondary schools and are characterized with qualified principals and productive teachers. This has resulted in the geometrical population explosion of students hence the need to study the management of physical resources for school effectiveness in the zone.

The major concern of the Teaching Services Board, the Ministry of Education, Education Managers and other related stakeholders is to see how to provide and maintain effectiveness of school. This might not be possible if physical resources are not available, utilized and properly managed in the school. Physical resources in any school are paramount for such school to function effectively and efficiently. The principal's ability to effectively management the school facilities would go a long way in provides effective school activities. The principal must understand that the physical resources are the critical resources for school effectiveness and that the effectiveness of any school is defined by the principal management of physical resources (Oyesola, 2007).

In educational institutions, physical resource constitutes essential inputs, which create favorable learning environment, facilitate interaction and enhance achievement of educational objectives for school effectiveness. The principal as the manager of the school organization therefore has the onerous task of mobilizing available physical resource to ensure a proper running of the school. Uko (2015) stated that the principal is saddled with the responsibilities to managed school furniture, laboratories, school library, Classrooms, Toilets and toilet Facilities Water/Electricity, Laboratory equipment and Computer room.

The researchers have observed the unhealthy nature of overcrowded and un-conducive classrooms, unsightly and unhygienic toilets, inadequate laboratories and workshops. It seems there are population explosion, insufficient desks, overcrowded classroom and inadequate learning materials in senior secondary schools in the zone. There has been public outcry and growing concern about school effectiveness generally. Lack of school effectiveness can be attributed to many factors such as unqualified teachers, insufficient instructional facilities in public schools, unavailability of laboratories, libraries, science resource corners and dilapidated structures (Uko & Ayuk, 2014).

In recent times the availability of some physical resources such as computer

laboratory, science laboratory, play facilities like badminton, handball, and table tennis have shown tremendous improvement in school effectiveness in senior secondary schools in Biu zone. However, to what extent are these facilities being managed in the schools? In essence, school effectiveness would not be meaningful and functional if required physical resources are not available, utilized and properly managed (Uko & Ayuk, 2014). A good number of studies have focused mainly on infrastructural facilities such as buildings, classrooms, chairs, tables (Amadi & Ezeugo 2019), but neglected other school facilities as well as management of the physical resources in the zone. It is important that appropriate, adequate, desirable and acceptable physical resources be provided for school effectiveness.

Borno state ministry of education has renovated dilapidated classrooms, supply desks and built more science laboratories in senior secondary school in Biu education zone. However, management of these physical resources is the responsibilities of the school managers. Hence the need to study the problems of physical resource management in senior secondary schools cannot be over-emphasized. It is against this background that this study determined physical resource management for senior secondary school effectiveness in Biu education zone of Borno state, Nigeria.

### **Objective of the Study**

The objectives of the study were to determine the:

1. availability of physical resources for senior secondary school effectiveness in Biu Education zone
2. extent of utilization of physical resources for senior secondary school effectiveness in Biu Education zone
3. relationship between utilization of Physical resource and senior secondary school effectiveness in Biu Education zone

### **Research Questions**

The following research questions were answered

1. What is the availability level of physical resources for senior secondary school effectiveness in Biu Education zone?
2. What is the extent of utilizations of physical resources for senior secondary school effectiveness in Biu Education zone?

### **Hypotheses**

The following null hypothesis was tested at 0.05 level of significance;

**H<sub>0</sub>:** There is no significant relationship between utilization of physical resource and senior secondary school effectiveness in Biu Education zone

### **Literature Review**

The management of available and utilization of physical facilities have been

severally emphasized in literatures. This is because the level of success of most schools' programs is greatly depends on the degree of availability and utilization of up-to-date physical facilities. Physical facilities include classrooms, auditoriums, administrative block, libraries, laboratories, workshops, play grounds, assembly halls, and special rooms like clinics, staff quarters, students' hostels, kitchen, cafeteria, and toilet amongst others. The availability of these facilities are potent factors to school effectiveness. Ezekwesile (2007), maintained that both students and teachers need these facilities for teaching and learning to take place. Saba (2007), opined that, school physical facilities are pillars for school effectiveness.

Alabi (2020) conducted research on the Assessment of Instructional Materials for Teaching and Learning of Business Studies in Lagos State Education Districts. The findings of the study revealed that, physical facilities could be considered as the entire scope of physical infrastructures such as classroom, furniture, library, laboratory/studio, model offices, and staff offices amongst others. These Resources are very important because of their role in the achievement of educational objectives and school effectiveness. The findings further indicated that, the extent of school effectiveness is directly proportional to the availability and utilization of physical resources.

The availability of physical facilities in any educational institutions enhances the effectiveness of such schools as they are the basic resources that bring about good academic performance in the students. Momoh (2010) conducted a research on the effects of instructional resources on students' performance in West Africa School Certificate Examinations (WASCE). The achievements of students in WASCE were related to the resources available for teaching. He added that, availability of material resources has a significant effect on student's achievement since they facilitate the learning of abstract concepts and ideas and discourage rote-learning. Adeogun (2001) and Amadi and Ezeugo (2019) discovered a very strong positive significant relationship between availability of physical resources and academic performance.

The utilization of resources in education brings about fruitful learning outcomes since resources stimulate students learning as well as motivating them. A common way to examine the utilization of education resources is to analyze school expenditure. This is because school expenditures constitute the bulk of all resources devoted to schooling and they are tractable instruments of education policy (Meghir,2002). A school should adequately utilize the available facilities to advance learning opportunities for school effectiveness. It is the responsibility of the head of the school to ensure that there is adequate classroom space to enable teaching learning process to take place and should ensure that all facilities are efficiently and effectively utilized so as to achieve educational goals and improve learning outcomes.

Amadi and Ezeugo (2019) conducted a study on Physical Resources Availability and the Academic Performance of Students in the Universal Basic Education Scheme, Rivers State. The study analysed physical resources availability

and the academic performance of students in the UBE scheme in Rivers State. The findings indicated they were available physical resources in UBE schools (public junior secondary schools). Also, the result shows that there is significant difference between the perception of male and female teachers on the available physical resources in UBE schools in Rivers State. Furthermore, they observed that, student's utilization of the available physical resources in UBE schools influence their academic performance. Alabi (2020) maintained that, utilization of physical resources is a determinant of school effectiveness. Physical resources have been identified as a crucial component of education resource and have a vital role to play in the attainment of internal effectiveness of schools.

### **Methodology**

Correlation and survey research design were used for this study. Correlation research design was used to determine the relationship between physical resources management and school effectiveness while survey was used to ascertain the availability in senior secondary school in Biu education zone. Correlation design according to Cohen and Manion, (2009) aimed at determining the nature, degree and direction of relationship between variables or using these relationships to make predictions. The population of this study comprised eighteen (18) senior secondary schools in Biu Education zone with 2781 as population. Simple random sampling was used in drawing the sample of ten (10) senior secondary schools and 326 teachers. Simple random sampling according to Johnson and Christensen (2008) is a sample drawn by a procedure which every member of the population has an equal chance to be represented in the study. Self-developed Checklist titled: Physical Resource Management (PRM) was used as instrument for data collection. The Checklist consisted of four (10) items which sought information on the Availability and utilization of physical resource where the respondents ticked the options which were scored as follows: Adequately Available (AA); Available (A); Moderately Available (MA); Not Available (NA). However, in determining the validity and reliability of the instrument, experts in Educational Measurement and Evaluation, Department of Education, Faculty of Education- University of Maiduguri validated the instruments. Cronbach's Alpha was adopted to measure the reliability of the instrument which stood at 0.93. The data was analyzed using simple percentage and Pearson Product moment correlation coefficient.

### **Results:**

**Research Question 1:** What is the availability level of physical resources for senior secondary school effectiveness in Biu Education zone?

**Table1:** Percentages and Frequency level of availability of physical resources for senior secondary school effectiveness in Biu Education zone.

ITEMS	N	AA	AV	MA	NA	Total
Classrooms	10	9(90)	1(10)	0	0	100%
Furniture.	10	9(90)	1(10)	0	0	100%
Chemistry laboratory	10	8(80)	1(10)	1	0	100%
Biology laboratory,	10	1(10)	8(80)	1	0	100%
Physics laboratory,	10	1(10)	8(80)	1	0	100%
School library	10	2(20)	7(70)	10	0	100%
Toilets Facilities	10	1(10)	1(10)	70	1	100%
Water supply	10	1(10)	7(70)	10	1	100%
Electricity supply	10	6(60)	2(20)	10	10	100%
Computer	10	1(10)	6(60)	2(20)	1(10)	100%
<b>Grand Total</b>	<b>10</b>	<b>39%</b>	<b>42%</b>	<b>15%</b>	<b>4%</b>	<b>100%</b>

**Source:** Field Survey, 2021

Table 1 revealed that 39% of the physical resources are adequately available, 42% are available and 15% were moderately available. The table further revealed that only four (4%) of the physical resources were not available. This showed that majority of the school in Biu Education Zone especially public secondary school have adequate physical resources.

**Research Question 2:** What is the extent of utilizations of physical resources for secondary school effectiveness in Biu Education zone?

**Table2:** Percentages and Frequency level of utilizations of physical resources for secondary school effectiveness in Biu Education zone.

ITEMS	N	HU	MU	NU	Total%
Classrooms	10	5(50)	2(20)	3(30)	100%
Furniture.	10	4(40)	4(40)	2(30)	100%
Chemistry laboratory	10	3(30)	6(60)	1(10)	100%
Biology laboratory,	10	7(70)	2(20)	1(10)	100%
Physics laboratory,	10	3(30)	6(60)	1(10)	100%
School library	10	2(20)	7(70)	1(10)	100%
Toilets Facilities	10	3(30)	4(40)	3(30)	100%
Water supply	10	2(20)	8(80)	0	100%
Electricity supply	10	1(10)	8(80)	1(10)	100%
Computer	10	9(90)	1(10)	0	100%
<b>Grand Total</b>	<b>10</b>	<b>39%</b>	<b>48%</b>	<b>13%</b>	<b>100%</b>

**Source:** (Field Survey, 2021) Key: Highly Utilized (HU), Moderately Utilized (MU), Not Utilized (NU)

Table 2 revealed that 39% of the respondents highly utilized the physical resources for school effectiveness, 48% moderately utilized it and 13% of the respondents don't utilize the resources for school effectiveness. This showed that majority of the respondents in Biu Education Zone particularly those in public secondary school used physical resources for school effectiveness.

**Hypothesis One:** There is no significant relationship between utilization of physical resource and senior secondary school effectiveness in Biu Education zone

**Table3:** Correlation between utilization of physical resource and senior secondary school effectiveness in Biu Education zone, Borno State, Nigeria

Variable	N	Mean	SD	r- value	P-value	Decision	Remark
Physical Resource	326	18.05	4.31	0.706	0.005	Sig	Reject H <sub>01</sub>
Secondary School Effectiveness	326	60.99	10.48				

\*\* . Correlation is significant at the 0.05 level.

Source: Field Survey, 2021

Table 3 above revealed that the correlation coefficient (r) obtained was 0.706 with p- value of 0.005 at 0.05 level of significance. Since the r – value is greater than 0.05, the null hypothesis is rejected. This means that, there is significant relationship between physical resource and secondary school effectiveness of senior secondary school students' in Biu Education Zone, Borno state. The findings suggested that, physical resource is determinant of secondary school effectiveness of senior secondary school students' in Biu Education Zone, Borno state.

### Discussion of Findings

Research question one (1) determined the availability level of physical resources for senior secondary school effectiveness in Biu Education zone Borno State. The results showed that majority of the school has physical resources. This finding was in line with study conducted by Water Alabi (2020) The findings further indicated that, the extent of school effectiveness is directly proportional to the availability and utilization of physical resources. Momoh (2020) also revealed that availability of material resources has a significant effect on student's achievement since they facilitate the learning of abstract concepts and ideas and discourage rote-learning. Adeogun (2001) and Amadi and Ezeugo (2019) believed that there's a very strong positive significant relationship between availability of physical resources and academic performance.

Research question two (2) determined the extent of utilizations of physical resources for secondary school effectiveness in Biu Education zone. The results



showed that school managers were of the opinion that there was adequate maintenance of healthy environments in public secondary schools. Amadi and Ezeugo (2019) study indicated that they are available physical resources in UBE schools and are fully utilized by the personnel (public junior secondary schools). This study was in consonant with Bender (2020) who opined that physical resources must be disinfected and keep clean surroundings as well as classrooms especially with water and sanitation at least once a day, particularly surfaces that are touched by many people.

Hypothesis One; There is no significant relationship between utilization of physical resource and senior secondary school effectiveness in Biu Education zone. The results showed that there was significant relationship between physical resources and senior secondary school effectiveness in Biu Education zone, Borno State. This finding was in line with **Amadi and Ezeugo (2019)** discovered a very strong positive significant relationship between availability of physical resources and academic performance. This implies that availability of physical resources strongly influences senior secondary school effectiveness in Biu Education zone

### **Conclusion**

Based on the above findings the researchers conclude that physical resources are the major predictor of senior secondary school effectiveness. This implies that physical resources play a significant roles in determined the senior secondary school effectiveness. Non-Governmental organization should complement the efforts of State Government in the provision of physical resources in senior secondary school as it found to influences it effectiveness in Biu Education Zone, Borno State

### **Recommendations**

Based on the findings, the researchers made the following recommendations:

1. Government should provide more physical resources in senior secondary school as it found to influences it effectiveness in Biu Education Zone, Borno State.
2. Schools administrators should encourage the use of physical resources in senior secondary school as it found to influences it effectiveness in Biu Education Zone, Borno State.
3. Non-Governmental organization should complement the efforts of State Government in the provision of physical resources in senior secondary school as it found to influences it effectiveness in Biu Education Zone, Borno State.

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