



## RELEVANCE OF SCHOOL PLANT AVAILABILITY AND FUNCTIONALITY ON STUDENTS' ACADEMIC PERFORMANCE IN SENIOR SECONDARY SCHOOLS IN RIMI ZONAL EDUCATION QUALITY ASSURANCE, KATSINA STATE

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### **Abstract**

*The study explored the relevance of school plant availability and functionality on students' academic performance in Senior Secondary Schools in Rimi Zonal Education Quality Assurance, Katsina State. Two research questions were formulated to guide the study. Exploratory survey design is employed for the study. The study has a population of 406 teachers and a sample size of 196 teachers using Research Advisors (2006). Two null hypotheses were formulated and tested using Pearson correlation analysis for independent samples. Questionnaires were used as the instrument for data collection; the instrument was given to the senior lecturers' department of educational management Umar Musa Yar'adua University, Katsina to ascertain its validity, from the copies returned by the lecturers, corrections were made by the researcher to ensure the instrument has both good content and construct validity. Pilot test was conducted to establish the reliability of the instrument and result showed that the instrument has a very high level of reliability index of 0.84, which the researcher considered adequate for the study. Findings showed that school plant availability and functionality have significant influence on academic performance among Senior Secondary School students in Rimi Zonal Education Quality Assurance. The study recommended among others that School based management committees should be involved in the provision of school plant and ensuring that the plants are always functional in their respective schools through periodic maintenance; as the world nowadays is technologically advanced, modern educational resources such as internet, Information and communications technology facilities should be provided by stakeholders and teachers should be trained on how to effectively use such facilities for effective teaching and learning process in secondary schools.*

**Keywords:** School Plant, Availability, Functionality, Academic Performance

### **Introduction**

School plant has an essential role in the realization of goals and objectives of an educational programmes and policies because it caters for the needs of both the staff and learners physically and emotionally. School Plant can be defined as space interpretation of the school curriculum. It may not be possible for the curriculum to be implemented if the physical facilities required for teaching and learning are not available. Ajayi and Yusuf (2009) stated that school plants comprise the machinery which in turn includes machines and tools used in the workshop, in addition to duplicating machines. They also pointed out that school site, which is the landscape on which the school's permanent and non-permanent structures are built, are part of school plant. They also included buildings, equipment, furniture, vehicles of various types; electrical fittings, books, water supply infrastructure, and accessories like play

grounds, lawns, parks and farms, as part of school plant.

Smooth educational programmes and policies can only be successfully implemented if there are adequate and functional school plants in the school. With the increase in students' enrolment in our senior secondary schools and increasing number of academic programmes coupled with the scarce resources, then the strategic planning can be the solution of school plants provision. The school plants are usually used:

- To illustrate concepts.
- To provide opportunity for firsthand experience.
- For demonstration and experimentation.
- For scientific investigation and discovery.
- To provide diversity of thoughts.
- For observation and inquiry.
- For development of scientific attitudes and skills.
- To protect the individual and also provide comfort.

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Indirect teaching support plants include offices, cafeteria, acoustics, lavatories, laundry, mowers, residential halls, common rooms, cleaning materials, and ground including all other facilities that satisfy the emotional and social needs for both staff and students (Asiabaka, 2008). These indirect teaching support plants are used for the following:

- Boost the instructional effectiveness.
- For the improvement of the orderliness, safety and cleanliness of the facility.
- For elimination of avoidable losses and operational cost of the facilities.
- Extension of the buildings' usefulness.
- Bringing out the best in staff efficiency and effectiveness.
- Improve building appearance.
- Use data collection and analysis for decision making.

It has been observed that availability of school plants enhances effective teaching and learning process as well as good students' academic performance. Garry (2015) opined that school plants have a great impact on academic performance of students, and inadequate facilities translate to poor performance. Availability of required plants and facilities in schools enhances students' academic performance. When plants are provided, learning activities proceed at a very fast speed. In a situation where the learning environment is not conducive, academic activities proceed at a low rate which then results in poor academic performance of students in promotional and certificate examinations (Karlo, 2015). The quality of the students' learning depends on the quality of the school in terms of availability and functionality of required school plants in such school (Green, 2015).

School plant functionality refers to the state of school plant suited for effective teaching and learning. The functionality of School plants such as laboratory equipment may enhance effective teaching and learning process and may also improve students' academic performance in senior secondary schools. Amanchukwu (2015) maintained that school plant functionality determines the quality of curricular and co-curricular activities that take place in the school. Functional laboratories, well-furnished classrooms and variety of functional educational materials available in the school allow organized lessons presentation by the teachers and increase students'

performance. For instance, a well-organized lessons and practical for science students can only be conducted in functional science laboratories.

In view of the above explanation, it is evident that the academic performance among secondary school students depends on the availability and functionality of required school plants designed for any educational policy and programme. Thus, students' performance in secondary schools with functional plants may be better than those with less available or non-functional plants.

**Statement of the Problem**

It has been observed that School plants in most of Nigeria secondary schools are not given the priority it supposed to have over the years (where they are available) and in some of the schools the school plants are not adequately provided such as well-equipped library, well-equipped laboratories for Biology, Chemistry, and Physics, etc. which may have direct effect on students' academic performance in secondary schools. In 2017, 82623 secondary school students in Katsina State sat for West African Senior Secondary Examination Certification, but only 21326 passed (25.81). 61297 (74.19) failed to get 5 credits mandatory qualification into higher institutions of learning in science based courses (WAEC Nigeria, 2017). The academic performance of students in West African Senior Secondary Certificate Examination (WASSCE) was very low in Katsina State over the years (WAEC Nigeria, 2016). In Katsina State only 23.17% candidates who sat for WASSCE in 2018 got 5 credits, (Mathematics and English Language inclusive) and the performance deteriorated in 2019 to 19.75%. It is based on this background that the researcher is motivated to investigate whether school plant availability and functionality have any impact on students' academic performance in secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.

**Objectives of the Study**

The study has the following objectives:

1. To find out the influence of school plant availability on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.



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2.To find out the impact of school plant functionality on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.

### Research Questions

- 1.What is the influence of school plant availability on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State?
- 2.What is the impact of school plant functionality on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State?

### Hypotheses

Following null hypotheses were tested using Pearson correlation analysis at 0.05 level of significance

- Ho<sub>1</sub> There is no significant influence of school plant availability on academic performance among senior secondary school students in Rimi Zonal Quality Assurance, Katsina State.
- Ho<sub>2</sub>. There is no significant impact of school plant functionality on students' academic performance in senior secondary school in Rimi Zonal Education Quality Assurance, Katsina State.

### Methodology

This present study is an exploratory survey research design. According to Nnamdi (2010) exploratory survey design is a design geared towards the collection of data for hypothesis testing. Exploratory survey design enables the researcher to determine how and why things happen. This method enables the researcher to report the influence school plant availability and functionality has on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.

The population of the study comprised all four hundred and six (406) teachers from 19 public senior secondary schools in Rimi Zonal Education Quality Assurance. Katsina State.

The sample size consists of 196 teachers drawn from 19 senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State. According to Research Advisors (2006), for a population of 406, the sample size to be used is 196. In this case, since the population of this study is 406, then the researcher selected 196 teachers out of 401 teachers in Rimi Zonal Education Quality Assurance secondary schools using simple random sampling procedure.

In order to ascertain the content validity of the instrument used in the study. Senior lecturers of the Department of Educational Management, Umar Musa Yar'adua University, Katsina were given the instrument to ascertain its content validity. From the copies returned by the lecturers, corrections were made by the researcher to ensure the instrument has both good content and construct validity.

To establish the reliability of the instrument, pilot test was conducted using secondary schools from different educational zone. The result of the analysis showed that the instrument has a very high level of reliability index of 0.84, which the researcher considered adequate for the study.

The researcher gave each school a day for administering and collection of the instrument of data collection and it was conducted together with research assistant from each school.

### Method of Data Analysis

The two null hypotheses in the present study were tested using Pearson correlation analysis at 0 .05 level of significant. If the calculated probability (P- value) is greater than the significant level of 0.05, then the hypothesis is considered to be accepted while if the p- value is lesser than the significant level of 0.05, then the hypothesis is considered to be rejected.

### Test of Hypotheses

Ho<sub>1</sub> There is no significant influence of school plant availability on academic performance among senior secondary school students in Rimi Zonal Education Quality Assurance secondary, Katsina State.



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**Table 1: Test of school plant availability on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.**

Variables	x	S.D	r-cal	p-value	Decision
Availability of school plant	76.350	13.2227			
Academic performance	14.6350	16.49183	.737	.000	Significant Ho1 Rejected

This hypothesis was tested using Pearson correlation analysis. From the Table 1, it can be observed that the relationship between availability of school plant and students' academic performance was significant and positive,  $r(16) = .737$ ,  $P = .000$ . Thus, p-value is less than 0.05 level of significant hence, the hypothesis was rejected and the alternative hypothesis was upheld. Thus, it can be concluded that there is significant influence

between availability of school plant and academic performance among senior secondary school students in Rimi Zonal Education Quality Assurance, Katsina State.

**Ho<sub>2</sub>** There is no significant impact of school plant functionality on academic performance among senior secondary school students in Rimi Zonal Education Quality Assurance, Katsina State.

**Table 2: Test of school plants functionality on students' academic performance in senior secondary schools in Rimi Zonal Education Quality Assurance, Katsina State.**

Variables	x	S.D	r-cal	P-value	Decision
Functionality of school plant	38.628	4.8388			
Academic performance	14.6350	16.49183	.664	.003	Significant Ho3 Rejected

This hypothesis was tested using Pearson correlation analysis. From the Table 2, it can be observed that the relationship between functionality of school plant and students' academic performance was significant and positive,  $r\text{-cal} = .664$ ,  $P = .003$ . Thus, p-value is less than 0.05 level of significant hence, the hypothesis that there is no significant impact between functionality of school plant and academic performance among senior secondary school students in Rimi Zonal Education Quality Assurance, Katsina State was rejected and the alternative hypothesis was upheld. Thus, it can be concluded that there is significant relationship between functionality of school plant and academic performance among senior secondary school students in Rimi Zonal Education Quality Assurance, Katsina State.

### Discussion of Finding

The study investigated the relevance of school plant availability and functionality on students' academic performance in Senior Secondary Schools in Rimi Zonal Education Quality Assurance, Katsina State. The test of hypotheses showed that school plants availability has significant influence on students' academic performance in senior

secondary school students in Rimi Zonal Education Quality Assurance, Katsina state. This study is in agreement with Okeke (2016) which revealed that availability of school plant has significant impact on academic performance among senior secondary school students in Federal Capital Territory Abuja. Relatively, in a study by Sola (2011) on effect of school building on elementary schools, the finding revealed that a significant difference of five percentage points exists in the achievement scores of students in poor buildings when compared with scores of students in good buildings. In another study by Nwankwu (2014) on provision of science laboratory and students' academic performance, the result showed that practical work by students in school laboratory helps them develop some manipulative and problem solving skills through opportunities offered them on inquiring discovery and practical investigations. Thus, students learn to generalize their ways of thinking and expected these to translate positively in their academic performance.

### Conclusion

School plant availability and functionality are essential in achieving positive educational outcomes in senior secondary schools The

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functionality of the available school plant in our secondary schools will no doubt make the learning environment conducive and enhance effective teaching and learning process, improve academic performance of the students and may guaranteed a better performance in both internal and external examinations. Functionality of the available plants in our secondary schools may enhance educational standard through effective implementation educational policies and programme.

**Recommendations**

Based on the findings of the study and the conclusions made, the following suggestions were made:

1. From the results of this study, it can be deduced that to ensure a better academic performance in our secondary schools, the available plant need to be functional
2. State ministry of education should conduct a need assessment on availability and functionality of school plants in senior secondary schools in Rimi Zonal Education Quality Assurance and make use of data derived to plan for the provision of adequate school plants to the schools in the Zone.
3. Federal and states ministries of education should provide adequate school plants to Nigerian senior secondary schools.
4. School based management committees should be involved in the provision of school plant and ensuring that the plants are always functional in their respective schools through periodic maintenance.
5. As the world nowadays is technologically advanced, modern educational resources such as internet, Information and communications technology facilities should be provided by stakeholders and teachers should be trained on how to effectively use such facilities for effective teaching and learning process in our secondary schools.

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