The Effect of School Location on Senior Secondary School Mathematics Students' Performance in Gaya Zonal Education Area of Kano State, Nigeria

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Abstract: *The Study was carried out to investigate the effect of school location on mathematics students' performance in Gaya Zonal Education Area of Kano State, Nigeria. The expost facto design was used. A systematic random sampling was employed to select the 284 students' out of a population of 669 students. Three (3) hypotheses were tested to determine the effect of school location on mathematics students' performance especially between urban and rural students', between urban and rural girls as well as between urban and rural boys. Significance difference was found in favour urban students irrespective sex. It was recommended that rural schools should be provided with basic human and physical facilities for better results.*
Keywords: *School location, Performance.*

I. Introduction

Nobody no disputes the importance of mathematics to the scientists, engineers, medical doctors, teachers, lawyers and indeed all citizens. This is so due to the fact that technological development is hinged on solid mathematics foundation. Several mathematics educators like Ibrahim and Likita (2017), Awofala and Fatade (2017), Nwigboji and Egbe (2017) as well as Ekpob (2015) stressed the huge importance of mathematics in nation building.

Notwithstanding the importance of the subject to nation building mathematics students' performance especially in public examinations is not only alarming but leaves much to be desired Korau, (2006) and Isa, Musa & Idris (2017). Such Poor Performance might be linked to several factors which include students' interest (Isa, 2017), mathematics phobia (Bature, 2006), the way instructions are presented to the students' (Nizoloman, 2013) and school location (Ozumi, 2011)

1.1 Purpose Of The Study
The main purpose of the study is to identify the effect of location in regards to the teaching and learning of mathematics in Gaya Zonal Education Office of Kano State.

1.2 Statement Of The Problem
This Study aims at finding out the effect of school location on students' mathematics performance in Gaya Zonal Education Office of Kano State, Nigeria.

1.3 Research Hypotheses
The following hypotheses were raised to guide the study:-
HO_1: There is no significant difference in mathematics students' performance between urban and rural school students'.
HO_2: There is no significant difference in mathematics students' performance between urban and rural girls.
HO_3: There is no significant difference in mathematics students' performance between urban and rural boys.

II. LITERATURE REVIEW
The performance is referred to as the capacity or ability to achieve a desired result (Ganiyu, 2016). In other words, the word involves a complete measurement of education process as well as outcome. Performance or achievement is a function of so many factors such as students' interest, how instructions are passed to the learners, availability of relevant instructional materials or the location of the school.

Where someone lives influence his/her academic performance especially in subjects like mathematics Ozumi (1996). Ozumi (1996) argued that children's performance vary according to the part of the country they came from. Thus, children may have same or similar social background but because of where they live their performance may not live up to expectation. Ganiyu (2016) further argued that pupils/students' from rural areas do not have some required learning materials while those from better up families have the additional advantage of having more learning materials plus a good conducive environment.

The influence of school location on students' performance received wide attention. Learners ability is hampered by lack of a rich and conducive environment (Lassa, 1997).

Lassa (1997) carried out a research in both urban and rural areas and discovered that a significant difference exist between boys and girls with the boys having the edge. Lassa (1997) viewed this difference in mathematics students' performance, especially between boys and girls, is a result of social influence rather than metal ability to study.

III. Methodology

3.1 Research Design
Ex post facto design is used in this study. It is a quasi experimental study which examines an independent variable, present, prior to the study, affects the dependent variable. In otherwords the variable, student results, already exist and the researcher will not temper with it.

3.2 Population
The Population consisted of all the 669 senior secondary school students in the four (4) schools selected for the study. They are final year students in 2016 who sat for NECO Examinations.

3.3 Sample
The sample is made of 284 students randomly selected from the population.

3.4 Sampling Technique
From the list of all senior secondary schools in Gaya Zonal Education Office, 2 male and 2 female secondary schools were randomly selected.

IV. Data Collection

4.1 Instrumentation
This data used for this study came solely for the 2016 results of senior secondary school certificate mathematics results obtained from the principals of the four (4) schools used.

4.2 Reliability and Validity of Instrument
The Students' mathematics obtained from the National Examination Council (NECO) were used. The reliability and validity of NECO mathematics results are never in doubt. Thus, the instruments reliability and validity were assured.

V. Data Analysis and Presentation

5.1 Data Analysis Technique
A t-test for independent sample was used to analyze the data obtained

5.2. Data presentation
Ho_1; there is no significant different in mathematics students' performance between urban and rural school students.

Table 5.1

Group	N	$\overline{X}$	SD	Df	t-cal	Total	Decision
Urban	203	62.1	11.70		15.19	1.41	Significant
Rural	81	40.2	8.75	282			

$p \leq 0.05$

Result from table 5.1 indicated that t-calculated $\geq$ t-critical with df=282 at $p \leq 0.05$ level of significance. Thus the null hypothesis is rejected. The urban students performed significantly higher than the rural students.

Ho_2: there is no significant difference in mathematics students performance between urban and rural girls.

Table 5.2

Group	N	$\overline{X}$	SD	Df	t-cal	t-crit	Decision
Urban girls	60	61.73	11.91				Significant
Rural Girls	21	40.01	8.72	79	14.61	1.71	

$p \leq 0.05$

From table 5.2 above it is vividly clear that t-cal> t-crit with df =79 at $p \leq 0.05$ level of significance.
This implies that there is a significant different in mathematics performance between urban and rural
 girls. Thus, the urban girls outperformed the rural ones. Therefore, the null hypothesis rejected.
Ho_3:. There is no significant different in mathematics students performance between urban and rural boys.

Table 5.3

Group	N	$\overline{X}$	SD	DF	T-cal	t-crit	Decision
Urban boys	133	62.19	11.70		15.19	1.41	Significant
Rural boys	70	40.21	8.75	201			

$p \leq 0.05$

From the above table it showed that the t-calculated value is greater that than the t-critical value (i.e t-cal =15.19 > t-crit= 1.41) with df 201 at $p \leq 0.05$. thus the null hypothesis is rejected.

V.I Discussion

The aim of this study was to investigate the effect of school location of mathematics students performance in national examination council (NECO) 2016 examinations in Gaya zonal education area of Kano state, Nigeria. One of the findings from the study showed that school location on the basis of urban and rural area has more positive impact on mathematics students performance in NECO 2016 examination table 4.2.1 indicated that the urban students performed significantly better than the rural students. This result is consistent with the assertion of Ozumi (1996) Lassa (1997) and Ganiyyu (2016).

It was similarly observed, from the findings of the study, that urban girls performed better than the rural ones, this is line with the arguments of Chadwick (1979)who undertook a comparative study of urban and rural school in Uganda. Chadwick (1979) believed that urban schools unlike these in rural areas are equipped with better physical and human facilities, indeed, there is a strong relationship between human and physical resources on one hand and academic achievement on the other.

The result among urban and rural male students is almost identical with those of the urban/rural female students.

VII. Conclusion

The purpose of this study is to determine the effect of school location on mathematics students performance in National Examination Council (NECO) 2016 examinations in Gaya zonal education area of Kano state, Nigeria. A significant finding here is the better performance of urban students generally over rural students.

VIII. General Recommendation

1. Rural schools should be provided with at least the basic human and physical facilities.
2. The rich ones in the public should support rural schools materially and morally.

6.1 Recommendations For Further Studies

1. This study was restricted to only Gaya zonal education area of Kano state, there is the need to carry similar study in other zonal education areas of the state or even in other states of Nigeria.

2. The results obtained in the study are for mathematics only. Similar research work can be extended to other disciplines in our secondary schools.

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