



ASSESSMENT OF SCHOOL LOCATION, CLASS SIZE AND ACADEMIC PERFORMANCE OF UPPER BASIC STUDENTS IN CROSS RIVER STATE, NIGERIA

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ABSTRACT

The main thrust of this study was to assess the influence of school location and class size on academic performance of upper basic nine students in Cross River State, Nigeria. The design adopted for the study was ex-post facto research design. A sample of 1600 upper basic nine students was drawn from 81 out of 464 secondary schools in Cross River State using stratified and simple random sampling techniques. The data analysis techniques used included independent t-test and one-way analysis of variance. The results revealed that, there was a significant influence of school location on upper basic nine students' academic performance: urban students performed significantly better than their rural counterparts in core subjects like Mathematics and Basic Science. Again, there was a significant influence of class size on the academic performance of upper basic nine students. Recommendations were made among others that, class sizes in schools should be relatively small to encourage effective learning, and that modern facilities and instructional materials should be provided for rural students who lack the opportunity of urban life and learning experiences. Furthermore, conducive learning environment such as spacious classrooms, well-equipped laboratories, accessible library facilities, recreational facilities, etc., should be made available to all upper basic nine students, irrespective of their location – urban or rural schools.

KEYWORDS: School location, Class size, Academic performance, Secondary education and Upper basic students

INTRODUCTION

Education is severally viewed as the process through which knowledge, skills, ideas, values and attitudes are transmitted from one generation to another. That is to say, through education, individuals or young citizens acquire knowledge, skills, capacities and character that would help

them to develop into well-adjusted adults who would be useful to themselves, their families and the society at large. Consequently, the education sector is pivotal to the actualization of our current national and global government policy and objectives (Opeyemi, 2013).

Meanwhile, the type of education (learning) which aids an individual in the process of self-discovery

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and self-actualization is one that occurs in a school system. Apart from going to school to develop appropriate attitudes and behaviours for meaningful living in the society, individuals go through schooling to develop marketable skills. In Nigeria, the National Policy on Education (FRN, 2014) clearly states that, secondary education shall foster in students self-actualizing persons. In addition, secondary education shall provide the technical knowledge and vocational skills necessary for agriculture, industrial, commercial and economic development (FRN, 2014). In other words, secondary education is very crucial to any nation's national development as it provides the basis of self-sustenance and also to change the educational experience for learners which is central to the issue of developing critical thinkers (Joshua, Ikiroma & Nwogwugwu, 2015), it is the foundation for further studies in institutions of higher learning.

It is worthy to note that, Nigeria, in line with the global policy to provide quality education for all learners of school age, re-launched the Universal Basic Education (UBE) programme and Education For All (EFA) by the year 2015. The scope of the UBE covers the primary and lower secondary classes. The junior secondary education which is the upper basic level of the first stage of our new system of education (9-3-4 system), is the lowest level of Nigeria's secondary education. Interestingly, the FRN (2014) captured the vision statement of the UBE in this way, "at the end of the nine years of continuous education, every child should acquire appropriate and relevant skills and values and be employable in order to contribute his/her quota to national development".

As the name implies, the Universal Basic Education (UBE), is the bedrock of formal education. Conceptually, this basic education is supposed to be tuition free, universal and compulsory for all children of school age. It is the form of education that is given at the first level of the child's formal education. It is generally believed that, the achievement of the objectives of the Universal Basic Education (UBE) fundamentally depends on the quality of education available in the particular society especially at the upper basic nine class.

School location and class size of the schools are two aspects of school variables that could affect the quality of education received by students in any school system. The effects of class size and school location among other variables on the academic performance of secondary school students especially at the upper basic nine level,

have been issues of concern and ongoing to researchers.

Generally, school location implies the geographical areas where secondary schools selected for the study are situated. A school is located either in an urban or rural area. From his study, Bela (1997) as reported by Ovat (2009), used 222 students in rural areas and 185 students in urban centers in Cameroon. It was discovered that, school location does not significantly influence students' academic performance or quality in science' related subjects. The results of the independent t-test analysis showed $t = .36$ with (rural) = 51.71, $SD = 11.89$ and X (urban) = 51.31, $SD = 10.49$.

However, Ayogu and Nworgu (1999) from their study reported a positive influence for students in urban schools. They concluded that, urban students have a higher advantage over their rural counterparts, especially at the secondary school level. The contention was that, environmental factors in the urban area expose the learners and make for comfort in learning than what is obtainable in the rural areas. The results of an investigation carried out by Howley (2001) stated that, a good number of children from high socio-economic urban areas have been known to perform better on intelligence test and comprehension than their rural counterparts.

The environment in which a learner lives has a great impact on the child's academic performance at the end of the day. Consequently, Meremikwu (2008) conducted a study to assess the achievement and retention level of rural, semi-rural and urban students in Mathematics. A sample of 600 students was drawn from schools in Cross River State. The researcher's outcome showed that urban students (taught with or without instructional materials) performed significantly better than their counterparts in the semi-urban and rural areas. In the same vein, students in semi-urban schools achieved higher in Mathematics than their counterparts in the rural schools. Similarly, Onuekwusi and Ogoamaka (2013) conducted a study on gender and school location on students' achievement in Chemistry. Using a sample of 500 S.S.1 students from secondary schools in Imo state, the results interestingly revealed that, students in urban schools performed better than those in the rural schools.

Lastly, Oladunjoye (2011) reported the impact of available schools and classroom on the improvement and sustenance of UBE in Nigeria. The results of this investigation showed that, the role of government in providing and locating

schools especially in the rural areas is not adequate, as 57.49% of the respondents considered the schools available for the UBE especially outside the cities are grossly inadequate. In addition, 57.64% responded that, classrooms were not adequate while 57.58% held the opinion that teaching facilities available in most schools were not also adequate and where classrooms and teaching facilities were inadequate, then overcrowding or large class sizes are expected.

Within the schools, the buildings are divided or partitioned into classrooms; where teaching and learning take place. Furthermore, the learners in school are nurtured into morally, dependable persons according to their ages, classes or levels. Interestingly, Asodike and Onyeike (2016) described classroom as that place within the school where the teachers and students can be located regularly, where everyone supposedly knows one another and in which everyone works together. In addition, class size refers to the actual number of students in any natural classroom.

For sure, UBE being free and compulsory has as one of its challenges, the problem of inadequate infrastructure and equipment. Indeed, inadequate provision of infrastructure (classrooms inclusive) for the students, especially at the upper basic level, has resulted in overcrowding and invariably, large class sizes in most schools (Osaro, 2014). Researchers seem to have agreed that, class size could affect academic performance and by extension, the quality of education of learners at all levels especially the upper basic students; but what constitute the boundary between small and large classes may be debatable. The Nigerian National Policy on Education (FRN, 2014) stipulates 20 pupils per class in the pre-primary class, 30 pupils per class in the primary section and a maximum of 40 students in the secondary school classes.

The issue of class size and students' academic performance has been of serious interest in the field of education (Holloway, 2002 and Wilson, 2006). After conducting his study, Attah (2002) submitted that, students who learn in a small class size tend to be superior to their counterparts in large classes, in terms of attainment of social studies concepts, participation in class and attendance. He concluded that, there is a significant influence of class size on the students' learning in relation to their academic achievements and quality. Although, some teachers still believe that, where the needed facilities and resources are available

irrespective of the class size, quality teaching is also possible in large classes.

Evidently, studies have revealed that, school location and class size seem to be among those school variables that could possibly hinder the full development of the Nigerian upper basic nine learners' potentials. This could be detrimental to the actualization of the goals of our upper basic level of education and the quality of Junior secondary (upper basic nine) graduates produced.

STATEMENT OF THE PROBLEM

Obviously, the academic performance of students in secondary schools has been of great concern to stakeholders in the education sector in the country. Recent studies have showed that, over the years, upper basic nine students' performance in the core subjects in the Basic Education Certificate Examinations (BECE) have been quite discouraging. Some researchers have attributed this to students' factors while others pointed out that school variables like class size, school model, library facilities, and school location seem to be among the school variables affecting the students' performances.

In the light of above factors, this study intends to find out if school location and class size could influence the students' performance in core subjects of BECE in Cross River State.

PURPOSE OF THE STUDY

Specifically, the study is aimed at assessing;

1. The effect of school location on the academic performance of upper basic nine students in the core subjects
2. The influence of class sizes on the upper basic nine students performance in the core subjects.

RESEARCH QUESTIONS

1. To what extent does school location affect the academic performance of BECE of upper basic nine students in the core subjects
2. What is the influence of class size of schools on the upper basic nine students' performance in the core subjects.

RESEARCH HYPOTHESES

1. School location does not significantly influence the performance of upper basic nine students in the core subjects.
2. Class sizes do not significantly influence the performance of upper basic nine students in the core subjects of BECE.

METHODOLOGY

The population of this study consisted of all the upper basic nine students from secondary schools in the four educational zones in Cross River State. Stratified random sampling technique was employed to group the zones into strata. Then simple random technique was used to select 81 out of 464 secondary schools from the four strata. The scores of students in these selected schools were obtained from the Examination and Certificate Department of

Ministry of Education, Cross River State. The data collected were analyzed using independent t-test and analysis of variance (ANOVA) statistical techniques.

RESULTS**HYPOTHESIS ONE**

There is no significant influence of school location on the performance of upper basic nine students in the core subjects of BECE.

Table 1: Independent t-test analysis of the academic performance of urban and rural upper basic nine students in some core subjects

Core subjects	Group location	N	Mean	S.D	T-values
Mathematics	1 (Urban)	820	57.29	13.42	2.48*
	2 (Rural)	780	55.70	12.22	
English language	1 (Urban)	820	63.10	9.63	-1.88
	2 (Rural)	780	64.07	11.08	
Basic sciences	1 (Urban)	820	66.10	11.99	-3.81*
	2 (Rural)	780	68.42	12.38	

* Significant at .05 level; critical t = 1.96, d.f = 1598

The results presented in Table 1 above have shown that, while the calculated t-value of -1.88 (for English language) is lower than the critical t-value of 1.96, the calculated t-value of 2.48 (for Mathematics) and -3.81 (for Basic sciences) are each higher than the critical t-value of 1.96 at .05 level of significance with 1598 degrees of freedom. With these results, hypothesis one is rejected for Mathematics and Basic Sciences, but is not rejected in the case English Language.

Thus, school location has a significant influence on the Upper basic nine students' performance in Mathematics and Basic Sciences, but contrary in the case of English language.

HYPOTHESIS TWO

There is no significant influence of class sizes on the performance of upper basic nine students in the core subjects of BECE.

Table 2: Analysis of variance of the influence of class sizes on upper basic nine students' academic performance in the core subjects

Core subjects	Sources of variation	Sum of squares	Degrees of freedom	Mean squares	F
Mathematics	Between groups	991.74	2	495.87	3.01*
	Within groups	263621.67	1597	165.18	
	Total	264613.41	1599		
English language	Between groups	135.71	2	67.85	0.63
	Within groups	171739.29	1597	107.54	
	Total	171875.00	1599		
Basic science	Between groups	3566.98	2	1783.49	12.08*
	Within groups	235785.11	1597	147.64	
	Total	239352.10	1599		

* Significant at .05 level, critical r = 2.99 (α .05, df = 2, 1597)

Table 3: Fisher's LSD multiple comparison analysis of significant influence of class sizes on upper basic nine students' performance in the core subjects

Core subjects	Group	Large (N = 500)	Medium (N = 480)	Small (N = 620)
Mathematics	Large	55.35 ^a	-1.74 ^b	-1.66
	Medium	-2.12 ^{*c}	57.09	0.08
	Small	-2.15 [*]	0.10	57.01
	MSW	165.18		
Basic sciences	Large	65.01 ^a	-3.26 ^b	-3.19
	Medium	-4.20 ^{*c}	68.27	0.07
	Small	-4.37	0.09	68.20
	MSW	147.64		

a- Group means are placed along the diagonal

b- Differences between group means are above the diagonal

c- Fisher's t-values are placed below the diagonal

* Significant at .05 level, critical t = -1.96

The results in table 3 above have shown that;

(i) For mathematics, significant t-values of -2.12 and -2.15 indicate that, students from small class size (with \bar{X} = 57.01) and those from medium class size (\bar{X} = 57.09) performed significantly higher than students from large class size (with \bar{X} = 55.35) respectively. The non-significant t-value of 0.10 indicates that, there was no significant difference between the academic performance of students from small class size and those from medium class size.

(ii) For basic sciences, the significant t-values of -4.20 and -4.37 indicate that, students from small class size (with \bar{X} = 68.20) and those from medium class size (with \bar{X} = 68.27) performed significantly higher than students from large class size (with \bar{X} = 65.01) respectively. The non-significant t-value of 0.09 indicates that, there was no significant difference between the academic performance of students from small class size and those from medium class size.

DISCUSSION OF FINDINGS

The findings of hypothesis 1 as presented in Table 1 have shown that, school location has a significant influence on the academic performance of upper basic nine students with urban students performing significantly higher than their rural counterparts in Mathematics and Basic Sciences. For mathematics, the academic performance in the urban schools is significantly higher than the performance of students in rural schools, but for basic sciences, the academic

performance in rural schools is significantly higher than the performance of students in urban schools (with \bar{X} = 66.10 & SD = 11.99). For English language however, upper basic nine students in rural schools (with \bar{X} = 64.07 & S.D = 11.08) performed significantly better than students from urban schools (with \bar{X} = 63.10 & S.D = 9.63).

This is in consonance with the works of Howley (2001) and Meremikwu (2008) who stated that, urban students have an higher advantage over their rural counterparts. Ayogu and Nworgu (1999) for instance, contended that environmental factors in the urban areas expose the children and make for comfortable learning more than what is obtained in the rural areas.

In the urban areas, the learners have access to things like television, cinema, internet facilities, extra lessons, better and qualified teachers, instructional materials and so on. These things, their counterparts in rural areas do not have access to, therefore the urban students have several advantage to learn better than their rural counterparts. This would invariably affect their academic performance and quality of education. The results of this present study contradicted the outcome of Bela in Ovat (2009).

However, contrary to research findings from other peers, this study discovered that, the rural students performed significantly better than the urban students in English language. This is the peculiar nature of this research and therefore would necessitate an in-depth study into it.

The findings of hypothesis 2 showed the significant influence of class size on students' academic performance in core subjects like Mathematics and Basic Sciences. However,

there was no influence of class size on the students' academic performance in English language. The actual results of ANOVA presented in Table 2 have shown that, the calculated F-values for Mathematics (3.01) and Basic Sciences (12.08), are each greater than the critical F-value of 2.99 at .05 level of significance.

With these results, the null hypothesis is rejected for the two subjects (Mathematics and Basic Science). However, for English language, the calculated F-value of 0.63 was less than the critical F-value of 2.99. This leads to the non-rejection of the null hypothesis. Therefore, the F-values indicated that, there was a significant influence of class size on upper basic nine students' performance in Mathematics and Basic Sciences, but not in English language.

The result of this study is in line with the outcomes of the research works of Attah (2002) and Oladunjoye (2011) and Mosteller (1995). For instance, Attah noted that students who learn in small class sizes tend to be superior to (i.e perform better than) their counterparts in large classes in terms of class participation and attendance. The result also revealed that, for subjects like Mathematics and Basic Sciences, the mean performance of the students were higher for those in larger classes. Again, the mean performance of students in the said subjects for those in small class sizes were higher than those of the average means for the group. Indeed, this is an indication that for subjects like Mathematics and Basic Sciences, a small class size is preferable for better learning, class participation and optimum performance. In reality, for Mathematics, small class size is more meaningful for learning and academic performance than large class sizes. It is a subject that requires hands-on and minds-on experience.

RECOMMENDATIONS: The following recommendations were made based on the findings:

- ❖ Class sizes in schools should be relatively small to encourage effective learning, thereby enhancing the academic performance and quality of education of our Upper basic level students.
- ❖ Modern facilities and instructional materials should be provided for rural students who may not have the opportunity of urban life and learning experiences.

- ❖ Opportunities should be given to rural students to go on school exchange programmes where they will have an air of the urban influence. Such interactions with modern facilities could help bridge the academic gap between the rural and urban students.

- ❖ Conducive learning environment such as spacious class rooms, well equipped laboratories, accessible library facilities, recreational/sporting facilities, etc., should be made available, to all upper basic students, irrespective of their location – urban or rural schools.

- ❖ More schools should be built in the rural areas to cater for the basic education needs of learners in these areas.

- ❖ Reduced class sizes are encouraged, as this reduction could expectedly produce improvement in class participation, academic achievement and quality of education.

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