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SCHOOL SIZE AND FACILITIES UTILIZATION AS CORRELATES OF SECONDARY SCHOOL STUDENTS' ACADEMIC PERFORMANCE IN EKITI STATE, NIGERIA

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Abstract:
The study investigated school size and facilities utilization as correlates of secondary school students' academic performance in Ekiti State, Nigeria. Two major objectives such as the impact of school size on academic performance and the impact of facilities utilization on academic performance were investigated and the hypotheses generated were tested. Two hundred and two questionnaires were randomly distributed to some selected staff in all the senior secondary schools in Ado Ekiti, Ekiti State. The data were analyzed with the aid of ANOVA, multiple regression analysis of Ordinary Least Square (OLS) to test the relationship that subsist between some identified proxies. The findings of the study revealed that school size and facilities utilization has impacted positively on the performance of secondary school students in Ekiti State. This is evidenced from the regression coefficient that indicated positively to question raised under the issue. The study established a strong and positive relationship between school size and facilities utilization in relation to students' academic performance. From the findings of this study, it was recommended that the State Government should build more classrooms in all schools. In doing this, much emphasis should be given to the provision of more classrooms in the State' annual capital budget. Likewise, the approved teacher quota of one and one-half teacher per class should be allowed to remain but should be properly used in the distribution of teachers to schools.

Keywords: school size, facilities, utilization, correlates, academic performance

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1. Introduction

One of the very basic and undeniable rights of every human being is education. It is to develop the innate tendencies, capacities, qualities and power of a child to the full. It plays an important role in socio-economic development. It is not only delivering information but developing complete personality of a child (Adeusi, 2016; Gujjar, Khan, Baig, Ramzan & Saifi, 2010). The issue of school size has become of great interest to educators and policy makers alike. As the demand for safer schools and the need to help all students reach high achievement standards have increased, the roles of many schooling variables including school size have come under scrutiny for their potential contributions to positive student outcomes. Intuitively, school size would appear to have considerable impact on both student achievement and discipline in the school.

In Nigeria at large and in Ekiti State in particular, secondary schools, irrespective of ownership are expected to function in compliance with the achievement of the national education objectives. To this end, students are expected to perform brilliantly in the final examination as this determines the quality of output of secondary schools. This is one of the parameters used to measure the effectiveness of a school system. The better the performance of the students, the more effective the system is assumed to be (Philias & Wanjobi, 2011).

2. Statement of the Problem

The persistent poor performance of secondary school students in public examinations such as the Senior School Certificate Examinations (SSCE) in Ekiti State, Nigeria in the recent times has made the development of secondary education in the State a difficult task. Parents, guardians and other stakeholders in education have condemned the high rate of poor academic performance of students in external examinations: West African Examination Council (WAEC) and National Examination Council (NECO). This poor performance is not limited to public school alone, private school were also involved. Reasons ranged from poor teaching personnel to non-availability of school facilities. Okpala (2010) observed that at the national level, the percentage of candidates that had credit in English language between years 2005-2009 in West African Examinations Council (WAEC) are 27.53% in year 2005, 15.56% in 2006, 22.54% in 2007, 13.78% in 2008 and 24.94% in 2009. He also stated that candidates who obtained credit passes in five subjects and above including English language and Mathematics between 2005 and 2009 are 8.53% in year 2005, 13.32% in 2006, 27.74% in 2007, 10.53% in 2008 and 1.80% in 2009. The break-down of 2009 results in West African Senior School Certificate

Examination (WASSCE) and National Examination Council (NECO) indicated a mass failure across the 36 states of the federation. From the above analysis, the trend will continue if nothing is done to arrest this ugly situation (Alimi, Ehinola & Alabi, 2012).

3. Purpose of the Study

The quintessential purpose of the study is to investigate school size and facilities utilization as correlates of secondary school students' (SSS) academic performance in Ado Local Government, Ekiti State, Nigeria. However, to be more explicit, the study strives to achieve the following specific objectives:

1. To examine the impact of school size on SSS academic performance in Ado Ekiti Local Government.
2. To examine the impact of facilities utilization on SSS academic performance in Ado Ekiti Local Government.

4. Research Hypotheses

Oloyede (2002) explicates hypothesis to be a tentative, testable and verifiable statement about the relationship that subsists between two or more variables. Hence, intent on this research, the hypothesis will be stated in null form (H_0) as specified below.

1. Ho_1 School size does not have any significant impact on SSS academic performance in Ekiti State.
2. Ho_2 Facilities utilization does not have any significant impact on SSS academic performance in Ekiti State.

5. Significance of the Study

It is hoped that this study will provide information for parents, educators and school administrators to reflect upon various factors that help students in achieving their academic goals.

The findings of the study will have significant implications for the future of secondary schools in Ekiti State and in the country as a whole. The findings will enlighten the Board of Governors (B.O.G) on the existing facilities in their schools and how they are effectively utilized so as to bring the best from the students.

6. Delimitation of the Study

The area of study was delimited to Ado Ekiti Local Government since it was a familiar area of study for the researcher making it suitable for the researcher to mobilise the resources. The study covered only public schools.

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7. School Size and Students' Academic Performance

Many factors of school design have been linked to academic success of students. As enrolment number increases, the issue of school size becomes relevant to the task of improving student performance. Smaller schools have shown a greater capacity to develop personal connections among students and staffs that tend to prevent indiscipline or antisocial behaviour (Mugure, 2012). An issue related to school size is the ability for students and staff to establish personal links with one another and with the physical environment. Small classes facilitate small-group or individualized instruction. Cook (2002) found that students in smaller learning environments achieved at higher levels than their counterparts in larger schools. Smaller high schools not only provide a safer environment than their large counterparts but they also promote advanced academic achievement. The smaller schools provide more attention to and support for individual student success.

Viadero (2001) suggests that policy makers and scholars have turned a deaf ear to the debate of school size, favouring a focus on curriculum and pedagogy. This trend seems to follow suit with parents and teachers. Educators, school board members and politicians continue to promote the construction of larger schools mainly due to financial motives. Restricted funding and lack of available resources to build new schools tend to encourage the trend of expanding existing schools (Kennedy, 2001 in Mugure, 2012). The ability to serve more students with common facilities such as dining halls, dormitories, libraries and other physical school features makes the larger school appear much more cost efficient on a cost-per-student basis (Nathan, 2002 in Mugure, 2012). Arguments other than cost efficiency exist in reluctance to build smaller schools. Some of this resistance finds its roots in more affluent communities, where research indicates that the link between school size and student achievement is not as strong (Howley& Bickel, 2002 in Mugure, 2012).

Support for larger schools is also based upon the premise of student choice. Proponents of large schools, especially large high schools, base their position upon the assumption that larger schools provide a wide range of curricular choices (Viadero, 2001). The size and variety of course offerings also affords larger schools the luxury of

employing more specialized and diverse staff members. Similar arguments for larger schools espouse the ability of large schools to support extracurricular programs such as athletic teams, theatrical productions student clubs and competitions. The high school setting in particular has provided a number of alternative design methods that aid in establishing smaller learning communities. One such method is the schools-within-schools, where large schools are broken up into smaller groups of student and teachers assigned to interdisciplinary teams (Raywid, 2002 in Mugure, 2012).

Modern schools are being designed by architects in attempts to accommodate small groups such as "houses," "families," "clusters" and other small learning communities (Cook, 2002). Some high schools are allowing students to attend schools-within-schools arranged to fit a particular curriculum theme. Gewertz (2001) reports that smaller learning communities utilize the original school layout with renovations allowing for specialized laboratories in each smaller sub-school. While policies and funding are resisting creating smaller learning communities, educational leaders are still faced with the task of identifying physical environmental factors that impact academic achievement of their students. Within any size of school setting, it is important that students are given a clean and bright surrounding so that learning can take place in an optimal setting.

Nsa, Ikot and Udo (2013) examined the effects of instructional materials utilization and students' performance in practical agriculture in Ikot Abasi LGA, Nigeria. The study conducted on one thousand, seven hundred and eighty five students adopted the descriptive statistical technique and revealed that there exists a significant difference between the students taught with instructional materials and those taught without it. The study encouraged teachers to use instructional materials in teaching as it will boost effective teaching.

Owate and Iroha (2013) evaluated the availability and utilization of school library resources by secondary school students in Rivers State, Nigeria. The study conducted on four thousand, six hundred and fifty five subjects adopted descriptive statistical technique and disclosed that the school library is not efficient in the area and it has significant effect on the performance of students. Hence, it was suggested that adequate provision should be made for the school library to boost academic performance.

Alabi (2008) studied school size and facilities as correlates of the academic performance of junior secondary school students in Oyo state, Nigeria. The study conducted on three hundred and seventy one respondents employed the descriptive and regression analytical techniques. It divulged that school size and facilities have significant relationship with academic performance of students. Hence, the study

recommended that more buildings should be made available in secondary schools while the dilapidated ones should be renovated.

From empirical study reviewed, it is evidence that a lot of research has been done on school size and facilities utilization as correlates of secondary school students' academic performance. It is clearly indicated that most empirical work on the topic is well pronounced in developed countries, for instance Boudreaux, Martin and Mcneal (206), Gershenson and Langbein (2015), Irina (2012) and many more. Most of this study has mixed result, while some are of the opinion that school size and facilities utilization impacted on academic performance some are of the contrary view.

8. Research Method

Research design is a master plan specifying the methods and procedures for collecting and analysing the needed information. It specified the framework or blue print for the research. The study investigates school size and facilities utilization as correlates of secondary school student's academic performance in Ado-Ekiti Local Government. Descriptive survey research intended to produce statistical information about aspect of education that interest policy makers, planners and educators was used.

Population can be defined as all members of a real or hypothetical set of people, events or objects to which the researcher wished to generalize the results of the research. Ado- Ekiti has 15 public secondary schools. The population of this study was therefore drawn from the entire secondary schools in Ado Ekiti Local Government in the town. The staff (principal and teachers) was purposively selected among the senior secondary schools in Ado Ekiti.

Konyango (2011) asserts that for survey design a sample of at least 20 percent is justifiable for the study. Stratified random sampling and saturated sampling techniques were used in this study Saturated sampling technique is used to select principals and teachers in all the selected public secondary schools. Since the number in this population is not evenly distributed in all the school, stratified random sampling technique is used to collect data from chosen schools. According Aloo (2009), stratified sampling helped to reduce chance variations between a sample and the population it represented. It allowed each member of the target to have an equal and independent chance of being included in the study while saturated random sampling enabled the researcher to have proportionate representation of the respondents from the schools Ado Ekiti local government.

Applying 5% error margin, the sample size for the entire population is 202 of which 14 were randomly selected from each school.

8.1 Research Instruments

The use of questionnaire in this research was important in obtaining information from the principals/teachers and students from various selected schools.

8.2 Validation of the Instrument

Validity is defined as the accuracy and meaningfulness of inference which were based on the research results. The researcher therefore consulted the supervisor to review the contents of the instruments. The researcher had developed the instruments and taken them to experts in psychometric for perusal. The instruments were to be administered to staff and students in the schools selected for the pilot study. The researcher with the help of the supervisor revised the instruments for face and content validity.

A reliability test was conducted on twenty five factors using the Cronbach's Alpha to measure the reliability of inter-item. In this study a value of 0.60 is accepted, thus showing consistency and reliability of the test instruments. As shown in the table below, the Cronbach Alphas of the measures were all comfortable above the lower limit of acceptability (Cronbach's Alpha > 0.60). Thus, all the measures were highly reliable.

Table 1: Cronbach Alpha Test Results

Cronbach's Alpha	Nr. of Items
.836	25

The use of questionnaires for principal/teachers and students was preferred for this study because it is a means of supplying the researcher with quantifiable data from the respondents for statistical analyses (Dambudzo, 2009). The researcher administered the questionnaires to both the students and the staff of the selected schools.

9. Results

The techniques used in analyzing the questionnaire are multiple regression analysis of ordinary least square method, t-test statistic and F-test/ANOVA. These various techniques are used to interprete results of the analysis.

9.1 Testing the Hypotheses

9.1.1 Hypothesis 1: School size does not have any significant impact on SSS academic performance in Ekiti State.

In testing hypothesis 1, regression analysis of Ordinary Least Square (OLS) was used. In respect of this, question six of the questionnaire was operationalizing as the dependent variable i.e Class-size influences the quality of output from secondary schools in Ekiti State, Nigeria (CSOUP). Four independent variables in that section were also operationalized by the response to their respective multi-item scale questions in the questionnaire. They are Students in smaller learning environments achieved higher level than their counterparts in large school (SLE), The quality of output of students in schools having an average small class-size influences the quality of output of students in schools having an average large class-size in the SSC examinations in the State (QSCS), The numbers of classes available for learning affect students' performance (NOC) and The approved one and one half teachers per class baseline for calculating teacher quota in schools are adequate (ATPC).

Table 2: Regression Model Summary 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.840[a]	.705	.699	.54175

a. Predictors: (Constant), SLE, QSCS, NOC, ATPC.

b. Dependent Variable: CSOUP.

Table 3: ANOVA Results 1

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	129.999	4	32.500	110.736	.000[b]
	Residual	54.296	185	.293		
	Total	184.295	189			

Dependent Variable: CSOUP

Predictors: (Constant), SLE, QSCS, NOC, ATPC.

Table 4: Summary of Coefficients(a) Result 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.481	.253		5.842	.000
	SLE	-.330	.048	-.314	-6.945	.000
	QSCS	.339	.037	.478	9.174	.000
	NOC	.485	.037	.574	13.018	.000
	ATPC	.309	.035	.394	8.790	.000

a. Dependent Variable: CSOUP

Source: Author's Computation

Tables 2, 3 & 4 show the relationship between the dependent variable and the explanatory variables which can be expressed mathematically as

$CSOUP = 1.481 - 0.330_{SLE} + 0.339_{QSCS} + 0.485_{NOC} + 0.485_{ATPC} + e$

From the above results, it could be inferred that the constant parameter is positively related to Class-size influences on the quality of output from secondary schools in Ekiti State, Nigeria (CSOUP). The coefficient of the constant parameter is 1.481. This implies that if all the explanatory variables were fixed at zero, CSOUP which is the explained variable will increase by 1.481 units. -0.330 is the partial regression coefficient of SLE as this variable changes, say by one percent the dependent variable will reduced by 0.330.

Also, 0.339 is the partial regression coefficient of QSCS. It indicates that with other explanatory variable held constant, if QSCS is increased by one percent the dependent variable will also increase by 0.339, exerting a direct relationship. 0.485 is the partial regression coefficient of NOC, this exert a positive relationship with the dependent variable. It implies that if NOC is increased by a unit, it will lead to 0.485 units increase in dependent variable. 0.485 is the partial regression coefficient of ATPC, implies that as this variable changes by a unit, the dependent variable will increase by 0.485 units.

The coefficient of multiple determinations (R^2) as given in the result of the regression result is given as 0.705 which implies 71%. This explains that the explanatory variables accounted for 71% behaviour of the dependent variable while the remaining is accounted for by the error term. In conclusion, the results confirm that there is a significant relationship between school size and student academic performance, this implies that H_0 stated early is rejected

9.1.2 Hypothesis 2: Facilities utilization does not have any significant impact on SSS academic performance in Ekiti State.

Table 5: Regression Model Summary 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.762[a]	.581	.572	.43706

a. Predictors: (Constant), UTL, UTFC, UTOF, HFUT

Table 6: ANOVA Results 2

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	49.024	4	12.256	64.161	.000[b]
	Residual	35.339	185	.191		
	Total	84.363	189			

Dependent Variable: FACUT

Predicted: (constant), UTL, UTFC, UTOF, HFUT

Table 7: Summary of Coefficients(a) Result 2

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-2.269	.623		-3.640	.000
UTL	.203	.093	.201	2.190	.030
UTFC	.205	.078	.220	2.618	.010
UTOF	.921	.077	.863	12.039	.000
HFUT	.444	.054	.461	8.268	.000

a. Dependent Variable: There is adequate utilization of class room in the school

In testing hypothesis 2, linear regression was used. Tables 5, 6 & 7 showed the relationship between the dependent variable i.e there is adequate utilization of class room in the school (FACUT) and the explanatory variable which are There is adequate utilization of laboratory in my school (UTL), Furniture and class room desk are well utilized (UTFC), There is adequate utilization of toilet facilities in the school (UTOF) and the health facilities for students are fully utilized (HFUT) can be expressed mathematically as:

$$FACUT = -2.269 + 0.203_{UTL} + 0.205_{UTFC} + 0.921_{UTOF} + 0.444_{HFUT}$$

The tables summarized the results of the regression. It could be inferred that if all the explanatory variables are held constant, the endogenous variable will be reduced by 2.269. This shows an inverse relationship with the dependent variable. 0.203 is the partial regression coefficient of UTL it indicates that with the influence of others held constant, as this variable changes, say by one percent the dependent variable will increase by 0.203.

0.205 is the partial regression coefficient of UTFC and it indicates that with the influence of others held constant, as this variable changes, say by one percent the dependent variable will increase by 0.205. Also, 0.921 is the partial regression coefficient of UTOF. It indicates that with the influence of others held constant, as this variable

changes, say by one percent the dependent variable will increase by 0.205. Also, this implies a positive relationship with the dependent variable. 0.444 is the partial regression coefficient of HFUT and it indicates that with the influence of others held constant, as this variable changes, say by one percent the dependent variable will increase by 0.444, indicating a positive relationship with the dependent variable. The coefficient of multiple determination R^2 for this analysis is 0.581. This indicates that 58% of the variance in dependent variable can be explained by variation in the entire explanatory variable put together, while the remaining is explained by the error term in the model.

10. Discussion

This research investigated school size and facilities utilization as correlates of secondary school students' academic performance in Ado Local Government, Ekiti State, Nigeria with the use of structured questionnaire distributed to observable respondents of the entire secondary schools in Ado Ekiti. The results of the analytical test revealed that school size and facilities utilization had impacted positively on the performance of secondary school students in Ekiti State. This is evidenced from the regression coefficient that indicated positively to questions raised and hypotheses generated under the issue. This result is also consistent with the *apriori* expectation stated early and also in line with the work of Adebule (2014), Akomolafe and Adesua (2016), Koroye (2016), Yusuf, Onifade and Bellow (2016) and Jacob, Olawuyi and Jacob (2016). The conclusion of the study however negated the work of Alimi,Ehinola & Alabi (2012).

11. Conclusion

All the measures were highly reliable. Based on the findings, it is concluded that class-size is a critical factor in determining the quality of output from secondary schools in Ekiti State, Nigeria. Students in schools having small class-sizes had better quality of output than students in schools having large class-sizes.

12. Recommendations

From the findings of this study, it is of cognizance to recommend policy measures to further enhance school size and facilities utilization as correlates of secondary school students' academic performance in Ado Ekiti. The following recommendations were made:

The State Government should build more classrooms in all schools. In doing this, much emphasis should be given to the provision of more classrooms in the State' annual capital budget.

Likewise, the approved teacher quota of one and one-half teacher per class should be allowed to remain but should be properly used in the distribution of teachers to schools.

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