

INFLUENCE OF SCHOOL TYPE DIFFERENCE ON SECONDARY SCHOOL STUDENTS' ACADEMIC PERFORMANCE

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The study examined Influence of school types on academic performance of senior secondary school students in West African secondary school Certificate in Maiduguri Education Zone, Borno State, Nigeria. The study employed ex-post facto research design. The population of the study was 34,927 students. Using disproportionate stratified sampling technique, a total of 17,308 students were involved in the study. Profoma was used in collecting data and were analyzed using analysis of variance (ANOVA). The findings of the study revealed that there was a significant difference in students' academic performance in WASSCE Mathematics between day, boarding and day-boarding senior secondary schools for the period studied except in 2009 where there was no significance difference in students' academic performance. The difference was in favor of day-boarding schools in 2010, 2012, and 2013. Similarly, the study also revealed that there were significance difference in students' academic performance in West African examination council (WASSCE) Mathematics due to school Characteristics, school location, school ownership, and school organization in Maiduguri education zone, Borno Sate, Nigeria. The study is significant to educational planners and administrators in planning for the needed types of schools by the community. It will also benefit parents and guardians in selecting the appropriate school for their children. Counselors will benefit from the findings of the study in counseling parents and students alike in a choice appropriate school.

Keywords: School Characteristics, School Location, School Organization, Academic Performance, WASSCE.

1. INTRODUCTION

The importance attached to the influence of school types on the academic performance of senior secondary school students in West African senior secondary school cannot be overemphasized; this is because education is the bedrock of any national development. The immediate concern of any well-meaning individual is to choose appropriate school for students in any level of study, could be considered as vital. As the numbers of students keep on increasing in our school system nowadays many researchers develop interest in studying the influence of school type on the academic performance of their students. One of the major aims of

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schooling is to assist students to achieve the maximum of which they are capable. It is against this background that education acquires its meaning. Nigeria as a nation was not unaware of this need for balance and sustainable human and national development. Hence the position is clearly stated in the National Policy on Education (2013), that any existing contradictions, ambiguities and lack of uniformity in educational practice in different part of the Federation should be removed to facilitate even and orderly development of the country. The policy further maintained that Nigeria is expected to be a free and democratic, just and egalitarian, united, strong and self-reliant, with a great dynamic economy and above all, a land full of bright opportunities for all citizens.

Gadsby (1995) defined boarding school as schools where students live as well as study and he defined boarders as students who stay at school during the day as well as night. He defined day school as schools where students go home in the evening, while day-boarding schools are schools that operate both day and boarding system.

School Organization

School can be organized as mixed or single-sex schools. Mixed school are schools in which students of both sexes are educated together while single-sex schools are schools for either boys or girls but, not both sexes. Secondary schools can either be owned by government (public) or individual (private). The senior secondary school examination is a National Examination body for all senior secondary school students in all secondary schools in the Nation. It is conducted and administered by both the West African Examination Council and National Examination Council (NECO) where the two examining agencies conduct equivalent SSCEs in the country. The SSCE was first conducted in 1958 and 2000 by WAEC and NECO respectively. The need to ascertain the academic performance of students in these examinations became imperative. Godoko (2011) examined the influence of school types on academic achievements of senior secondary schools. The study used 42,610 boarding students and 24,452 day students from 35 boarding schools and 112 day schools in five educational zone of Adamawa State. However, there is a mixed reaction among parents and guardian on the choice of school for their children. The purpose of the study is to examine the influence of school types differences on academic performance of senior secondary school students in west African secondary school certificates examination between: day boarding; rural and urban school students; private and public school students; mixed and single sex school students. The present study seek to addressed the following research hypothesis:

H₀₁: there is no significant difference in students' academic performance in WASSCE Mathematics between day, boarding and day-boarding senior secondary schools in Maiduguri Education Zone,

H₀₂: there is no significant difference in students' academic performance in WASSCE Mathematics between urban and rural senior secondary schools in Maiduguri Education Zone,

H₀₃: there is no significant difference in students' academic performance in WASSCE Mathematics between private and public senior secondary schools in Maiduguri Education Zone,

H₀₄: there is no significant difference in students' academic performance in WASSCE Mathematics between mixed and single-sex senior secondary schools in Maiduguri Education Zone.

2. MATERIALS AND METHODS

The study adopted Causal Comparative research design, which examines influence of school type on academic performance of senior secondary school students in West Africa senior school certificate examination (WASSCE) Mathematics in Maiduguri Education Zone, Borno State, Nigeria. Nworgu (1973) assert that causal Comparative research design is the one in which the independents variable have already occurred and the researcher begins with the observation on the dependent Variables, followed by a retrospective study of the relationship and effects. The population of the study was 34,927 students who graduated from 2009-2013 from 25 sampled public and private secondary schools that are located in urban and rural areas in Maiduguri education Borno State. Using stratified random sampling technique, a total of 17,038 students representing 48.8% were selected as sample. The sample was selected according to Krejcie and Morgan (1970). The instrument used in this study was a profoma. The profoma was designed by the researches to collect the result of students in West African Senior School Certificate Examination (WASSCE) Mathematics from 2009-2013. The data were collected from West African Examination Council Maiduguri office, Borno State. The instrument was face validated by an expert in the field of Measurements and Evaluation.

3. FINDINGS AND DISCUSSION

The data collected for this study was analyzed using analysis of variance (ANOVA) and general linear model. Scheffe was used to compare significance difference among three groups at 0.05 level of significant. The tables below depict the mean and standard deviation, ANOVA results, and Scheffe of Post Hoc Test Comparison of different categories of schools under study.

Table 2 presents result of ANOVA on influence of school Types on students' academic performance.

TABLE 2: RESULT OF ANOVA ON INFLUENCE OF SCHOOL TYPES ON STUDENTS' ACADEMIC PERFORMANCE IN WASSCE MATHEMATICS, FROM 2009-2013

<i>Year</i>	<i>Source</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>
2009	School Characteristics	340.18	2	170.09	.486	.615
	School Location	2639.90	1	2639.90	7.54	.006
	School Ownership	105397.86	1	105397.86	301.09	.005
	School Organization	24757.23	2	12378.62	35.36	.005
	Error	120185.21	3200	350.06		
Total		1.19E7	3207			
2010	School Characteristics	77476.51	2	38738.26	85.75	.005
	School Location	17233.89	1	17233.89	38.15	.005
	School Ownership	74121.27	1	74121.27	164.08	.005
	School Organization	132714.34	2	66357.17	146.9	.005
	Error	1525571.49	3377	287.75		
Total		1.29E7	3384			
2011	School Characteristics	31652.24	2	15826.21	78.93	.005
	School Location	7031.87	1	7031.87	35.07	.005
	School Ownership	530508.24	1	530508.24	2.65E3	.005
	School Organization	533356.08	2	26678.04	133.05	.005
	Error	709798.96	3540	262.01		
Total		1.55E7	3547			
2012	School Characteristics	135903.60	2	67951.80	295.20	.005
	School Location	29192.06	1	29192.06	126.82	.005
	School Ownership	355780.68	1	355780.68	1.55E3	.005
	School Organization	108252.62	2	54126.31	235.14	.005
	Error	838098.94	3541	230.18		
Total		1.40E7	3648			
2013	School Characteristics	106730.25	2	53365.12	198.01	.005
	School Location	1864.30	1	1864.30	6.92	.009
	School Ownership	92768.34	1	92768.34	344.22	.005
	School Organization	167875.51	2	55958.50	207.63	.005
	Error	874275.51	3244	269.51		
Total		1.13E7	3252			

Table 3 present Scheffe of Post Hoc Test Comparison of School Characteristics and School Organization in WASSCE Mathematics from 2009-2013

Based on these results, the hypotheses on school characteristics revealed that there was no significant difference in students' academic performance in WASSCE Mathematics in 2009. And therefore, the hypothesis was accepted for the year 2009 and was rejected for the year 2010-2013. This means that there was a significant difference in these years and the difference was in favor of Day-boarding schools in 2010, 2012 and 2013. The mean difference was in post hoc test comparison in table 3 above. The hypothesis on school location was rejected. This means that there was no significant difference in students' academic performance

TABLE 3: SCHEFFE OF POST HOC TEST COMPARISON OF SCHOOL CHARACTERISTICS IN WASSCE MATHEMATICS, FROM 2009-2013

<i>Comparison</i>	<i>Mean Difference</i>				
	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Day and Boarding		3.99*	-5.46*	-5.16*	.50*
Day and Day-Boarding		5.20*	-4.17*	14.90	7.11*
Boarding and Day-Boarding		1.21*	1.29*	10.06*	6.62*
Mixed and Single Male	-16.36*	-14.89*	-23.70*	-14.22*	-8.72*
Mixed and Single female	-14.13*	.3115	-11.06*	-7.71*	8.10*
Single Male and Single female	2.23	15.20*	12.64*	6.51*	16.82*

*= mean difference is significant at 0.05 level

in WASSCE Mathematics for the period study and the difference was in favor of urban schools in 2009 and 2013. However, it was in favor of rural schools in 2010 and 2011.

With regard to the hypotheses on school ownership, the result indicated that there was a significant difference in students' academic performance in WASSCE Mathematics for the period studied and the hypotheses was therefore rejected and the difference was in favor of private schools throughout the years. With regard to school organization, the result also revealed that there was a significance difference in students' academic performance in WASSCE Mathematics for the period studied. Hence, the hypotheses were rejected. The difference was in favor of mixed school for the year 2009-2012. Furthermore, it was in favor of single female school in 2013.the mean difference was in the Scheffe of post hoc test comparison in table 3 above.

With regard to hypothesis one, there was a significant difference in students' academic performance in WASSCE Mathematics between day, boarding and day-boarding senior secondary schools for the period studied, except in 2009 where there was no difference in students' academic performance. The difference was in favor of day-boarding schools in 2010, 2012 and 2013 in contrast it was in favor of day schools in 2011. Table 1 and 2 provide details of the analysis. This means that schools that operate both day and boarding system perform better than schools that operate day or boarding system in 2010, 2012 and 2013 except in 2009 where day schools students perform better. This might be as a result of students having extramural classes at the end of the school hours. The finding was in harmony with the finding of Adetunde and Asare (2009). In their study on Comparative Performance of Day and Boarding Students in Senior Secondary School Certificate Mathematics Examination in Kasenna-Nankasa and Asuogyaman District of Ghana, they found a significant difference between boarding students and day students. The finding is also in line with Godoko (2011) who conducted a study on the influence of school types on students' academic achievements of senior secondary

school students in Adamawa State. The study found that there was a significant difference in academic achievement of students in boarding and day senior secondary schools in WASSCE Mathematics.

The second findings revealed that there was a significance difference in students' academic performance in WASSCE Mathematics between urban and rural senior secondary school for the period studied, and the difference was in favor of urban schools in 2009, 2011, 2012 and 2013. In contrast, it was in favor of rural schools in 2010. Table 1 provides details of the analysis. This means that the performance of urban school students is better than that of their counterparts except in 2009 where rural school students performed better than urban school students. This might also be as a result of urban schools having high quality instruction, communal supports, internet and other technological advancements in urban areas. The findings was in disagreement with that of Ganas (1997) study on effect of using visual aid designed training models on the learning of mathematics at junior secondary schools in Niger State. The study found no significant difference in Mathematics achievements score of students in urban and rural location and confirms the assertion of Considine and Zappala (2002) in their study on the influence of social Economic disadvantage in the academic performance of school students in Australia. They found out that geographical locations do not significantly predict outcomes in school performance. The difference was brought about by scope and population.

Furthermore, the third finding revealed that there was a significant difference in students' academic performance in WASSCE Mathematics between public and private senior secondary school for the period studied and the difference was in favor of private schools throughout the period. This was indicated in Table 1. This means that private schools students performed better than public school and this might be as a result of the fact that private schools proprietors spend substantial amount of money to provide instructional materials for teaching and learning. They also take their students to excursions and fieldtrips which might soon be absent in most public secondary schools. The finding was in line with Singh and Sarkar (2012) in their study on teaching quality counts: how students' outcomes relate to quality of teaching in private and public schools in India. They found private schools' advantage in Mathematics. Jahun (2003) in his study on Gender and school types' difference in Mathematics stated that private schools performed significantly better than government school in Mathematics. But in contrast it was not in conformity with finding of Johnson and Bowles (2010); Making the grade? Private Education in Northern India. They used data from middle and secondary examination from rural Madhya Pradesh and concluded that private school students did not perform any differently from their government school counterparts. The difference was brought about by scope, population and location.

The last findings indicated that there was a significant difference in students' academic performance in WASSCE Mathematics between mixed and single-sex senior secondary schools for the period studied and the difference was in favor of mixed schools in 2009, 2010, 2011 and 2012. In contrast it was in favor of single female school in 2013. Details are in Table 1 and 2. This means that students in mixed schools performed better than that of single male and single female school in 2009, 2010 and 2013 but it was a single female school students who performed better in 2010 and 2013. This might be as result of completion between male and female students. The findings is in line with Dale (1994) in his study on mix or single-sex school in Rutledge and Kegan Paul. Their study found that there was a significant statistical difference between the achievements of students in mixed and single-sex schools. The findings has implication for educational administrators and planners in such a way that it creates administrative awareness in the ministry of education and also assist in formulation of policies to cater for schools that operate both day-boarding school systems.

4. CONCLUSION

Based on the findings of the study, the researchers concluded that there were significant differences in students' academic performance in WASSCE Mathematics due to school characteristics, school location, school ownership and school organization in Maiduguri Education Zone, Borno State, Nigeria. For instance, a significant difference in students' academic performance in WASSCE Mathematics between day, boarding and day-boarding senior secondary schools for the period studied, except in 2009 where there was no difference in students' academic performance. The difference was in favor of day-boarding schools in 2010, 2012 and 2013; in contrast it was in favor of day schools in 2011. Also, a significance difference in students' academic performance in WASSCE Mathematics between urban and rural senior secondary school for the period studied, and the difference was in favor of urban schools in 2009, 2011, 2012 and 2013. In contrast, it was in favor of rural schools in 2010. A significant difference in students' academic performance in WASSCE Mathematics between mixed and single-sex senior secondary schools for the period studied and the difference was in favor of mixed schools in 2009, 2010, 2011 and 2012. In contrast it was in favor of single female school in 2013.

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