
PREDICTIVE VALIDITY OF JUNIOR SECONDARY SCHOOL EXAMINATION IN YOLA SOUTH LOCAL GOVERNMENT OF ADAMAWA STATE

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***Abstract:** This study ascertains the predictive strength of the Junior Secondary Certificate Examination (JSCE) in predicting the performance of students in the Senior Secondary Certificate Examinations (SSCE) in Yola-South L.G.A Adamawa State, Nigeria. As an ex-post facto and a descriptive research, the study population comprised of 1,655 and 1,366 students who registered for JSCE and SSCE respectively in five secondary schools in Yola-South metropolis of the state. Out of this population, a sample of 665 students was selected through the stratified random sampling technique. The instrument used to collect data for the study was an inventory while the data collected was analyzed using percentages, z-test, and correlation. The results of the investigation revealed that the academic achievement of the students in the Junior Secondary School Certificate Examination (JSCE) in Yola-South metropolis was a poor predictor of low performance in Senior Secondary School Certificate Examination (SSCE). Since the performance level was generally low in both examinations, it is recommended that the state government should intensify more effort in ensuring better teaching and learning strategies in schools through effective supervision and monitoring of schools, more qualified and competent teachers should be trained and employed to teach in Junior Secondary Schools.*

Introduction

Examination in Nigerian schools dated back to the advent of formal education. The 1887 Education Ordinance made provision for public examinations in schools, Adeyemi (1998). Thus the National policy on Education, (1998) stipulate that all secondary schools should gear their programme to meet the requirements of examination being conducted for the senior school distinction grades A1 to B3 were represented by A. The credit grades C4 to C6 were represented by C. The ordinary pass grades D7 to E8 were represented by P while the failure grade F9 was represented by F WAEC (2002). However, it needs to be mentioned that the distinction and the credit grades are the only requisite qualifications into universities in Nigeria and candidates must have at least credit in five subjects including English Language in order to qualify for admission JAMB (2002).

Thus, examinations occupy a unique position as a measure of quality within the educational system in Adamawa State, Nigeria. They are either internal or public. Internal examinations are the examinations that are set by teachers within the school system. These could be in form of test and end of term examination. Public

examinations on the other hand, are examinations that are conducted by recognized examining bodies. As such, the examination such as the Senior Secondary Certificate Examination (SSCE) and the Junior Secondary certificate (JSCE) are regarded as external examinations. This is in the sense that the examining boards conducting these examinations did not themselves organize instructional courses nor prepare students for the examinations. They are examinations that are designed and organized under specific terms and conditions and are based on norms that were regarded as standards, Salami (1992). They are designed to evaluate performance at the end of the course of study or programme. However, despite the unique position of examinations in the educational system, there have been conflicting reports on the predicting strength of the JSC Examinations, Asaolu (2003).

The term "academic performance" has been described as the scholastic standing of a student at a given moment. It refers to how an individual is able to demonstrate his or her intellectual abilities. This scholastic standing could be explained as the grades obtained in a course or group of courses taken. Thus, in presiding academic performance, Daniel and Schouten (1970) emphasized the use of grades in examination and reported that grades could serve as prediction measures and as criterion measures. They argued that a prediction of a future examination result could be made with reasonable success on the basis of the result of a previous examination.

Academic achievement is usually crowned with certificate for those who successfully complete the course with good grades. Certain academic requirements must be met before a candidate is considered for admission into senior secondary school in Nigeria.

The Oxford Advanced Learner's Dictionary defines qualification as a quality or skill that makes somebody suitable for a job or activity. It further states that it is "an official proof, e.g. a degree or diploma that one has successfully completed a course, pass an examination etc." Webster's dictionary defines qualification as a skill, quality etc. fitting a person for a particular work or particular appointment, a requirement which has to be met. Qualification therefore is the worth or suitability of an individual for a particular appointment.

Performance on the other hand is considered as what is accomplished, contracted with capability (Webster, 1995). The Oxford Advanced Learner's Dictionary considers it as "an action" achievement considered in relation to how successful it is.

At the end of the 9-years VBE programme, the JSS3 students are expected to sit for either JSCE conducted by the National Examination Council (NECO) or the JSCE conducted by the State Ministry of Education (SME) in the various schools.

In other words, the JSCE is not a public examination but restricted to candidates of specified institutions or groups of population.

Possession of minimum of credits/passes in five subjects including English Language and Mathematics qualifies a graduate of 9-year UBE who sat for JSCE for admission into the 3-years Senior Secondary School Programme. The junior and senior arms of an already existing secondary school may or may not co-exist in the same geographical location or school compound. The UBE programme recommends that these arms must have different principals and staff, with different school uniforms for the students.

Although the curriculum of the Junior Secondary differs a little from that of the Senior Secondary, but they have in common some basic core-subjects like, Mathematics, English Language, Nigerian Language (Igbo, Yoruba, Hausa), Agricultural Science, French Language, (or Arabic Language), Christian Religious Knowledge/ Islamic Religious Knowledge and Arts (NERDC, 2007). It is speculated that achievement of students in these subjects at JSCE, which stand, as entry qualification for the senior secondary programme could positively predict student's performance in the Senior School Certificate Examinations (SSCE). There are presently two versions of the SSCE: the one conducted by the National Examination Council (NECO), and the one conducted by the West African Examination Council (WAEC).

The curriculum of the Junior Secondary differ from the Senior Secondary in terms if integrated subjects (Social Studies and Basic Science). At the Senior Secondary level, Social Studies is split into Geography, Economics, Government and History. Students In the science classes offer geography and economics, while government and history are offered by students in arts classes. At the senior level, Basic Science is likewise split into chemistry, biology, and physics, but the popular choice among the science students are biology and chemistry. The issue Of whether or not performance of students in social studies in JSCE will positively predict achievement in the related subjects in the SSCE remains uncertain and inconclusive. In addition, research reports on the influence of gender and ownership of school are also not conclusive. Establishing the predictive validity of JSCE on achievement in SSCE would go a long way in fulfilling some of the important uses of evaluation; for placement and for certification.

Statement of the Problem

The performance of secondary school students in other states in Nigeria has been a source of controversy, some school of thought agree that the performance was improving Ige, (2001); Afolabi and Adewolu, (1998). Other schools' of thought argue that the performance level was dwindling terribly, Onipede (2003). The problem of this study therefore is to determine whether or not any significant

difference exists between the performance level of junior secondary school students and senior secondary certificate examination in Yola-south of Adamawa State, Nigeria? In addressing this problem, it is necessary that the following research questions be considered:

- What is the performance level of students in Yola-south, Adamawa State, Nigeria in the junior Secondary Certificate (JSC) examinations?
- What is the performance level of students in Yola-south, Adamawa State, Nigeria in the senior secondary certificate (SSC) examinations?
- Is there any significant relationship between school location and students' academic performance in the Junior secondary Certificate (JSC) examinations in Yola-South, Adamawa State, Nigeria?
- Is there any significant relationship between school location and students' academic performance in the Senior Secondary Certificate (SSC) examinations in Yola-South, Adamawa State, Nigeria?
- Is there any significant difference in the performance of students' in Junior Secondary Certificate (JSC) examinations between Yola-South and other local governments in Adamawa State, Nigeria?
- Is there any significant difference in the performance of students in Senior Secondary Certificate (SSC) examinations between Yola-South and other local governments in Adamawa State, Nigeria?

In all objectivity the evaluation department, or unit in the State Ministry of Education, which shoulder the development and conduct of the JSCE, cannot claim the experiences of technical knowhow, specialized focus or the abundance of specialized staff and tremendous resource of WAEC and NECO.

Since the JSCE is to serve as the yardstick for admission into the senior secondary school, student who is thereby assumed to poses the abilities to cope with academic challenges of SSS. Although, it is common that the SSCE performance for quite a long time has been low, Omotosho, (1981); Falaye (1987); WAEC (1994; 1995), despite the fact that these students obtained acceptable results in the JSCE, and were consequently admitted into SS1. This affects the validity Popham (2002), of the JSCE as a benchmark to judge students capability to cope effectively with SSS work.

Objectives of the Study

It is an undeniable fact that the standard of the JSCE will vary from state to state (in Nigeria) depending upon its human and mineral resources, level of education development, and the general state of the school. This however has little significance with the Federal Government VBE programme. The pioneer set of the JSCE candidates wrote the exam in 1988.

The purpose of this study therefore is;

1. To find out whether there is significant relationship between the overall performance in the aggregate SSS 1 and SSS 2 results.
2. To find out the extent to which the performance of students at the SSS and SSCE could be predicted from their entry qualification, (JSCE).
3. To determine the nature and strength of the relationship between selected JSCE subjects and their corresponding equivalents in SSS 1 and SSCE.

Research Question

The study was carried out through answering the following research questions:

1. What is the validity of JSCE examinations in predicting academic achievement of students in SSCE examinations?
2. What is the level of performance of students in the senior secondary certificate (SSC) examination in Yola-South, Adamawa state, Nigeria?

Significance of the Study

The study will help in investigating the following objectives

1. To find out the extent to which students' performance at the SSCE could be predicted from their entry qualification (JSCE), including aggregate SSS 1 and SSS 2 results.
2. To determine the nature and the strength of the relationship between selected JSCE subjects and their corresponding equivalents in SSS 1, SSS 2 and SSCE.

Instrumentation and Method of Data Collection

The instrument used to collect data for the study was an inventory titled the Secondary Schools Academic Performance Inventory (SSAPI). The inventory requested among other things, data on enrolment figures and students' grades in six major subjects in schools' curriculum namely English Language, Mathematics, Agricultural science, Hausa Language, Social Studies and Integrated Science for the 2010-2013 JSC examinations as well as students' grades in English Language, Mathematics, Agricultural Science, Hausa Language, Government, Chemistry and Biology in the

2013 SSC examination. The choice of the subjects was in accordance with the National Policy on Education which regarded these subjects as core-subjects in the secondary school curriculum. The Nigerian science curricula are subjects-based with Physics, Chemistry and Biology being the important core science subjects, Bello (2000), Federal Republic of Nigeria, (1998). The data collected were analyzed with the use of percentages, the z-test statistics and corresponding analysis.

The method of selection was by stratified random sampling technique taking into consideration the location of the school on the basis of urban or rural location. The sample accounted for 85% of the study population students who registered for the Junior Secondary Certificate (JSC) examinations in 2010 in Yola-South L.G.A, Adamawa State, Nigeria.

Method of Data Analysis

The methods used to analyze the data were as follows;

The data collected for the study analysis were sorted out in analyzing the data, the z-test statistics and the person's product moment correlation coefficient was used to determine the degree of relationship existing between student's academic achievement in integrated science.

Presentation and Analysis of Data

For the purpose of scoring, JSCE grade of A, C, P and F were awarded 4, 3, 2 and 0 points respectively, while the SSCE grade of Distinction, Credit, Pass and Fail were treated likewise.

Table 1: Relationship between 2010 JSCE Result and Corresponding Scores of the Candidate in SSCE in 2013

Schools	N	JSCE	SSCE
A	120	0.192	0.277
B	100	0.033	0.224
C	110	0.030	0.441
D	145	0.017	0.290
E	190	0.089	0.474

Table 2A: Contingency Table of Comparative Performance in JSCE and SSCE

JSCE English		SSCE English Language			
		A	C	P	F
A	16	-	9	49	139
C	7	-	49	43	50
P	536	1	46	133	3
F	106	3	52	765	14
JSCE Integrated Science		SSCE Biology and Chemistry			
		A	C	P	F
A	27	-	8	48	64
C	22	-	26	66	82
P	545	-	72	30	56
F	71	-	39	96	78
JSCE		SSCE Hausa			
		A	C	P	F
A	43	5	8	8	112
C	36	-	6	-	194
P	402	-	1	38	155
F	188	1	7	24	114

Table 2B: Contingency Table of Comparative Performance in JSCE and SSCE

JSCE Mathematics		SSCE Mathematics			
		A	C	P	F
A	1	1	12	61	46
C	26	-	13	47	98
P	583	3	76	28	65
JSCE Agricultural Science		SSCE Agricultural Science			
		A	C	P	F
A	2	4	82	30	7
C	4	3	16	70	98
P	587	9	54	47	-
F	72	12	48	108	77
JSCE Hausa		SSCE Hausa			
		A	C	P	F
A	47	24	62	40	9
C	41	20	52	25	5
P	424	6	87	17	-
F	159	40	92	91	97

Result Analysis

In computing performance, the frequency counts of the number of students who obtained credit grades 2 to 4 in each subject in the examinations were transformed from discrete data into continuous data through secondary analysis. The weighted average credit performance is computed using the formula Adayemi (2004).

$$P = \frac{n_1A + n_2C}{N} \quad (1)$$

Where: P= Performance;

n_1, n_2, \dots, n_6 = number of times each grade occurs; while A, C, P, F = numeric weight of each grade.

In this regard, A was weighted as 4, C as 3, P as 2 and F as 0 while N represent the number of candidates who obtained such grades WAEC (2002). In the SSC examinations, low-level results were obtained.

Discussions of Result

Research Question 1: What is the performance of students in the junior secondary certificate (JSC) examination in secondary schools in Yola-south, Adamawa State, Nigeria?

In table 4A and 4B, the performance levels of students in the six subjects in the Junior Secondary Certificate (JSC) examination in all the five schools were low and almost at the level in the three subjects. There was no year where the performance level reached 50% with the exception of Social Studies in school A in any of the subjects.

Research Question 2: What is the level of performance of students in the Senior Secondary Certificate (SSC) examination in Yola-South, Adamawa state, Nigeria?

In answering this question, data on the grades obtained by students in Senior Secondary Certificate (SSC) class three were collected from the principals of the sampled schools for the years 2011 to 2013. In computing performance in the examination, the frequency counts of the number of students who obtained credit grades 1 to 6 in each subject were transformed from discrete data into continuous data through secondary analysis. The weighted average performance is computed using equation above, (all symbols have their usual meanings). The results shows that in school A 69.1% and 59.1% of the students obtained credits and above in Agricultural Science and Government respectively, while 77% of the students in school B, and 66.2% of students in school D obtained credit and above in Government only and 86.8% of the students obtained credit and above in Mathematics only in school E. There is no credit obtained in English Language, Biology/Chemistry or even Hausa in any of the five selected schools in Yola-South, Adamawa State, Nigeria.

The findings revealed that the performance of students in Junior Secondary Certificate (JSC) and Senior Secondary Certificate examinations were low. These agree with the findings made in earlier studies (Odesola, 2001; Adeboyeje, 2003; Adeniji, 2003). Although, the performance level of students in the examinations was low, the performance in the SSC examinations was better than the performance in the JSC examinations.

The low performance of students in the examinations might perhaps be attributed to poor staffing in schools, frequent withdrawal of children from school; truancy, laziness on the account of many students; poor preparation of lesson in respect of many teachers; societal wrong values and general indiscipline Omotoso (1992). All these problems lent credence to the question which way education in Nigeria? which Olabisi (1992) considered as a historical one that best summarizes the path that the Nigerian educational system is treading. The low level performance by students in the extermination found in this study agreed with the findings of other researchers (Oke, 1992; Adeyemi, 1998; Onipele, 2003). Oke (1992) for example gave other reasons for this low level performance of students in public examination. He argued that adolescents experience other problems, which affect their studies. These include having to repeat classes and lack of adequate knowledge in some particular subjects like English Language, Mathematics, and the Sciences. He then reported that the failure has contributed a lot to the moral decadence of adolescents. The low performance level also agreed with the findings made previously by (Adeyemo, 2001; Adeyegbe, 2002; Adeyemi 2007). Adeyegbe (2002) for instance, observed a decline in students performance, in SSC examinations in other states of the country and attributed this to inadequacy of facilities in schools. The non-significance different difference found in this study in the performance of students in JSC examinations in Yola-South, Adamawa State, Nigeria implies that the performance of students in examinations in the schools were almost at par. This suggests that little or no improvements occurred in the performance level of students in the schools over the year. The low level of performance of students in the examination further implies that the inspection of schools by the Ministries of Education in the schools might not have been adequate and effective as expected. An evaluation of the findings shows the picture of Secondary Schools in Yola-South, Adamawa State Nigeria where the performance level of students in public examinations had been below expectation especially in major science subjects at the time when the yearnings and aspirations of the Federal Government are towards technological development. This suggests that the objectives of Secondary education in the FRN (2004) which among other things, included the preparation of the students for higher education has not been fully achieved in Local Government.

Summary

Considering the findings of this study, it was concluded that the performance level of students in the JSC and SSC examination in Yola-South, Adamawa State, Nigeria was low. The implication of this is that many students from the state would not be qualified for admission into higher institutions in the country.

The findings indicated that performance in JSCE Integrated Science could not effectively predict the performance in SSCE Chemistry and Biology, Omonijo (2001) has earlier reported that the JSCE Integrated Science could not singly predict the performance of students in SSCE Chemistry and Biology. However, JSCE

Mathematics may be a predictor of performance in SSCE Mathematics as earlier ascertained by Adelugba, (2003). The findings also was contrary with the findings made by Adeyemi (1998) that the JSCE English Language is a good predictor of performance in the SSCE English Language.

Conclusion

Based on the findings of this study, it can be concluded that Student's academic achievement in JSCE cannot not be used as a predictor to their later achievement in SSS or SSCE.

Recommendation

Based on the findings, we strongly recommend that;

1. The educational system in Adamawa State needs to be revamped and made result oriented. In doing this, the teaching and learning processes in all schools in the state need to be re-examined with the aim of improving the quality of performance of students in public examinations.
2. The Ministry of Education in the state should also intensify more effort in conducting regular short visits and routine inspection to schools in a bid to monitor the performance of students in their various examination.
3. The JSCE curriculum should be reviewed in line with the SSCE syllabi in the various subjects and in accordance with the provisions of the National Policy on Education.
4. Government should organize more induction courses, seminars and workshops for teachers to expose them to new pedagogies in teaching, while the State Ministry of Education should embark upon more inspection and monitoring of schools to ensure that effective teaching take place in schools.

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