Predictive Validity of Basic School certificate Examination (BSCE) On Senior Secondary School Certificate Examination (SSSCE) Performance In Public Schools In Rivers State

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Abstract: *The Basic School Certificate Examination (BSCE) is a summative examination taken by candidates at the end (the ninth year) of Basic schooling (six years primary and three years Junior Secondary school) Education in Nigeria. The Examination is in two versions- (a) the one being conducted by the States' Ministries of Education (MOE) and (b) the Federal version being conducted by the National Examination Council (NECO). The growing concern among stake holders about the predictive validity of the State version of the BSCE for the SSSCE necessitated this study. The study was undertaken to find out whether there is significant relationship between the performance of students in the BSCE and their SSSCE performance.One thousand (1000) students in Government owned schools in Rivers State of Nigeria constituted the sample. Students' scores in their BSE and its corresponding equivalent SSCE scores were correlated using correlation analysis procedures. Results showed that there are positive and significant relationship between BSCE and SSSCE scores in English language, Mathematics, Integrated science (for science subjects) and Social studies (for Social sciences subjects). The validity coefficients (r = 0.495, r = 0.645, r = 0.477 and r = 0.174 respectively) for the correlated subjects indicated a moderate and low degree of validity. The overall performance in BSCE across the selected subjects investigated is a good predictor of SSSCE performance (except Social studies vs. Government, Geography and Economics). The trend could be due to the constraints facing the MOE which perform the role of an examination body. It was recommended that the state MOE should improve on the quality of the items that are used for the testing of the candidates for the BSCE by using test experts for the development and standardization of the test instrument.*
Key Words: *Predictive Validity, Basic School, Senior Secondary School, Certificate examinations, Performance, Rivers State.*

I. Introduction

The Basic School Certificate Examination (BSCE) is apublic examination (in Nigeria) conducted by each State of theFederation through their respective Ministry of Education (MOE) for final year students of the nine years Basic School programme (i.e. at the end of the ninth year) of Basic level schooling.While each State develops, administers, marks and awards grades and certificates to all public schools under its jurisdiction, the National Examinations Council (NECO) is responsible for conducting the BSCE to all Basic nine students of Federal Government Colleges and other private secondary schools that elect to take the NECO- conducted examination.

At this juncture, reason for while this research is investigating BSCE taken at the end of nine years Basiclevel schooling will suffice. This is because, questions such as 'Why one is investigating BSCE when the 9-3-4 system of education has replaced the former 6-3-3-4 system" may arise in the mind of keen scholars in the light of modern trends. Consequently, a brief and concise description of the new National Policy on Education as it concerns the 9-3-4 system presented in the fourth edition of the policy document, 2004 is presented here. According to the National Policy on Education 4th Edition (2004), in Section 3 titled "BASIC EDUCATION" Sub-section 15 and 16, the following is stated:

15; Basic education shall be of 9-years duration comprising 6 years of primary education and 3 years of junior secondary education. It shall be free and compulsory. It shall also include adult and non-formal education programme at primary and junior secondary education levels for the adults and out-of-school youths.

16; The specific goals of the basic education shall be the same as the goals of the levels of education to which it applies (i.e. primary education, junior secondary education and adult and non-formal education).

Knowledge they say is power. In a bid to fashion out an educational policy that will boost the economy by producing high and middle level manpower for industrialization, the policy makers introduced the 6-3-3-4 system which was designed to give six years in elementary (primary) school, three years each of junior and senior secondary studies and four years of university education to every child. This was to enable every child to

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be exposed to academic and non-academic skills. The 6-3-3-4 system has not succeeded and has given way to a 9-3-4 system. Commentary generally made by stakeholders in the Educational Sector. No wonder, some educationist has referred to the new 9-3-4 system of education as an old wine in a new bottle. Arguing that there is no much difference between the two systems of education as each period covers a period of sixteen years of study. However, the only difference was that a pupil would spend nine years (Basic 1-9) in the basic school; the three last years of the Universal Basic Education (UBE) absorbed the three years junior secondary section. This means that, the Primary School Leaving Certificate Examination (PSLCE) shall cease, as there shall be 100% transition from primary to Junior Secondary Schools. In its place, we will have Universal Basic Certificate Examination (UBCE) at the end of the UBE Programme in JSS III. Furthermore, those who were academically inclined would move to the senior secondary section and subsequently seat for the SSCE at the end of their three years senior secondary schooling. While those who feel that they have learnt enough skills would graduate to set up businesses.

Nevertheless, the benefits derived from the 9-3-4 system, which is not much different from the 6-3-3-4 system could be seen from the objectives as stated in the National Policy on Education; to have a free, democratic society, a just egalitarian society, a united and self-reliant nation with a great and dynamic economy as well as a land full of bright opportunities for all citizens. To ensure that the notable ideals were realized to the benefit of the citizens, these objectives were retained in the 2004 edition of the National Policy of Education accompanied by the other details like the curriculum for each stage of the educational processes special education, teaching qualification, pupil-teacher ratio, equipment, funding etc. In addition, it should be noted that; no matter how excellent a plan or policy maybe, the bottom line is the implementation. Questions have been asked- what is the difference between Universal Primary Education (UPE) and UBE? Will UBE succeed where UPE failed? Why was it necessary to change from 6-3-3-4 to 9-3-4? A reflection on these questions and the determination of the stakeholders to conscientiously implement the new policy will go a long way in ensuring that the UBE succeeds. The effect will be the production of law-abiding citizens who know their rights and duties, individuals who imbibe such virtues as self-reliance, hard work, integrity, service and ethics these are the derivable benefits from the new system of education. From the forgoing, it is quite clear that whether BSCE or UBCE the fact remains that at the end of six years primary education and three years junior secondary education pupils who are interested in further education would have to move on to the Senior Secondary School with a certificate that qualifies them to move on and subsequently, write the SSCE.

The Senior Secondary School Certificate Examination (SSSCE), on the other hand, is a national examination for all Senior Secondary School three students in all secondary schools in the country. It is being conducted and administered by both the West African Examinations Council (WAEC) and NECO. The two examining agencies conduct parallel or equivalent SSCEs in the country. The SSCE was first conducted in 1958 by WAEC and its Validity has been ascertained by many researchers (e.g. Ojerinde, 1986; WAEC, 1994). Indeed, the test development and administration processes by WAEC succinctly described by Salami (1990) and Chijioke (1990) clearly show that the SSSCE is patterned after the best tradition of development and administration of public examinations. The WAEC version of the SSSCE was used ¡n this study for the purpose of comparison with the BSCE being conducted by the Ministry of Education in Rivers State.

In all objectivity, the Evaluation Departments or Units in the state Ministries of Education, which shoulder the development and conduct of the BSCE, cannot claim the experience, technical know-how, specialized focus, or the abundance of specialized Staff and tremendous resources of WAEC and NECO. One may argue a priori that the standard of the BSCE will vary from state to state (in Nigeria) depending upon its human and material resources, level of educational development, and the general state of its schools. The pioneer set of BSCE candidates wrote the examination in 1988.

Predictive Validity as described by Kpolovie (2002), is one of the two ways or forms of estimating Criterion-related Validity the other been Concurrent Validity. According to Kpolovie, Predictive Validity is a situation in which a stated interval occurs between the Predictor and Criterion tests. For instance as presented by Him(Kpolovie, 2002, p.173), "Predictive Validity of an Intelligence test can be determined by administering the test to applicants for admission into a professional school and correlating their performance on this test with their grades at the end of the professional training". If a satisfactorily high coefficient is obtained then the intelligence test is a valid predictor of people's performance in the profession.

Studies on Predictive Validity on academic success have become very popular in recent times. Most of these studies have used school marks, result of intelligence test, aptitude tests, readiness tests and achievement tests in predicting success in final school examinations. Predictive Validity may be low or high depending on the validity coefficients. The coefficients range from - 1.00 through 0.00 to +1.00, the nearer the validity coefficient to 1.00, the higher the Predictive Validity. In a study to investigate the Predictive Validity of Junior School Certificate Examination (JSCE) in Mathematics and English Language for Senior School Certificate Examination (SSCE) in Delta State, Osadebe (1996) reported a generally low degree of relationship between student's scores for mathematics and English in JSCE and SSCE thus indicating a poor Predictive Validity for

JSCE as a test. Similarly, Ogidi(1997) in a study in OgbalEgbema/Ndoni LGA of Rivers State using a total of 400 students from 10 secondary schools found out that high or low scores in the Continuous Assessment corresponded to high or low scores in the JSCE' for English, Mathematics, Integrated Science and Social Studies. Anosike (1993) investigated Common Entrance Examination scores as a Predictor of Academic Performance for students in secondary schools in Umuahia Educational Zone in Imo State of Nigeria and found that the correlation between the Imo State Common Entrance Examination (ISCEE) scores and academic performance in SSCE in most schools was modest while the correlation coefficient between the ISCEE scores and academic performance in the core subjects in the JSCE was also modest. But it was found that the ISCEE scores are better predictors of academic performance in JSCE than the SSCE, since the percentage of schools that shows significant correlation is high (70%) with JSCE scores than with SSCE (60%). Furthermore, in a study to investigate the Predictive Validity of Osun State Junior Secondary Certificate Examination reported by Faleye and Afolabi (1995) of the Department of Educational Foundations and Counselling, Faculty of Education, ObafemiAwolowo University, Ile-Ife, showed that Osun State JSCE is a poor predictor of student's performance in SSCE. However, JSCE English Language and Mathematics were found to have a greater capacity to predict performance in SSCE English Language and Mathematics than all the other subjects (Integrated science and Social studies) ($r =0.32$, $p<0.05$ and $r = 0.22$, $p<0.05$ respectively).

In summary, the concept of Predictive Validity has been discussed by many scholars. While some have similar views others have different ideas. Thus, Hopkins and Stanley (1968), Akin (1979), Anastasi and Urbina (2007), Gronlund (1976), Nunnally (1981), Ukwuije (1996), Nworgu (2003) and Kpolovie (2002) all appear to agree that Predictive Validity is the degree of relationship between the predictor and criterion variables. Thus, the researchers reasoning along this line agrees that the degree of relationship between BSCE (predictor variable) and SSSCE (criterion variable) could be used to determine Predictive Validity, hence this study.

Consequently, a study of the relationship between the scores of the students who took the BSCE and after three years did the SSSCE is very necessary for the assessment of Secondary School Education in Nigeria. The subjects in focus are English Language, Mathematics, Integrated science and Social studies. The government policy that each student must pass the above mentioned four subjects at BSCE before being admitted into the Senior Secondary School has generated much argument. Some scholars argue that some students are naturally good in any subject. According to them, the above subjects should not be made compulsory. However, the government policy may be good because a pass ¡n English, Mathematics, Integrated science and social studies at the BSCE may lead to same at the SSSCE. The extent to which the students' scores in these subjects relate to the criterion (SSCE) requires an investigation to determine the Predictive Validity of the test (BSCE). Precisely, working with 2015 results (scores) for BSCE and 2018 SSSCE of the same students whose results are intact.

Statement of the Problem
Since the BSCE is meant to serve as the yardstick for admission into the Senior Secondary School, a student who is thereby admitted is assumed to possess the abilities and skills necessary to cope with the academic challenges of the Senior Secondary Schools (SSS). However, it is common knowledge that performance in the various SSCE subjects have been low for quite a long time (WAEC, 2010-2015 Chief Examiners reports), despite the fact that these same students obtained acceptable grades in the BSCE, and were consequently admitted to SSS I. This touches on the Validity of the BSCE as an adequate benchmark to judge students' capacity to cope effectively with SSS work which has a direct impact on their performance in the SSCE. It is pertinent, therefore, to investigate the reasons for this decline in performance in the SSCE by surveying the Predictive Validity of the BSCE, the prerequisite bench mark. What then is the relationship between BSCE and SSSCE in some selected subjects? Constitute the problem of this study.

Objectives of the Study
The objectives of the study were to:
1. Find out whether any relationship exists between BSCE and SSSCE scores of students in English Language.
2. Find out whether any relationship exists between BSCE and SSSCE scores of students in Mathematics.
3. Find out whether there is any relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE.
4. Find out whether BSCE scores in Social studies has any relationship with SSSCE scores in Government, Geography and Economics.

Research Questions
The following questions served as pathfinders to the entire investigation:
1. What is the relationship between BSCE and SSSCE scores of students in English Language?

2. What is the relationship between BSCE and SSSCE scores of students in Mathematics?
3. What is the relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE?
4. To what extent are the BSCE scores in Social studies related to SSSCE scores in Government, Geography and Economics?

Hypotheses
The following null hypotheses were generated and tested for the study:
HO$_1$: There is no significant relationship between BSCE and SSSCE scores of students in English Language.
HO$_2$: There is no significant relationship between BSCE and SSSCE scores of students in Mathematics.
HO$_3$: There is no significant relationship between Integrated Science in BSCE and Biology, Chemistry and Physics scores in SSSCE.
HO$_4$: There is no significant relationship between Social studies in BSCE and Government, Geography and Economics scores in SSSCE.

II. Methodology

This study adopted Correlational research design to establish the relationship between English Language scores in BSCE and SSSCE; between Mathematics scores in BSCE and SSSCE; between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE; and between Social studies scores in JSCE and Government, Geography and Economics scores in SSSCE. The target population for the study consists of all the secondary school students who sat for the 2015 BSCE and after three years took the SSSCE in 2018 in Rivers State. A total of 1000 students' results were randomly selected from the population of the students that wrote both exams.

The instrument for the study was a Result Collection Form (RCF). It was specifically designed and structured by the researchers to enable them collect the already existing data. However, the sources for data collection are the 2015 BSCE and 2018 SSSCE result sheets. Copies of these results are usually kept by the school Principals, State Ministry of Education and West African Examination Council (WAEC).

Since the grades for BSCE and SSSCE are not directly equivalent, the scores/grades were coded using a 4-point scale format as thus: BSCE grades of A, C, P and F. This is Distinction, Credit, Pass and Fail was awarded 4, 3, 2 and 1 points respectively, while the SSSCE scores which are usually now reported in grades A1, B2, B3, C4, C5, C6, D7, E8 and F9 were coded (A1, B2, B3) 4, (C4, C5, C6) = 3, (D7, E8) = 2 and (F9) = I point respectively. The data collected were analyzed using Pearson Product moment correlation to answer the research questions and Z-test for testing the hypotheses.

III. Results
The data and result of each research question and its corresponding hypothesis are presented on the same table.
Research question 1: What is the relationship between BSCE and SSSCE scores of students in English Language?
Hypothesis 1: There is no significant relationship between BSCE and SSSCE scores of students in English language.

Table 1:Z-test Analysis of BSCE and SSSCE Scores of Students in English Language

Variables	n	$\bar{X}$	Sd	r-value	Calculated Z-ratio	Critical Z-ratio	Decision
BSCE (X)	1000	2.89	0.57				
				0.495	16.50	1.96	Significant
SSSCE(Y)	1000	3.14	0.62				

Table 1shows that the observed r was 0.495. The result is that there is a positive relationship between BSCE English scores and SSSCE English scores. Furthermore, since n is 1000 with a standard error of 0.03. The statistical significance is determined by calculating a Z-ratio and evaluating the Z by reference to the table of area under normal curve. The calculated Z-ratio (16.50) is greater than the critical Z-ratio (1.96) at 0.05 level of significance. Consequently, the null hypothesis was rejected. The result indicates that there was a significant relationship between BSCE and SSSCE students' scores in English language.
Research question 2: What is the relationship between BSCE and SSSCE scores of students in Mathematics?
Hypothesis 2: There is no significant relationship between BSCE and SSSCE scores of students in Mathematics.

Table 2: **Z-test Analysis of Students' Scores for Mathematics in BSCE and SSSCE**

Variables	n	$\bar{X}$	Sd	r-value	Calculated Z-ratio	Critical Z-ratio	Result
BSCE (X)	1000	2.92	0.60				
				0.645	21.50	1.96	Significant
SSSCE(Y)	1000	3.01	0.58				

In Table 2 the observed r was 0.645. The result was that there is a positive relationship between BSCE Mathematics scores and SSSCE Mathematics scores. Furthermore, since n is 1000 with a standard error of 0.03. The statistical significance was determined by calculating a Z-ratio and evaluating the Z by reference to the table of area under normal curve. The calculated Z-ratio (21.50) was more than the critical Z-ratio (1.96) at 0.05 level of significance. The null hypothesis was therefore rejected. The result revealed that there was a significant relationship between BSCE and SSSCE students' scores in Mathematics.

Research question 3: What is the relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE?

Hypothesis 3: There is no significant relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE.

Table 3: Z-test Analysis of Students' scores for Integrated Science in BSCE and Biology, Chemistry and Physics Scores in SSSCE

Variables	n	$\bar{X}$	Sd	r-value	Calculated Z-ratio	Critical Z-ratio	Result
BSCE (X)	1000	2.90	0.58				
				0.477	15.90	1.96	Significant
SSSCE(Y)	1000	3.13	0.62				

Table 3 shows that the observed r was 0.477. The result is that there was a positive relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE. Consequently, since n ¡s 1000 the statistical significance is determined by calculating a Z-ratio and evaluating the Z by reference to the table of area under normal curve. The calculated Z-ratio (15.90) is more than the critical Z-ratio (1.96) at 0.05 level of significance hence the null hypothesis is therefore rejected. The result revealed that there is a significant relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE.

Research question 4: To what extent are the BSCE scores in Social studies related to SSSCE scores in Government, Geography and Economics?

Hypothesis 4: There is no significant relationship between Social studies in BSCE and Government, Geography and Economics scores in SSSCE.

Table 4: Z-test Analysis of students' scores for Social studies in BSCE and Government, Geography and Economics in SSSCE

Variables	n	$\bar{X}$	Sd	r-value	Calculated Z-ratio	Critical Z-ratio	Result
BSCE (X)	1000	2.77	0.59				
				0.174	5.80	1.96	Significant
SSSCE(Y)	1000	2.13	0.40				

Table 4 shows that the observed r was 0.174. The result is that there was a positive relationship between BSCE Social studies scores and SSSCE Government, Geography and Economics scores.Furthermore, since N is 1000 with a standard error of 0.03. The statistical significance is determined by calculating a Z-ratio and evaluating the Z by reference to the table of area under normal curve. Also, the calculated Z-ratio (5.80) is greater than the critical Z-ratio (1.96) at 0.05 level of significance hence the null hypothesis is rejected. The result indicates that there is a significant relationship between Variables BSCE Social studies and SSSCE Government, Geography and Economics students' scores.

IV. Discussion of Results

One of the very first results of this study was that there was a positive relationship between BSCE and SSSCE scores of students in English Language.When Z statistic was applied, r-value of 0.495 was found to be statistically significant at 0.05 level of probability (Table 1). The positive relationship between BSCE and SSSCE scores of students in English Language means that as scores on English Language at the BSCE increases, there is corresponding increase in scores of students at the SSSCE, and vice versa. This means that

those students, whose scores are high in BSCE English Language, also scored high in SSSCE English Language. And those who had low scores in BSCE English also had low scores in SSSCE English.

The finding of the present study is in agreement with those of Faleye and Afolabi (1995), and Osadebe (1996) who also found out that there is a positive relationship between JSCE and SSCE scores of students in English Language. When they studied sample of secondary school students, they respectively obtained correlation coefficients of 0.32 and 0.39 for JSCE and SSCE scores of students in English Language.However, finding disconcordant with the present one were found by Adewolu (1999). Using sample of 30 students, he found an inverse (negative), relationship between JSCE and SSCE scores of students in English Language. The coefficient obtained was -0.49. The divergent results for the present and past studies may be attributed to many reasons. While the present study used a large sample size of 1000, only 30 students were used by the immediate past study. The sample size may have influenced the direction of the result obtained.

The degree of association or linkage between BSCE and SSSCE scores of students in English Language was found to be 0.495 (Table l).The coefficient of alienations $\sqrt{1-r^2}$ was found to be 0.87. This represents the degree of lack of association between BSCE and SSSCE scores of students in English Language. Thus while the degree of relationship was 0.495, the degree of lack of relationship was found to be 0.87.The percentage of association (r^2 x 100) was found to be 24.50 percent. This value represents the magnitude of the relationship between BSCE and SSSCE scores of students in English Language. Such a value indicates a low relationship between the two variables.

When the percentage reduction in error of prediction (r^2) for BSCE and SSSCE scores of students in English Language was determined, it was found to be 0.2450. This means that knowledge of scores in BSCE will reduce the error of predicting scores of SSSCE by 24.50% and vice versa. That is to say that you can predict SSSCE scores in English Language from knowledge of scores in BSCE by only 24.50%. This result still confirms the low relationship between BSCE and SSSCE scores of students' ¡n English Language.

On the other hand, the percentage of error of prediction ($1-r^2$) of BSCE from SSSCE scores of students in English Language and vice versa was found to be 75.49%. Therefore, in terms of predicting one variable from another, it means that only 24.50% of variation in BSCE scores in English Language could be accounted for, while 75.49% could not be accounted for or explained by reference to scores on SSSCE English Language.Although the relationship between BSCE and SSSCE scores of students in English Language was statistically significant, the magnitude of the relationship was low and percentage of prediction of one variable from another was also low.

In Table 2, the result indicates that there is a positive relationship between BSCE and SSSCE scores of students in Mathematics.When Z statistic was applied, r-value of 0.645 was found to be statistically significant at 0.05 level of probability.

The positive relationship between BSCE and SSSCE scores of students ¡n Mathematics means that as scores on Mathematics at the BSCE increases, there is corresponding increase in scores of students at the SSSCE, and vice versa. This means that those students, whose scores are high in BSCE Mathematics, also scored high in SSSCE Mathematics. And those who had low scores in BSCE Mathematics also had low scores in SSSCE Mathematics.

The result of the present study is in agreement with those of Faleye and Afolabi (1995), Osadebe (1996), and Adewolu (1999) who also found out that there is a positive relationship between JSCE and SSCE scores of students in Mathematics. When they studied sample of secondary school students, they respectively obtained correlation coefficients of 0.22, 0.081 and 0.078 for JSCE and SSCE scores of students in Mathematics.

The degree of relationship between BSCE and SSSCE scores of students in Mathematics was found to be 0.645 (Table 2). The coefficient of alienations $\sqrt{1-r^2}$ was found to be 0.764. This represents the degree of lack of relationship between BSCE and SSSCE scores of students in Mathematics. Thus while the degree of association was 0.645, the degree of lack of relationship was found to be 0.764. The percentage of association (r^2 x 100) was found to be 41.60 percent. This value represents the magnitude of the relationship between BSCE and SSSCE scores of students in Mathematics. Such a value indicates a moderate relationship between the two variables.

When the percentage reduction ¡n error of prediction (r^2) for BSCE and SSSCE scores of students in Mathematics was determined, it was found to be 0.4160. This means that knowledge of scores in BSCE will reduce the error of predicting scores of SSSCE by 41.60% and vice versa. That is to say that you can predict SSSCE scores in Mathematics from knowledge of scores in BSCE by only 41.60%. This result still confirms the moderate association between BSCE and SSSCE scores of students in Mathematics. On the other hand, the percentage of error of prediction ($1-r^2$) of BSCE from SSSCE scores of students in Mathematics and vice versa was found to be 58.40%. Therefore, in terms of predicting one variable from another, it means that only 41.60% of variation in BSCE scores in Mathematics could be accounted for, while 58.40% could not be accounted for by reference to scores on SSSCE Mathematics. Although the relationship between BSCE and SSSCE scores of

students in Mathematics was statistically significant, the magnitude of the relationship was moderate and percentage of prediction of one variable from another was also moderate.

Table 3 shows that there is a positive relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics in SSSCE. When Z statistic was applied, r-value of 0.477 was found to be statistically significant at 0.05 level of probability. The positive relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics in SSSCE means that as scores in Integrated Science at the BSCE increases, there is corresponding increase in scores of students at the SSSCE, and vice versa. This means that those students, whose scores are high in BSCE Integrated Science, also scored high in SSSCE Biology, Chemistry and Physics. And those who had low scores ¡n BSCE Integrated Science also had low scores in SSSCE Biology, Chemistry and Physics.

The result of the present study ¡s in agreement with that of Faleye and Afolabi (1995), who also found out that there is a positive relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE. When he studied sample of secondary school students, he obtained correlation coefficients of 0.216 for JSCE and SSCE scores of students in Integrated Science and its pair of Biology, Chemistry and Physics.

The degree of relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE was found to be 0.477 (Table 3).

The coefficient of alienations $\sqrt{1-r^2}$ was found to be 0.879. This represents the degree of lack of relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE. Thus while the degree of association was 0.477, the degree of lack of relationship was found to be 0.879.

The percentage of association (r^2 x 100) was found to be 22.75 percent. This value represents the magnitude of the relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE. Such a value indicates a low relationship between the two variables.

When the percentage reduction in error of prediction (r^2) for BSCE and SSSCE scores of students in Integrated Science and Biology, Chemistry and Physics respectively was determined, it was found to be 0.227529. This means that knowledge of scores in BSCE will reduce the error of predicting scores of SSSCE by 22.75% and vice versa. That is to say that you can predict SSSCE scores in Biology, Chemistry and Physics from knowledge of Integrated Science scores in BSCE by only 22.75%. This result still confirms the low association between BSCE and SSSCE scores of students in Integrated Science and Biology, Chemistry and Physics respectively. On the other hand, the percentage of error of prediction ($1-r^2$) of Integrated Science in BSCE from SSSCE Biology, Chemistry and Physics scores of students and vice versa was found to be 77.25%. Therefore, in terms of predicting one variable from another, it means that only 22.75% of variation in BSCE scores in Integrated Science could be accounted for, while 77.25% could not be accounted for by reference to scores on SSSCE Biology, Chemistry and Physics. Although the relationship between Integrated Science scores of students in BSCE and Biology, Chemistry and Physics scores of students in SSSCE was statistically significant, the magnitude of the relationship was low and percentage of prediction of one variable from another was also low.

The fourth outcome of this study was that there was a positive relationship between Social studies in BSCE and Government, Geography and Economics scores in SSSCE. When Z statistic was applied, r-value of 0.174 was found to be statistically significant at 0.05 level of probability (Table 4). The positive relationship between Social studies in BSCE and Government, Geography and Economics scores in SSSCE means that as scores on Social studies at the BSCE increases, there is corresponding increase ¡n scores of students in Government, Geography and Economics at the SSSCE, and vice versa. This means that those students, whose scores are high in BSCE Social studies, also scored high in SSSCE Government, Geography and Economics. And those who had low scores in BSCE Social studies also had low scores in SSSCE Government, Geography and Economics.

The finding of the present study is in agreement with those of Faleye and Afolabi (1995) who also found out that there is a positive relationship between Social studies scores in JSCE and Government, Geography and Economics scores in SSCE. When they studied sample of secondary school students, they obtained correlation coefficients of 0.192 for JSCE and SSCE scores of students in Social studies and Government, Geography and Economics respectively.

The degree of association or linkage between Social studies in BSCE and Government, Geography and Economics in SSSCE was found to be 0.174 (Table 4).

The coefficient of alienations $\sqrt{1-r^2}$ was found to be 0.985. This represents the degree of lack of association between Social studies in BSCE and Government, Geography and Economics scores in SSSCE. Thus while the degree of relationship was 0.174, the degree of lack of relationship was found to be 0.985. The percentage of association (r^2 x 100) was found to be 3.03 percent. This value represents the magnitude of the relationship between Social studies in BSCE and Government, Geography and Economics scores in SSSCE. Such a value indicates a low relationship between the two variables.

When the percentage reduction in error of prediction (r^2) for BSCE Social studies and Government, Geography and Economics SSSCE scores of students was determined, it was found to be 0.0303. This means that knowledge of scores in BSCE will reduce the error of predicting scores of SSSCE by 3.03% and vice versa. That is to say that you can predict SSSCE scores in Government, Geography and Economics from knowledge of scores in BSCE Social studies by only 3.03%. This result still confirms the low relationship between Social studies in BSCE and Government, Geography and Economics in SSSCE scores of students. On the other hand, the percentage of error of prediction $(1-r^2)$ of BSCE from SSSCE scores of students in English Language and vice versa was found to be 96.97%. Therefore, in terms of predicting one variable from another, it means that only 3.03% of variation in BSCE scores in Social studies could be accounted for, while 96.97% could not be accounted for or explained by reference to scores on SSSCE Government, Geography and Economics. Although the relationship between Social studies scores in BSCE and Government, Geography and Economics scores in SSSCE was statistically significant, the magnitude of the relationship was low and percentage of prediction of one variable from another was also low.

V. Conclusion

Based on the findings of this study, the following conclusions are made:
1. There is a positive relationship between BSCE English scores and SSSCE English scores. Furthermore, there was a significant relationship between BSCE and SSSCE students' scores in English.
2. There is a positive relationship between BSCE mathematics scores and SSSCE mathematics scores. In addition, there was a significant relationship between BSCE and SSSCE students' scores in Mathematics.
3. There is a positive relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE. Consequently, since n is 1000 the statistical significance is that there was a significant relationship between Integrated Science scores in BSCE and Biology, Chemistry and Physics scores in SSSCE.
4. There is a positive relationship between BSCE Social studies scores and SSSCE Government, Geography and Economics scores. Furthermore, there was a significant relationship between BSCE Social studies and SSSCE Government, Geography and Economics students' scores.

VI. Recommendations

Based on the results and the conclusion drawn in this study, the following are recommended:
1) The state Ministry of Education in Rivers State should endeavour to establish the Psychometric properties (predictive power, discrimination index and moderate difficulty level) of the BSCE in line with IRT principles, before the tests are administered on real candidates year by year.
2) Teachers should also ensure that students cover up the various curricula before they sit for BSCE and SSSCE.

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