Performances of Students in Vocational Subjects in Senior Secondary Certificate Examination and National Examination Council 2013 to 2015 in Enugu State Metropolis' Secondary Schools

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Abstract

The purpose of this study was to find out the performances of students in two vocational subjects in SSCE (Senior Secondary Certificate Examination) and NECO (National Examination Council in Enugu Metropolis' Secondary Schools from 2013 to 2015. The two vocational subjects considered were Basic Electricity and Basic Electronics. Two research questions were posed and one null hypothesis was tested. The data for the study were collected in November 2016. The null hypothesis was tested using correlation coefficient (r). The two research questions were answered using mean scores. Results of the study showed that the mean score for the three secondary schools in SSCE Basic Electricity for the three years was 2.10. This was interpreted to mean that a majority of the students in the three secondary schools obtained at least a credit in Basic Electronics in SSCE between 2013 and 2015. For SSCE Basic Electronics the mean score of the performance of students was 2.13. In NECO, Basic Electricity and Basic Electronics the mean scores of the performances of students in the three years were 3.07 and 2.84 respectively. This was interpreted to mean that majority of the students obtained at least a credit in the three secondary schools Basic Electricity and Basic Electronics. The correlation coefficient (r) of the performance of students in Basic Electronics SSCE and NECO for the three secondary schools was 0.26. For Basic Electronics it was 0.46. It was concluded that there was a low positive correlation between students' performances in Basic Electronics and Basic Electricity in both SSCE and NECO. It is recommended that

those teachers presently in the field should regularly attend seminars and conferences in the two subjects. This will ensure that positive uniformity in the teaching of these subjects is maintained.

Introduction

The importance of vocational education at the secondary level of education cannot be overemphasized. Dodge (2009) stressed that any nation that fails to emphasize vocational subjects at the secondary level of education runs the risk of being left behind by the more technologically conscious nations.

Goke (2007) argued that vocational/technical education in secondary schools should help individuals acquire and develop skills which will help them to enter the business world. Inya (2013) believes that vocational/technical education should be integral part of the total framework of education in Nigeria because it provides competencies and helps to prepare students for office and industrial occupations and also meets the demand for job entries. Thus, vocational/technical subjects lead to the acquisition of practical skills and knowledge relating to occupations (Anya and Ore, 2012).

Onu (2014) surveyed the performances of students in the May/June 2010 SSCE in some vocational/Technical subjects. In the May/June 2010 SSCE Examinations, 28,893 students offered Basic Electricity, and 48 percent failed. In the same examination, 33 percent failed Technical Drawing, 50 percent failed Basic Electronics and 33 percent failed Wood Work.

Goke (2007) studied the performances of students in SSCE in Basic Electronics, Typewriting and Accounts in selected Secondary Schools in the Mainland Local

Government Area of Lagos State. Results of the study showed that 15 percent, 25 percent, and 20 percent failed Basic Electronics, Typewriting and Accounts respectively.

The National Policy on Education (NPE) listed the following thirteen vocational/Technical subjects which should be offered at the Senior Secondary level of Education (SS I - III): Technical Drawing, Wood Work, Metal Work, Commerce, Economics, Bookkeeping, Typewriting, Shorthand, Agricultural Science, Home Management/Food and Nutrition/Clothing and Textiles, Art, Basic Electronics and Basic Electricity, Automechanies and every SS II student is expected to offer two of these subjects in the SSCE and NECO examinations.

Most of the previous studies on the performances of students in vocational/technical subjects concentrated on the SSCE. This is because NECO is a new examination body. In addition to the SSCE, this study also examines the performances of students in vocational/technical subjects in NECO, the new examinations body. Those two subjects were offered by all the three secondary schools involved in this study.

The problem of the study was to find out the performances of students in two vocational subjects in SSCE and NECO in Enugu Metropolis Secondary Schools, from 2013 to 2015 (three years). Before 2000, final year students in Nigerian Secondary Schools only sat for the SSCE. In 2000, NECO was introduced. Thus, from 2000, final year secondary school students had been writing technical examinations in both SSCE and NECO. The problem is whether students perform better in SSCE than they do in NECO in the two vocational subjects under study in Enugu metropolis.

The correlation of SSCE and NECO results is necessary as people think that NECO is inferior or has some problems. If the correlation is high, it means that SSCE and NECO can complement each other.

Research Questions

Based on the stated problems, the following questions were raised:

1. What are the performances of students in Basic Electricity and

Basic Electronics in SSCE and NECO over the years 2013-2015 in Enugu Metropolis' secondary schools?

2. What is the degree of relationship between the performances of students in Basic Electricity and Basic Electronics SSCE and NECO over the three years understudy in Secondary Schools in Enugu Metropolis.

Hypothesis:

The following null hypothesis was tested at 0.05 level of significance.

HO: There is no significant relationship between the performances of students in SSCE and NECO in Basic Electricity and Basic Electronics.

Research Method

The correlation survey research design was used in this study. The population for the study comprised the secondary in Enugu metropolis offering Basic Electricity and Basic Electronics. There are six secondary schools in Enugu Metropolis that offer Basic Electricity and Basic Electronics in both SSCE and NECO.

Simple random sampling technique was used in selecting three secondary schools for this study. The three secondary schools selected included.

Federal Government College, Enugu

College of Immaculate Conception (CIC) Enugu

Command Day Secondary School (CDSS), Enugu.

In each of the three secondary schools, the SSCE and NECO results in Basic Electricity and Basic Electronics for the three years 2013 to 2015 were obtained from the original results and used for the study. The data for this study were collected from the three secondary schools in December 2016. A four point grading system was used in analyzing the SSCE and NECO results.

A1 to B3 -4points, C4 to C6 – 3points, D7 to E8 -2points and F9 – 1points

For the interpretation of the results of the analysis of the data was taken as follows:

A mean score of above 2.50 points was interpreted as meaning that a majority of the students in that year passed with at least a credit in the subject (AI to C6). A score of 2.00 and below was interpreted to mean that a majority of

the students in that year did not pass the subject at credit level. In other words, they obtained either D7, E8 or F9.

Results

In order to answer research question one postulated for this study, Tables I. – IV were used. Tables V and VI were used to answer research question two.

Table I: Performances of Students in SSCE Basic Electricity from 2013 to 2015

n = 1152

Years	N	Grade Groupings				Mean
		4 points	3 points	2 points	1 point	Scores
2013	403	28	101	92	172	1.91
2014	245	41	74	66	64	2.38
2015	504	39	116	163	186	2.02
Total	1152	108	291	321	42	2.10

From **Table I,** the mean score for the three secondary schools in Enugu metropolis SSCE Basic Electricity for the three years (2013 to 2015) was 2.10. In this, it is interpreted to mean that a majority of the students in the three secondary schools obtained at least a credit in Basic Electricity in SSCE between 2013 to 2015 However, it was only in 2013 that a majority of the students did not receive at least a C6 in SSCE Basic Electricity.

Table II: Performance of Students in SSCE Basic Electronics from 2013 to 2015

(n = 526)

Years	**n**	**Grade Groupings**				**Mean**
		4 points	**3 points**	**2 points**	**1 point**	**Scores**
2013	157	5	28	35	89	1.68
2014	108	28	56	14	10	2.94
2015	261	28	48	54	131	1.78
Total	526	61	132	103	230	2.13

Table II shows the performances of students in SSCE Basic Electronics from 2013 to 2015 in the three secondary schools. The mean score for the three secondary schools from 2013 to 2015 is 2.13. This was interpreted to mean that a majority of the students obtained Grades AI to C6. However, a majority of the students obtained Grades D7 to E9 in 2013 and 2015 as the mean scores for the two years are 1.68 and 1.78 respectively.

Table III: Performances of students in NECO Basic Electricity for 2013 to 2015

(n = 911)

Years	n	Grade Groupings				Mean
		4 points	3 points	2 points	1 point	Scores
2013	253	64	124	28	36	1.86
2014	252	44	188	13	7	2.07
2015	407	55	259	68	5	1.80
Total	911	163	571	109	48	2.91

From **Table III**, it could be observed that majority of the students who took NECO Basic Electricity obtained Grades AI to C6 in the three years under study (2013 to 2015). The mean score for the three years is 2.91. Less than 20 percent of the students' (157) received Grades D7 to F9. Their performances were impressive in 2014 where the mean score is 2.07.

Table IV: Performances of students in NECO Basic Electronics for 2013-2015

(n = 526)

Years	n	Grade Groupings				Mean
		4 points	3 points	2 points	1 point	Scores
2013	261	28	46	50	131	1.70
2014	108	28	50	14	8	2.53
2015	157	5	28	35	30	1.73
Total	526	60	132	103	230	2.15

Table IV shows the performances of students in NECO Basic Electronics from 2013-2015 in the three secondary schools studied. The mean score for the studied period is 2.15. This was interpreted to mean that a majority of the students obtained grades A1 to C6. Majority of the students performed poorly, this was proved from the mean of 1.70 and 1.73 respectively, where scores of D7 to F9 were noticed across board.

In testing the null hypothesis, Tables V and VI are presented below.

Table V: Correlation Coefficient of the Performances of Students in Basic Electricity in SSCE and NECO in the three secondary Schools, 2013 to 2015.

(n = 1064)

Years	SSCE	NECO	$\sum X^2$	$\sum Y^2$	XY	N
2013	1.68	3.02	0.35	0.98	0.149	0.26
2014	2.94	2.85				
2015	1.78	2.66				

From **Table V**, the correlation coefficient (r) is 0.26. This is below 0.5 which means that there is a very low positive correlation between students performances in Basic Electronics in SSCE and NECO in the three years under study.

VI: Correlation Coefficient of the performances of students in Basic Electronics in SSCE and NECO in the three secondary schools, 2013 to 2015

(n = 2063)

Years	SSCE	NECO	$\sum X^2$	$\sum Y^2$	XY	R
2013	1.68	3.02				
2014	2.94	2.85	0.41	0.68	0.24	0.46
2015	1.78	2.66				

Table VI shows that the correlation coefficient of the performances of students in SSCE and NECO in the three secondary schools is 0.46. This means that there is a low positive correlation between students performances in Basic Electricity in SSCE and NECO in the three years under study. The fact that the correlation is positive means that SSCE and NECO can complement each other.

Conclusion

In the year 2013 a majority of the students who offered Basic Electricity SSCE in the three secondary schools in Enugu Metropolis obtained Grades D7, E8 and F9 for the same examination. A majority of the students passed with at least C6 in 2014 and 2015S

The performances of students in Basic Electricity in NECO showed that a majority of the students in all the three schools obtained a minimum of C6 between 2013 and 2015. Data collated also reveal that all the schools studied, performed well in both subjects in the year 2014.

Recommendations

In the course of this study, it was discovered that the performances of students in both examinations are not stable. One should expect progressive and sustained performances from students in vocational subjects if vision 2020 will be realized in this nation. This is a date when Nigeria is expected to be among the technologically advanced nations.

Most of the schools are not fully equipped for these subjects. Investigations also showed that most of the teachers who handle these subjects are of allied subjects. It is recommended also that those teachers presently in the field should attend seminars and conferences in the two subjects. This will ensure that positive uniformity in the teaching of these subjects is maintained.

It is also suggested that performances in other vocational subjects based on schools should be carried out. For example, is there any differences in the performances of students based on school factors such as types of schools? Can gender influence students performances in vocational subjects.

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