



**OYO STATE COLLEGE OF AGRICULTURE AND
TECHNOLOGY, IGBOORA (OYSCATECH)**



in Collaboration with

OYSCATECH GLOBAL CONSULT

PRESENTS

2ND BIENNIAL CONFERENCE

TAGGED:

OYSCATECH

2021

E-Proceeding

Theme:

**A SYNERGY BETWEEN AGRICULTURAL PRODUCTION,
TECHNOLOGICAL INNOVATION & MANAGEMENT EFFICIENCY:
A PANACEA TO ECONOMIC STABILITY
DURING PANDEMIC**

Date: Mon. 12th - Thur. 15th July, 2021

Venue: 800-Seater, Lecture Hall, OYSCATECH, Igboora

Editors:

Dr. W. B. BELLO, Dr. M. A. MOSOBALAJE

Dr. G. O. OYELERE, Mr. R. A. AJAO

ANALYSIS OF STUDENTS MATHEMATICS PERFORMANCE IN WEST AFRICAN SENIOR SECONDARY CERTIFICATE EXAMINATION IN SELECTED SCHOOLS IN OGUN STATE, NIGERIA

Ojo, V. O, Awobode, G. O., Akinade, O. O., Olakunle, K., Olawoore, S.A.

Oyo State College of Agriculture and Technology, Igbo-Ora. Department of Statistics,

Ojovictoria2@yahoo.com; 08146864567

Abstract

This study analyzed the trends in student's performances in the West African Senior Certificate Examination (WASSCE) in General Mathematics for selected senior secondary schools in Ogun State, Nigeria between 2014 and 2017 years. The schools used are: Ijebu Ife Community Grammar School, Ilupeju Senior Secondary School, Epic International School and Adonai Blessed College Secondary School. The total number of students that sat for the examination was 2196 in the four selected schools. Two research questions and a hypothesis guided the study. The research questions were answered using percentage while chi-square was used to test the null hypothesis at 5% level of significance. Results from the study showed that the population of students that sat for WASSCE in General Mathematics increased by 14.03% after a period of 2years, also the null hypothesis was rejected which shows that there is significant effects of the schools attended on the performance of the students. Based on the findings the study recommended, that government should employ qualified Mathematics teachers to the secondary schools, schools should be well furnished with adequate instructional materials, and there should be adequate supply of grants to secondary schools for proper upkeeps.

Keywords: Analysis, Mathematics, Examination, Performance

Introduction

The quality of educational institution is measured by the academic performance of success of the students, over the years. Improvement in academic performance of students in school has become the common concern of parents, teachers, legislators, counselors and psychologist.

Academic performance, most especially secondary school students has been largely associated with many factors. Part of the factors are emotional trends such as a long walk to school, inadequate instructional materials and teaching facilities, poor school environment and being taught by some un-motivational teachers. We cannot remove the family factors such as uncooperative attitude of some parents to their children's study of Mathematics. Consequently, students are being encouraged to take up Science and Technology related disciplines. Globally today, scientific methods persuade literally field of human endeavour and play a fundamental role in the academic performance of the student in Mathematics.

The contributions of some researchers to knowledge in this field were reviewed in this work.

Asuru (2006), opined that the West African Examination Council is one of the major examination bodies in Nigeria. The others are the National Business and Technical Examination Board (NABTEB), National Teacher's Institute (NTI) and Joint Admission and Matriculation Board (JAMB). The West African Senior Examination Council was set up in 1952 as an inter-territorial body to conduct examinations as would be suited to the needs of West African and as required in the public interest for the four British West African countries of Nigeria, Ghana, Sierra-Leone and Gambia.

In the contemporary Nigeria, subsequent to the nations endorsement of international protocols for education for all (EFA); the Millennium Development Goals (MDG's) and the adoption of a National Economic Empowerment



and Development Strategies (NEEDS) a greater emphasis is now being placed on industrial and technological development. (NERDC, 2007).

The importance of Mathematics in national development is so high that the Federal Republic of Nigeria enshrined Mathematics in the national policy on education as a compulsory subject for all primary and secondary schools students in Nigeria (FRN, 2004). Its inclusion as a pre-requisite for admission into Science and Technology based courses in the Nigerian Tertiary Institutions is basically because of the recognition of the indispensable role it plays in the advancement of Science and Technology of nation (Iyekekpolor and Buleis, 2009).

Problem specification

Adebule (2004), was of the opinion that gender differences is also a factor influencing the performances of students in Nigeria Secondary Schools. The information collected from the selected schools in Ogun State indicated that the general performance of the candidates in Mathematics for the May/June 2016 – 2017 examinations appeared to have improved when compared to previous years (WAEC 2014 – 2015). From the foregoing, it becomes necessary to ask the question, is there any significant improvement of the student achievement/performances in the May/June WASSCE in Nigeria from 2014 – 2015 and 2016 – 2017 years.

Aim and objectives of the study

This study analyzed the student's performances in the May/June West African Senior Secondary Certificate Examination (WASSCE) in General Mathematics in Nigeria. Specifically the study shall:

1. Determine the percentage increase in the population of students that sat for May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017 in the selected schools.
2. Ascertain the percentage of students that passed and the percentage of the students that failed in the May/June WASSCE in General Mathematics in the selected schools between 2014 and 2017
3. Compare the percentage of the students in the selected schools that obtained passes and the students that failed in the May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017

Research questions

The following research questions guided the study:

1. What is the percentage increase in the population of students in the selected schools in Ogun State that sat for the May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017 years?
2. What is the percentage of students in the selected schools in Ogun State that obtained passes and the percentage of the students that failed in the May/June WASSCE in General Mathematics between 2014 – 2017?
3. What is the percentage of students in the selected schools in Ogun State that obtained passes and the percentage of the students that failed in May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017 years?

Research hypothesis

H_0 : There is no significant difference in the percentage of students in the selected schools in Ogun State, Nigeria that passed (i.e. A1 – D7) and the number that failed (i.e. F9) in the May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017.

Material and methods:

Population, sample and sampling techniques

The population of the study consisted of all the students in the selected secondary schools in Ogun State, Nigeria that sat for the West African Senior Secondary Certificate Examination (WASSCE) between 2014 and 2017 years. The schools used are: Ijebu Ife Community Grammar School, Ilupeju Senior Secondary School, Epic International School and Adonai Blessed College Secondary School. A sample of 2,196 students in the selected schools in Ogun State, Nigeria who sat for WASSCE between 2014 and 2017 years were used for the study.

Method of data collection

Data were collected from records. This refers to the records of total number of students that registered and sat for WASSCE with their grades in General Mathematics in selected schools.

Data analysis

Chi-square was used to analyse the result at 5% level of significance

Results

TABLE 1: Total number of students in the selected schools in Ogun State that sat for the May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017

S/N	Year	Total Number of Students Sat	Year	Total Number of Student Sat
1.	2014	414	2016	626
2.	2015	530	2017	626
	Total	944	Total	1252

TABLE 2: Percentage increase in the number of students that sat for the May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017

Year	Total No. of Students Sat	Increase	Percentage Increase
2014 – 2015	944	308	14.03%
2016 – 2017	1252		

Table 1 showed that a total of 944 students sat for WASSCE in General Mathematics between 2014 and 2015 while 1252 students sat for the same examination between 2016 and 2017.

Table 2 further indicated that after two years, the population of students in the selected schools that sat for the WASSCE in General Mathematics increased by 308 (14.03%).

TABLE 3: Percentage of students in the selected schools in Ogun State that passed (A1 – D7) and those that failed (F9) in the May/June WASSCE in General Mathematics between 2014 and 2017 years

Year	Total No. who sat	No of Students that passed (A1 – D7)	% of Students that passed (A1 – D7)	No of Students with F9	% of Students with F9
2014	414	239	57.73	175	42.277
2015	530	263	49.62	267	50.387
2016	626	321	51.23	285	45.527
2017	659	408	61.91	251	38.081
		1231	Mean (%) 55.12	978	Mean (%) 44.07

Table 3 showed that 4years ago, 55.12% of students obtained D7 and above (A1 – D7) while 44.07% failed (i.e. F9) in May/June WASSCE in General Mathematics.

TABLE 4: Students performance in May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017 years.

Performance	2014 – 2015 Mean (%)	2016 – 2017 Mean (%)
D7 and above (A1 – D7)	53.675	56.57
Failed	46.325	41.81

Table 4 showed that the percentage of students that obtained D7 and above was higher ($\chi = 56.57$) between 2016 – 2017 when compared to the period between 2014 – 2015 ($\chi = 53.675$). Also the students performance with F9 in Mathematics was low ($\chi = 41.81$) between 2016 – 2017 as compared to the period between 2014 – 2015 ($\chi = 46.325$).

TABLE 5: Analysis of students performance with the use of in the May/June WASSCE in General Mathematics

Performance Grades	Number of Students		Total
	2014 – 2015	2016 – 2017	
A1 – D7	502	729	1231
F9	442	536	976
Total	944	1265	2207
** 87.1694	* 3.841		df = 1

Table 5 shows that there is significant difference in the percentage of students in the selected schools in Ogun State that obtained D7 and above (A1 – D7) and F9 in May/June WASSCE in General Mathematics between 2014 – 2015 and 2016 – 2017 years.

Discussion

The study analyzed the performance of students in General Mathematics in the May/June West Africa Senior Secondary Certificate Examination (WASSCE) in the selected schools in Ogun State between 2014 – 2015 and 2016 – 2017 years. The result from table 2 showed that the population of students in the selected schools in Ogun State that sat for the WASSCE in General Mathematics increased by 14.03% after a period of 2years. The result in table 3 indicated the students performance in Mathematics within four years with 55.12% of students obtained D7 and above while 44.07% had F9 in the May/June WASSCE. However, the result from table 4 shows that the percentage of students in the selected schools in Ogun State that obtained D7 and above was higher (56.57%) between 2016 and 2017 compared to the period between 2014 and 2015 (53.675%).

Also the students performance in General Mathematics with F9 was low (41.81%) between 2016 and 2017 as compared to the period between 2014 and 2015 (46.325%).

The statistical test from table 5 showed that there was significant difference in the percentage of students in the selected schools in Ogun State that obtained D7 and above F9 in the May/June WASSCE in General Mathematics between 2014 to 2015 and 2016 to 2017 years. The null hypothesis was rejected at 0.05 level of significance. The observed result is in agreement with the findings of Zalmon Ibaan Gogo and Wonu Nduka 2017, who discovered that the population of students that sat for WASSCE in general mathematics increased by 147.76% after a period of 13 years and that improvement in achievement was significant with time.

Conclusion

From the findings, the number of students in the selected schools in Ogun State that sat for the WASSCE in General Mathematics increased by 14.03% after 2years. In the past four years there was a significant improvement in students' Mathematics performance over time. Among the contributed factors responsible for the increase could be availability of innovative instructional materials and utilization, reformation of Mathematics curriculum.



Recommendations

The following recommendations were made based on the findings;

1. All the concerned stakeholders should ensure effective teaching and learning of Mathematics at all levels of schooling.
2. The stakeholders should sustained/improved the trends in Mathematics curriculum reformation, instructional practices and investment in education.
3. All secondary schools in Nigeria should have a very good and well equipped Mathematics laboratory to ensure practical Mathematics teaching and learning.
4. Qualified Mathematics teachers should be employed into our secondary schools to cater for the teacher and students ratio 1:50.
5. Mathematics teachers should be allowed to attend seminars and workshops and regular sponsore by the school authority or the government.

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