

# The Influence of Educational Systems on the Academic Performance of JSCE Students in Rivers State

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## Abstract

This work is a comparative study of JSCE results between the 6-3-3-4 system (2006 & 2008) and the 9-3-4 (UBE) system (2009 & 2011) in Port Harcourt using a comparative/evaluative survey design. A cluster sampling technique was used to compose a sample of 2,487 drawn from the population of 17,139 candidates in 2006, 2008, 2009 and 2011 in government owned secondary schools in Port Harcourt LGA. Five research questions and hypotheses were formulated to guide this study. The grades of the students were obtained from the Rivers State ministry of education using a data collection form designed by the researchers. The grades were converted to raw scores and then to T-scores. The research questions were answered using mean and standard deviation hypotheses were tested at 0.05 Alpha level. The results showed that: there was a significant difference between the JSCE results of Mathematics and integrated science in the two systems of education. The results implied that educational systems significantly influence student's performances in the Junior Secondary Certificate Examination.

**Keywords:** (SCE, academic performance, educational systems, 6.3-3-4 and 9-3-4 system of education)

## 1.Introduction

The Junior Secondary Certificate Examination (JSCE) is a very important tool in the Nigerian educational system. It is used to evaluate the academic achievement, or to some extent, the academic worth of a student at the end of his/her third year in the junior secondary. It is a compulsory requirement for admission into the senior secondary school. A candidate must obtain a pass in six subjects including the core subjects namely: English language, mathematics, integrated science, and social studies. A candidate who fails any of them must retake the subject (s). –(Federal Republic of Nigeria, 2004, United States Diplomatic Commission, 2013).

Educational system is defined by dictionary of education (2008) as the system of formalized transmission of knowledge and value, within a given society. Educational system is the way the people in a given society carry out all activities relating to education (Adeyinka, 1991). To this end, educational system is a system which embraces teachers, students, contents and contexts to achieve set goals. Nigeria has established several educational systems and each of them had laid huge financial, material and labour costs on the country. It is pathetic that each of these very expensive programmes had supposedly failed leading to establishment of a new one. Even the most recent one being the 9-3-4 system has been viewed to have failed as observed by Abati (2010). Nigeria cannot continue to gamble with the future of her younger generations over various ineffective and inefficient educational systems.

Adaralegbe in Adeyinka (1991) stated that the 6-3-3-4 system of education is an educational system which administers a six year primary school course followed by six years of secondary schooling, divided into three year of junior secondary and a three year senior secondary education and lastly a four -year university programme. Anieto (2011) commenting on the ineffectiveness of the 6-3-3-4 system of education stated that; there is a general worry about the poor quality of education output in Nigeria. Researchers have pointed to the declining performance of graduates from the education system relative to what obtained in the past education system.–(Ugochukwu, 2009, Duze, 2011, Aladejana, 2013).

Abati (2010) stated that it is a common knowledge that the 6—3-3-4 system of education is the major reform in Nigeria's education system and is generally regarded as fafunwa's baby. Also, the 6-3-3-4 did not produce the expected technician class because of the emergent culture of automatic promotion, and the situation that almost every family's insistence on university education.

The 9-3-4 system of education was introduced to replace the 6-3-3-4 system. The system merged the six years of primary education and the first three years of the secondary education also referred to as universal basic education (UBE). Concerning this, Uwaifor and Uddin (2009) stated that the new system has its first nine years of basic and compulsory education up to the JSS3 level, three years in the senior secondary school, and four years in the tertiary institution. They further noted that it was designed to streamline the overcrowded nature of

subjects offered at the basic education level.

Okolocha and Onyeneke (2013) also analysed the 9-3-4 system to comprise of six years of primary school, categorized into lower basics (1-3) and middle (4-6), three years of junior secondary school (JSS1-3) now called upper basic and three years of senior secondary school (SSS1-3), and lastly four years of tertiary education. The 9-3-4 system of education was established in accordance with the MDGS and the Education for All.-(Wikipedia free Encyclopaedia, 2012, Uwaifor and Uddin 2009).

The JSCE results have continually fluctuated over the years across various educational systems as observed by Clement and Emmanuel (2012). Badmus (2007) observed that these variations in the academic performance could be attributed to several factors such as availability of teaching materials, infrastructural facilities, quality teaching personnel, socio-economic status of family, political stability, etc. However, even when these conventional factors do not vary, the JSCE results in some years are terribly poor. Hence, the systems of education may also play a significant role in the academic performance of students in their JSCE. This is because the system of education is an expression of the philosophy and ideology of the administration of a country which invariably might influence budgetary allocation to education as well as the implementation of its policies.

The findings from the study will be of immense benefit to the governments and their ministries of international bodies such as the UNESCO will find this study very beneficial in making policies and advising beneficiary countries in their educational systems.

2. The purpose of the study was to compare the academic performance of students in the JSCE in 6-3-3-4 and 9-3-4 systems of education. Based on the purpose of the study, the following research questions were asked:

- ❖ To what extent do the JSCE results in Mathematics of the 6-3-3-4 system (2006 & 2008) differ from those of 9-3-4 system (2009 & 2011) in government owned schools in Port Harcourt L.G.A.
- ❖ To what extent do the JSCE results in English language of the 6-3-3-4 system (2006 & 2008) differ from those of the 9-3-4 system (2009 & 2011) in government owned schools in Port Harcourt L.G.A.
- ❖ To what extent do the JSCE results in integrated science of the 6-3-3-4 system (2006 & 2008) and the 9-3-4 system (2009 & 2011) differ in government owned schools in Port Harcourt LGA.
- ❖ To what extent do the JSCE results in Social Studies of the 6-3-3-4 system (2006 & 2008) differ from those of the 9-3-4 system (2009 & 2011) in government owned schools in Port Harcourt LGA.
- ❖ To what extent do the JSCE results in the core subjects of the 6-3-4 (2006 & 2008) differ from those of the 9-3-4 (2009 & 2008) differ from those of the 9-3-4 (2009 & 2011) systems of education?

### 3. Methodology

The design for this study was comparative/evaluative survey design. The population for this study was 17,139 which consist of all the junior secondary school students in public schools in Port Harcourt LGA that wrote their JSCE from 2006, 2008, 2009 and 2011. The source of this population size was gotten from the records of the Exams and Records Department of the Rivers State ministry of Education. A simple random sampling technique via balloting method was used to select five of the public schools in Port Harcourt City Local Government Area (PHALGA). A sample of 2,487 was constituted through cluster sampling; the intact number of students/candidates that took JSCE from 2006, 2008, 2009 and 2011 was used for the study. There were eight public junior secondary schools in Port Harcourt city local government area as at 2006 that still exists till date and each of these schools represents a natural cluster. Out of these, five were selected using simple random technique via balloting method and all the students in each of these clusters (schools) were sampled. The instrument that was used for collection of data in this data was result pro-formal that is JSCE results covering 2006, 2008, 2009 and 2011.

The validity and the reliability of the instrument was not determined by the researcher because the researcher made use of archival data, which are the JSCE results from 2006, 2008, 2009 and 2011. the Rivers State Ministry of Education is an established body that has been conducting the JSCE over the years, and also for these years issued certificate to successful JSCE candidates, which is nationwide considered valid. Hence, there was no need for the researcher to further test for validity and reliability.

All the research questions were answered with mean and standard deviation. Similarly, there are five null hypotheses which were analysed with independent t-test statistic and tested at 0.05 level of significance. Before the data was analysed, the researcher first converted all the grades to raw scores using the scale below. The raw scores were all converted to T-scores.

**Table 1: Conversion of the scores in grade to raw scores**

Grades	Score range	Mid-points
A	70-100	85
C	50-69	59.5
P	40-49	44.5
F	0-39	19.5

#### 4. Result

The results of all the research questions and null hypotheses are presented in the same table.

**Table 2: t-test analysis of the results in the core subjects 6-3-3-4 (2006 & 2008) and 9-3-4 (2009 & 2011) systems.**

Subjects	System	N	Mean	Std. Dev.	Df	t	Sig. (2-tailed)
Mathematics.	6-3-3-4	1099	50.53	9.62	2479	2.34	0.02
	9-3-4	1382	49.58	10.28			
Eng. Lang.	6-3-3-4	1103	51.13	10.18	2485	5.08	0.001
	9-3-4	1384	49.10	9.76			
Int. Science	6-3-3-4	1100	49.88	10.37	2482	-0.50	0.617
	9-3-4	1384	50.09	9.70			
Social studies	6-3-3-4	1100	50.88	9.52	2482	3.94	0.001
	9-3-4	1384	49.30	10.31			
Core subjects	6-3-3-4	4404	50.60	9.97	9934	5.30	0.001
	9-3-4	5534	49.53	10.00			

The analysis of the Mathematics results in the table 2 shows that in 6-3-3-4 system of education, 1099 candidates' scores were used with a mean of 50.53 and a standard deviation of 9.62. In the 9-3-4 system, 1382 candidates' scores were used with a mean of 49.58 and a standard deviation of 10.28. The t-value of 2.34 and 2479 degree of freedom with a probability of 0.02 is significant at 0.05 level of confidence. This shows that there is a significant difference in the Mathematics results in favour of the 6-3-3-4 system.

The analysis of the English language results in the table 2 shows that in 6-3-3-4 system of education, 1103 candidate scores were used with a mean of 51.13 and a standard deviation of 10.18. In the 9-3-4 system, 1384 candidates' scores were used with a mean of 49.10 and a standard deviation of 9.76. The t-value of 5.08 and 2485 degree of freedom with a probability of 0.001 (2 tailed) is significant at 0.05 level of confidence. This shows that there is a significant difference in the English language results in favour of the 6-3-3-4 system.

The analysis of the integrated science results in the table 2 shows that in 6-3-3-4 system of education, 1100 candidates' scores were used with a mean of 49.88 and a standard deviation of 10.37. In the 9-3-4 system, 1384 results were used with a mean of 50.09 and a standard deviation of 9.70. The t-value of -0.50 and 2482 degree of freedom with a probability of 0.617 (2-tailed) is not significant at 0.05 level of confidence.

The analysis of the social studies results in the table 2 shows that in 6-3-3-4 system of education, 1100 results were used with a mean of 50.88 and a standard deviation of 9.52. In the 9-3-4 system, 1384 candidates' scores were used with a mean of 49.30 and a standard deviation of 10.31. The t-value of 3.94 and 2482 degree of freedom with a probability of 0.001 (2-tailed) is significant at 0.05 level of confidence. This shows that there is a significant difference in the social studies results in favour of the 6-3-3-4 system.

The analysis of the results of the four core subjects combined in the table above shows that in 6-3-3-4 system of education, 4402 candidates' scores were used with a mean of 50.60 and a standard deviation of 9.97. In the 9-3-4 system, 5534 candidates' scores were used having a mean of 49.53 and a standard deviation of 10.00. The t-value of 5.30 and 9934 degree of freedom with a probability of 0.001 (2-tailed) is significant at 0.05 level of confidence. This shows that there is a significant difference in the results of the core subjects in favour of the 6-3-3-4 system.

#### 5. Discussion

The first set of the results shows that the students of the 6-3-3-4 system of education performed significantly better than the students of the 9-3-4 system of education in English language, social studies and the core subjects combined. This result is unexpected and surprising because the 9-3-4 system of education was introduced to replace the 6-3-3-4 system with the view that the 9-3-4 system of education was a better one. Also, more inputs in terms of teaching personnel and instructional facilities should have caused a significant improvement in the academic performance. These results are in agreement with that of Adeyemi (2008) who worked on the relationship between the results of the JSCE and SSCE and found a significant relationship. These results could be due to the 9-3-4 educational system being new, the introduction of teaching personnel who are inexperienced and the use of strange instructional facilities which eventually affected students' performance. However, these findings are in disagreement with that of Seyi and Clement (2012) whose works revealed no significant relationship in the students' academic performance in WAEC and NECO.

The second set of results show that there was no significant difference in the academic performance of students of the two systems of Education in Mathematics and integrated science. These results could be due to the 9-3-4 educational system being new, the introduction of teaching personnel who are inexperienced and the use of strange instructional facilities which eventually affected students' performance. These results are in

agreement with the one found by Udoukpong and Okon (2012) who discovered no significant relationship in a study aimed at comparing academic performance in JSCE and students' perception of teacher's formative evaluation practices.

## 6. Implications of the Findings

A number of implications have emerged from the results of this study. For instance the first result of the study revealed a significant difference in the mathematics performance of students in the 6-3-3-4 and 9-3-4 educational systems in favour of 6-3-3-4. This implies that more effort should be put in the 9-3-4 system of education in the teaching of Mathematics so as to achieve the desired goal. The second result of the study revealed a significant difference in the English language performance of students in the 6-3-3-4 and 9-3-4 educational systems in favour of 6-3-3-4. This implies that a lot has to be done in the 9-3-4 system and its curriculum should it be upheld in the teaching of English Language in Nigeria.

The third result of the study revealed no significant difference in the integrated science performance of students in the 6-3-3-4 and 9-3-4 educational systems. This implies that more effort should be put in the 9-3-4 system of education in the teaching of Integrated Science so as to achieve the desired goal. The fourth result of the study revealed a significant difference in the social studies performance of students in the 6-3-3-4 and 9-3-4 educational systems in favour of 6-3-3-4. This implies that the 6-3-3-4 system and its curriculum is still favourable in the teaching of Social Studies in Nigeria. The fifth result of the study revealed a significant difference in the core subjects of students in the 6-3-3-4 and 9-3-4 educational systems in favour of 6-3-3-4. This implies that the 9-3-4 system and its curriculum needs to be improved upon in the teaching of the core subjects in Nigeria.

## 7. Recommendations

Based on the findings of the study, the following recommendations were made:

1. That the 9-3-4 system of education (UBE) should be improved the upheld as the education system in Nigeria.
2. More teaching personnel and infrastructures should be gotten to improve the teaching of the core subjects in the 9-3-4 system of education.
- 3 The curriculum of the core subjects should be properly reviewed in the 9-3-4 system to enhance students performance.

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