



Comparative Analysis of Students' Academic Performance in School-Based Assessment And External Examination In Rivers State

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ABSTRACT

The study was undertaken to investigate the academic performance of students in school-based assessment and two external examinations organized by the West African Examination Council (WAEC) and the National Examination Council (NECO). Three core subjects were chosen for comparative analysis namely Mathematics, English Language, and Civic Education. Three research questions and their corresponding null hypotheses were chosen to guide the study. The study adopted the ex-post facto research design with a sample of 684 students drawn from secondary schools in Obio-Akpor Local Government Area of Rivers State. A proforma was used for data collection, while mean and standard deviation were used to answer the research questions, with repeated measure analysis of variance used to test the corresponding null hypotheses at 0.05 level of significance. Results showed that students performed better in school-based assessment in all subjects. Furthermore, the result showed that with the exception of civic education, students performed better in NECO than in WAEC in both Mathematics and English Language. Based on the result obtained, it was recommended that teachers should be given ample training on the modus operandi of constructing, administering and interpreting school-based examination that is similar to that of external examination.

Keywords: School-based Assessment, WAEC, NECO, repeated-measures, ANOVA

INTRODUCTION

Secondary education, as defined by the National Policy on Education, is comprised of Basic Education and Post-Basic Education and Career Development in Nigeria (Federal Republic of Nigeria, 2014). It is characterized by three (3) years junior secondary school known as Basic Education and three (3) years senior secondary school referred to as Post-Basic Education and Career Development. While Basic Education is the type of education a child receives immediately after primary education, Post-Basic Education is the education children receive after successful completion of Basic Education and having passed the Basic Education Certificate Examination (BACE). It is at the Post-Basic Education that children are prepared specifically to achieve the major purpose of secondary education which is to proceed to tertiary education having passed satisfactorily West African school certificate Examination (WASSCE) or National Examination Council (NECO) as the case may be. Therefore, one of the veritable tools for determining who proceeds from one level of education to the next level is an assessment and this is one of the reasons why assessment is seen as a very crucial component of secondary education in Nigeria.

Assessment in education generally is the systematic process of documenting and using empirical data on the knowledge, skill, attitudes, and beliefs to evaluate programs and improve student learning. Perry (2013) described it as an action to ascertaining the importance, significance or value of teaching and learning. Assessment data can be obtained from directly examining students' work to assess the

achievement of learning outcomes or can be based on other data from which one can make inferences about learning.

As a continuous process, assessment establishes measurable and clear students' learning outcomes, providing sufficient amount of learning opportunities to achieve these outcomes, implementing a systematic way of gathering, analyzing and interpreting evidence to determine how well students learning matches expectations and using the collected information to inform improvement on students' learning.

The term assessment is generally used to refer to all the activities teachers use to help students learn and guard their progress. According to Adekele (2010), assessment is a powerful diagnostic tool that enables learners to understand their areas of strengths and weaknesses. Odinko (2014) views assessment as the process of observing, recording and documenting what learners do and how they do it as a basis for a variety of educational decisions that affect the learner. It connotes a process of organizing measurement data into interpretable forms to aid decision making. Asuru (2017) defined assessment generally as the process of organizing measurement data and fashioning them in an interpretable manner based on which judgment could be made. In his view, assessment provides answers to such questions as: How did the students perform in this answer? How well did the students perform this year? How did the male students perform in relation to female students? How did students in private schools perform in relation to those in public schools? How did the student's perform in subject X in relation to subject Y? In realization of the importance of assessment in the school system, many countries have embraced two major levels of assessment namely school-based assessment and certificate examinations.

According to UNESCO (2020), school-based assessment is defined as students' assessments that are regularly organized and administered by each educational institution established in a country. Assessment tools are generally designed by the teachers. The results are used to provide direct feedback to students and parents, to regulate the classroom and improve the teaching-learning process. In some countries, scores to these assessment counts (weight on the final score) for the graduation or selection of students.

School-based assessment is essential in our education system as it is part of our national strategy to improve the quality of education. It is a transformation system as it scales down the emphasis on examination-orientated teaching and learning (Siti et al, 2020). Basically, school-based assessment requires teachers to monitor students' learning progress, evaluating students' performance, recording students' progress and providing feedback from time to time.

According to National Teachers Institute cited by Aduloju (2016), school-based assessment is a type of assessment that incorporates different categories of people (teacher, parents and peers) into the process of determining learning outcomes in other to support and motivate a child to become interested in learning and make regular and consistent academic progress. Students spend the best part of their young lives in school and it is through the teachers' assessment that abilities can be better understood.

Beyond the above characteristics of school-based assessment, it is also comprehensive, systematic, continuous, diagnostic and integrative as directed by the teacher. This assessment procedure originates from the classroom situation requiring active participation and involvement of students with an emphasis on learning rather than the importance of scores and grades (Aduloje 2016). School-based assessment involves the continuous assessment of students at intervals in the three domains of learning vis-à-vis cognitive, affective and psychomotor using different instruments such as test, assignment, observation, interview, questionnaire and project.

The second category of assessment is called certificate examinations. This form of assessment is carried out to award a certificate to indicate the mastery level of the examinee. It is known as external examination which is organized by experts outside an examinee's school, college or university. Certificate examination is that type of assessment organized and administered by examination bodies outside the school. Individual schools have no control over it because it is external and it produces a summative evaluation of candidates (Tarum, 2016).

In contemporary Nigeria, external examinations are conducted by indigenous examination bodies such as West African Examinations Council (WAEC) which conducts the West African Senior School Certificate Examination (WASSCE). The National Examination Council (NECO), responsible for the conduct of Senior school Certificate Examination (SSCE); the National Business and Technical Examination Board

(NABTEB) which conducts the National Technical Certificate (NTC) and National Business Certificate (NBC) examinations; the Joint Admission Matriculation Board (JAMB) which conducts the Universities Matriculation Examinations (UME) etc. The context of this study only focuses on the WASSCE which is taken at the end of the secondary school phase.

West African Senior School Certificate Examination (WASSCE)

WASSCE is a type of standardized test conducted in West Africa countries. Students who pass the examination receive a certificate confirming their graduation from secondary education. It is administered by the West African Examination Council (WAEC) and only offered to candidates residing in Anglophone West African countries. The academic school-learning qualification awarded upon successful completion of the examinations is the West African Senior School Certificate. The WASSCE tests four core subjects- English, Mathematics, Integrated Science, Social studies and three or four elective subjects.

Under the current WAEC marking and grading scheme, the letters A to F are used to indicate how good a result is. The WAEC grading system is shown thus:

Table 1: Grading Criteria and Definition of the WAEC

Grades	Definition	Interpretation	Equivalent
A1	Excellent	75%-100%	1
B2	Very good	70%-74%	2
B3	Good	65%-64%	3
C4	Credit	60%-64%	4
C5	Credit	53%-59%	5
C6	Credit	50%-54%	6
D7	Pass	45%-49%	7
E8	Pass	40%-44%	8
F9	Fail	0%-39%	9

National Examination Council (Nigeria) (NECO)

The National Examination Council (also known as NECO) is an examination body in Nigeria that conducts the Senior Secondary Certificate Examinations (SSCE) and the General Certificate in Education in June/July and November/December respectively. NECO was created 21 years ago and was the first Federal organization to offer registration to academic candidates in Nigeria only. The academic qualification awarded upon successful completion of the examination is Senior School Certificate Examination (SSCE).

In terms of grading, NECO uses the same grading format as shown above in Table 1 for the certification of students.

Distinction between School-Based Assessment and Certificate Examination

While examination bodies acknowledge the immense potential of school-based assessment in terms of validity and flexibility, at the same time they have to grow against or deal with difficulties related to reliability, quality control and quality assurance. It is important to point out that although conceptually distinct, both external and school-based assessments have their strengths and weaknesses. External assessment is reliable and is perceived as rigorous because candidates take the same assessment administered under similar conditions. School-Based assessment, if carefully planned and implemented may be stronger in terms of validity and flexibility. Grina (2012) differentiated between the two by stating that in external assessment, the awarding body is in direct control of the mark or grade awarded to each candidate through the individuals it appoints to make the assessment decisions, as against school-based assessment where the final decision is made by the teachers and the respective schools. It is therefore on this basis that several scholars in the field of educational assessment advocate the need for a combination

of both forms of assessment. Grina (2012) also confirmed that it has become a widely held opinion that a mix of external and internal assessment provides a comprehensive approach to the assessment of educational achievement.

Academic Performance

According to Arief (2019), scholars agree that students' academic achievement or performance is a 'net result' of their cognitive and non-cognitive attributes as well as the sociocultural context in which the learning process takes place. Academic performance of students is a key feature in education (Anthony, 2018). It is considered to be the centre around which the whole education system revolves. Abaidoo (2018) opined that the academic performance of students determines the success or failure of any academic institution. Similarly, some other researchers asserted that student's academic performance serve as the bedrock for knowledge acquisition and the development of future skills. Additionally, some emphasized that the topmost priority of all educators is the academic performance of students.

According to Abdullah (2016), academic performance is the knowledge gained which is assessed by marks by a teacher and/ or educational goals set by students and teachers to be achieved over a specific period of time. He added that these goals are measured by using continuous assessment or examination results.

Completion of educational benchmarks such as secondary schools diplomas and bachelor's degrees represent academic achievement. Academic achievement is commonly measured through examinations or continuous assessments but there is no general agreement on how it is best evaluated or which aspects are not important. Furthermore, there are inconclusive results over which individual factors successfully predict academic performance, elements such as test anxiety, environment motivation and emotions require consideration when developing models of school achievement. On the other hand, in public examinations/ external examinations in Nigeria, there is some call out in maintaining the quality of students' performance.

Statement of Problem

In the Nigerian educational system, school-based assessment (SBA) and external examinations have been the two modes of assessment of students' performance in secondary schools. Different researchers have revealed the strengths and weaknesses of each of these assessment modes including Odinko (2014), Asuru (2017), Grima (2012), and Anthony (2018).

It is also recommended that school-based assessment scores in any subject for a particular student should reflect his or her achievement in the external examinations. Obviously, some researchers such as Opara, Onyekuru and Njoku (2015) investigated on school-based assessment scores as predictors of students' final grades in Rivers and Delta states respectively and found out that school-based assessment scores predicted students' performances in JSSCE mathematics and integrated science respectively. Tarnum, Obinne and Achulogy (2016) also did a comparative study of students mean performance in school-based assessment and certificate examination in Benue state and reported that the students performed well in both school-based assessment and external examination reflected in WASSCE and NECO. Some other studies found out that the students' score in the school-based assessment is significantly higher than their scores in certificate examinations.

To the best of these researchers' knowledge, most of the studies in this regard were carried out in other parts of the nation and has not been done in recent times in the senior secondary schools in Rivers State. In view of this, there is a need to carry out a more critical study with more current data to have current empirical facts on the mean performance of students in School-based assessment and external examinations in our secondary schools. Consequent upon this, the researchers, therefore, deemed it necessary to carry out a comparative study of students' performance in school-based assessment and certificate examinations at the senior secondary schools in Obio-Akpor Local government Area of Rivers State, to ascertain if there is a difference in the mean performance of students in 2018/2019 school-based assessment and external examination (WAEC and NECO).

Purpose of the Study

The major aim of this study was to compare students’ performance in school-based assessment and Certificate Examinations in Obio/Akpor Local Government Area of Rivers State with the view of establishing if there are significant differences.

Research Questions

The following research questions guided the study:

- What are the mean scores of students in School-Based Assessment and Certificate Examinations in Mathematics?
- What are the mean scores of students in school-Based Assessment and certificate examinations in English Language?
- What are the mean scores of students in School-Based Assessment and certificate examinations in Civic Education?

Hypothesis

The following null hypotheses were formulated and to be tested at 0.05 level of significance.

- There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in Mathematics
- There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in English Language
- There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in Civic Education

METHODOLOGY

The study adopted an ex-post facto research design and was conducted in Obio/Akpor Local Government Area of Rivers State, Nigeria. The target population for the study comprised all the senior secondary three (SS3) students who wrote WAEC and NECO 2018/2019 academic session in public and approved private schools in Obio/Akpor Local Government Area of Rivers State. The sample for the study comprised six hundred and eighty-four students. Random sampling technique was used to sample seven (7) schools from which 684 students for the study were drawn.

The instrument used for data collection was a proforma called “Comparative Students’ Performance Instrument in School-Based Assessment and Certificate Examination” (CSPISBACE). The researchers designed the instrument and it was used to collect data on the performance scores/grades of selected candidates in the listed core subjects (General Mathematics, English Language and Civic Education) of their termly results of SS3 (2018/2019) session which constituted the SBA scores. The same instrument was used to obtain data on the same set of students on their WASSCE (WAEC) and SSCE (NECO) performances in the listed core subjects. Grades of students in WASSCE and SSCE (NECO) were translated to raw scores by taking the mid-points of the ranges of the respective grades.

The analysis of data obtained was done using both descriptive and inferential statistics. Specifically, mean and standard deviation was used to answer the research questions, while repeated measure ANOVA was used to test the associated hypotheses at 0.05 level of significance.

RESULTS

Research Question One: *What are the mean scores of students in School-Based Assessment and Certificate Examinations in Mathematics?*

Hypothesis One: There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in Mathematics.

Subject	Mean	Std Dev	N	Wilk’s Lambda	F	p-value
WAEC Maths	53.30	13.12	684	0.973	9.457	0.0005<0.05
NECO Maths	55.53	10.33	684			
SBA Maths	55.80	12.49	684			

As shown from the result in Table 1, the mean scores of students in mathematics in WAEC, NECO, and SBA were 53.30 (SD = 13.12), 55.53 (SD = 10.33), and 55.80 (SD = 12.49) respectively. When these values were subjected to repeated measure ANOVA, a Wilk’s Lambda of 0.973 was obtained with a corresponding F-value of 9.457 at 0.0005 level of significance. Since the p-value obtained was lesser than 0.05, it, therefore, indicates that there is a significant difference in the mean score of students in school-based assessment and certificate examination in Mathematics. The null hypothesis was therefore rejected.

Research Question Two: *What are the mean scores of students in school-Based Assessment and certificate examinations in English Language?*

Hypothesis Two: There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in English Language.

Subject	Mean	Std Dev	N	Wilk’s Lambda	F	p-value
WAEC Eng	58.42	9.68	684	0.978	7.502	0.0005<0.05
NECO Eng	58.22	8.18	684			
SBA Eng	60.05	8.75	684			

As shown from the result in Table 1, the mean scores of students in English Language in WAEC, NECO, and SBA were 58.42 (SD = 9.68), 58.22 (SD = 8.18), and 60.05 (SD = 8.75) respectively. When these values were subjected to repeated measure ANOVA, a Wilk’s Lambda of 0.978 was obtained with a corresponding F-value of 7.502 at 0.0005 level of significance. Since the p-value obtained was lesser than 0.05, it, therefore, indicates that there is a significant difference in the mean score of students in school-based assessment and certificate examination in English Language. The null hypothesis was therefore rejected.

Research Question Three: *What are the mean scores of students in School-Based Assessment and certificate examinations in Civic Education?*

Hypothesis Three: There is no significant difference in the mean scores of students’ school-based assessment and Certificate Examinations in Civic Education.

Subject	Mean	Std Dev	N	Wilk’s Lambda	F	p-value
WAEC Civic	70.93	18.49	684	0.391	531.393	0.0005<0.05
NECO Civic	58.69	8.70	684			
SBA Civic	73.16	10.61	684			

As shown from the result in Table 2, the mean scores of students in English Language in WAEC, NECO, and SBA were 70.93 (SD = 18.49), 58.69 (SD = 8.70), and 73.16 (SD = 10.61) respectively. When these values were subjected to repeated measure ANOVA, a Wilk’s Lambda of 0.391 was obtained with a corresponding F-value of 531.393 at 0.0005 level of significance. Since the p-value obtained was lesser than 0.05, it, therefore, indicates that there is a significant difference in the mean score of students in school-based assessment and certificate examination in Civic Studies. The null hypothesis was therefore rejected.

DISCUSSION

From the result obtained in research question one and the corresponding null hypotheses, it is shown that in Mathematics, students performed best in school-based assessment followed by their performance in NECO and lastly WAEC. Based on this result, it is evident that students had the least performance in WAEC mathematics. However, a look at the mean values showed that the students had similar mean values indicating students' performance in school-based assessment and in external examinations in Mathematics were similar. The finding of this research is similar to that obtained by Opara et al (2015) who found that school-based examination had a significant prediction on students' performance in external examination.

In research question two and the corresponding null hypothesis, it is shown students had the least performance in English Language in their NECO examination, followed by WAEC and lastly school-

based examination. Based on this result, it is obvious that school-based examination might be simpler than the others. Furthermore, this result might be attributed to the fact that because SBA is administered and scored by teachers, there is a tendency for lenient grading to creep in. The result of this study is similar to that obtained by Omole (2007) who found that students' scores in SBA were higher than their scores in external examination in English Language in the Federal Capital Territory of Nigeria.

Finally, the result showed that students scored highly in Civic education in WAEC and SBA when compared to their performance in NECO. This result was surprising and not expected because it was these researchers' believe that WAEC is a more difficult examination than NECO and SBA. However, this result might have been possible because students might have been more serious in WAEC than in the other subjects. This result is not in agreement with that obtained by Ogunkola (2013) who found out that students' performance in SBA was a significant predictor of their achievement in external examination in integrated science.

RECOMMENDATIONS

Based on the result obtained from the study, the following recommendations were made:

1. As it is often recognized in policy documents, performance in school-based assessment should be integrated into the grading and assessment framework of external extermination.
2. Students should be given ample opportunity to study past examinations of external assessment while even in school to get familiar with it
3. Teachers should be given ample training on the modus operandi of constructing, administering and interpreting school-based examination that is similar to that of external examination.

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