**A COMPARATIVE STUDY OF THE ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN WASSCE AND NECO EXAMINATIONS**

# ABSTRACT

This work made a Comparative study of Students‟ Performance in WAEC and NECO in Imo state, Nigeria (2011-2015). It comparatively ascertained the relationship in the performance of students in WAEC and NECO in mathematics, biology and physics, using 8 secondary schools in Imo state. As a descriptive research, the study population comprised 8 secondary schools in Imo State. The researcher, therefore, used WAEC and NECO grading of candidates, who scored A1-C6, D7, E8,and F9 in Senior Secondary School, which have presented candidates for West African Examinations Council in the last five years. The instrument used to collect data for the study was an inventory titled Secondary Schools Academic Performance Inventory (SSAPI). The data collected were analyzed using simple percentages with frequency distribution tables showing the extent of the degree to measure students‟ performance and mean scores to estimate the relationships between the variables of the study. 7 objectives and 7 research questions were asked and formulated to guide the study. It was found that the performance of students in NECO with particular reference to Mathematics and Sciences Subjects for the years 2011 to 2015 in Imo state was low. The study revealed that there was a significant difference between students grades in WAEC and in their NECO results. Procurement and disbursement of instructional materials, provision of adequate and modern equipment and library facilities coupled with enough co-curricular activities be assured. It was recommended that the State Ministry of Education should provide more infrastructural facilities to decongest large classrooms, provide more regular inspection to Schools.

**CHAPTER ONE**

**INTRODUCTION**

**1.1.    Background of the study**

Education is simply defined as the total process of human learning by which knowledge is acquired, faculties trained and skills developed. Secondary schools not only occupy a vantage in the educational system in Nigeria, it is also the link between the primary and the tertiary levels of education. According to Asikhai (2010), education at secondary school level is supposed to be the bedrock and the foundation towards higher knowledge in tertiary institutions. It is an investment as well as an instrument that can be used to achieve a more rapid economic, social, political, technological, scientific and cultural development in a country. It is rather unfortunate that the secondary schools today are not measuring up to the standards expected of them as envisaged in their performance in external examinations. There have been public outcries over the persistently poor performance of secondary school students in public examinations. According to Nwokocha and Amadike (2005), academic performance of students is the yardstick for testing the educational prowess of a nation. Hence, it is inevitable to maintain a high performance in internal and mostly external examinations. For some years now, reports on the pages of some national dailies and research findings have shown the abysmal performance of students of secondary schools in public examinations. Ajayi (2002), Nwokocha and Amadike (2005), WAEC (2007), The Punch newspaper (September 27, 2008), Adeyemi (2008) and Asikhia (2010) have all shown the extent of poor performance of students in external examinations. The persistent decline in students’ performance in public examinations is not only frustrating to the students and the parents, its effects are equally grievous on the society. One of the most potent yardsticks so far, if not the strongest, of measuring school performance of students is through public examinations such as Senior School Certificate Examination (S.S.C.E.) in Nigeria. These examinations are externally moderated and enjoy a lot of public confidence. The form of education children receive after primary and before tertiary stage is called secondary education. Without secondary school products, it is obvious that the basis for any future academic study cannot be laid. From the aims and objectives of the setting up of schools, one would expect that day and boarding senior secondary school students’ performance in Imo State would greatly improve. Admittedly, no educational system is problem free. However, the decay in Nigerian educational system is becoming nothing to write home about. Ogunsaju (1990) described it as calamitous. Though, brilliant students can be found even in public schools, the high percentage of failure in WASSCE tends to rubbish the good ones among them. Initially, Mathematics and English Language were recording poor results, but later this extended to other subjects including the Sciences and Arts. The schools can no longer justify the faith the government and the public have in them or the huge budgetary allocations they consume yearly. Nevertheless, students have not been doing well, and the situation is not improving. For example, in the S.S.C.E of May/June 1992, English Language recorded only 13.8% passes with Distinction and Credit grades, while 59.6% of the total 381,506 candidates failed. For Mathematics, only 9.7% passed in Distinction and Credit grades while 59.4% failed (WAEC, 1994). In the examinations taken in June 1994 by 618,119 students, 14.2% and 13.7% passed with Distinction and Credit levels in English and Mathematics respectively. The failure rates for the two subjects were 56.3% for English and 67.4% for Mathematics (WAEC, 1994). Results in other core-subjects were equally poor with students doing much worse in subjects with practical work. In WASSCE of December 1996, for example, failure rates were 64.6% for English and Biology 58%. Therefore, if education is going to continue to hold on to its old image as an instrument par excellence for achieving national development, it has to be salvaged or resuscitated. The popular practices of changing the curriculum or adding more subjects, changing the duration of schooling or voting more money are not yielding the expected results. Notably amongst the external examinations are the WASSCE examinations and the NECO examinations. The former is a West African regional examination while the latter is solely Nigerian controlled examination supervised by the federal ministry of education. According to our educational rules, possessing five credit level grades with English language and mathematics in either of the examinations inclusive automatically qualifies students to seek tertiary education in Nigeria.

This research will be carried out in Imo State which is the state capital of Imo state predominantly the Igbo tribe and people from other ethnic groups in Nigeria. The area is urban, open to lots of vices and it attracts strangers from all over the world, who settle and trade for a living due to the abundance of mass land.

**1.2.    Statement of the problem**

The phenomenon of poor external results among Nigerian secondary school students, especially those in senior secondary schools is a matter that has become a serious source of concern to successive governments and major stakeholders in the education sector in the country. Over the years, the majority of students that sat for the May/ June West African Examinations Council (WAEC) and November/ December National Examination Council (NECO) have been recording mass failure, not only in the area of overall performance of the students, but also in the core subjects like English, Mathematics, Sciences (Biology, Physics, Chemistry),Geography, Vocational and Technical Studies and History where the high spate of failures have been a dominant feature of the students‘ performance in Imo State. However, statistics reeled out by the two examination bodies, the National Examination Council and the West African Examination Council, which is the particular focus of this study, each time the results of West African Examination Council (WAEC) and National Examination Council (NECO) examinations are released, they point to the fact that students have generally been underperforming the high investment which the government, both at the federal and state levels, as well as the parents have been making in the sector, though, some still pull their weight. Consequently, the out-cry on the persistent poor and unpromising performances of students in WASSCE and NECO examinations in Imo State, Nigeria specifically, in the past six years (2007/2008, 2008/2009, 7 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014) in Senior Secondary School Certificate Examinations (SSCE) conducted by West Africa Examination Council (WAEC) made educationists and the government policy makers and the researcher wonder whether the schools are measuring up to the expectations. The measurement of performance of students in WASSCE and NECO examinations is for them to score at least a credit in the subjects under comparison.

**1.3.    Objectives of the study**

The following are the aims and objectives of engaging in this study

1.  To critically examine the performance of students in Mathematics, physics and Biology in WASSCE and NECO examinations in Imo State.

2.  To study the performance of students in WASSCE AND NECO examinations simultaneously in mathematics, physics and biology in Imo State.

3.  To know which of the examinations students perform better in when compared to the other.

4.  To know if there is a significant difference between the performance of students in mathematics in WASSCE and NECO examinations?

5.  To know if there is a significant difference between the performance of students in physics in WASSCE and NECO examinations?

6.  To know if there is a significant difference between the performance of students in Biology in WASSCE and NECO examinations?

7.  To recommend ways of improving the performances of mathematics, physics and biology in WASSCE and NECO examinations in Imo State.

**1.4 Research questions**

1.  What is the performance of students in Mathematics, physics and Biology in WASSCE examinations in Imo State?

2.  What is the performance of students in Mathematics, physics and Biology in NECO examinations in Imo State?

3.  Compare the performance of students in WASSCE AND NECO examinations simultaneously in mathematics, physics and biology in Imo State?

4.  Which of the examinations do students perform better in when compared to the other?

5.  What are the reasons for the performances in WASSCE and NECO examinations in Imo State?

6.  Is there a significant difference between the performances of students in mathematics in WASSCE and NECO examinations?

7.  Is there a significant difference between the performances of students in physics in WASSCE and NECO examinations?

8.  Is there a significant difference between the performances of students in Biology in WASSCE and NECO examinations?

**1.5   Significance of the study**

This study would be of immense benefit to secondary school administrators, principals and teachers in that it would unravel the examinations between WASSCE and NECO students perform better in. the study would also help government and educational stakeholders and especially the Imo state ministry of education in formulating policies that would enhance the performance of students in external examinations in Imo state. Finally, the study would be important to all stakeholders who are interested in knowing the performance of students in the two major examination bodies in Nigeria.

## 1.6 Scope of the Study

The research is on the comparative analysis of Students‟ Performance in West African Examination Council (WAEC) and NECO in Imo state from (2011-2015), eight Schools from Urban and Rural areas that produce Students for west African Examinations Council WAEC and NECO for at least five (5) years.

## 1.7 Organization of the study

The research work is divided into five (5) chapters. Chapter one concerns itself with the general introduction grouped under the following headings; Background of the study, Statement of the problem, Objectives of the study, Significance of the study, Research questions, Scope and limitation of the study and Organization of the study. Chapter two involves the review of various related literatures on the relevant subject under the study. Chapter three includes the various methods used for collecting the data for the research work. These methods include administration of questionnaires, interviews and review of documents. Chapter four presents discussions and representation of results and provides analysis of the data gathered for the study. Finally, the fifth chapter provides summary, conclusions and recommendations.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

# 2.1 Theoretical Framework

Performance management is a concept in the field of human resource management. "Performance management is a continuous process of identifying, measuring and developing the performance of individuals and aligning performance with the strategic goals of the organization" (Aguinis, 2009). Performance management is many times mistaken as performance appraisal but the latter is just a part of the former.

There is no single universally accepted model of performance management. Various experts have explained the concept in their own ways. Mabey has prescribed the model of performance management system in the form of 'performance management cycle". This cycle has 5 elements which suggest how performance management system should be implemented in an organization. The elements of performance management system cycle include:

1. Setting of objectives.
2. Measuring the performance,
3. Feedback of performance results.
4. Reward system based on performance outcomes
5. And amendments to objectives and activities (Mabey et al. 1999)

Organizational goals: "Performance is what the organization hires one to do, and do well" (Campbell et al., 1993, p. 40). Thus, performance is not defined by the action itself but by judgmental and evaluative processes (cf. ligen & Schneider, 1991; Motowidlo, Borman, & Schmit, 1997).Moreover, only actions which can be scaled,

i.e., measured, are considered to constitute performance (Campbell et al., 1993).

The outcome aspect refers to the consequence or result of the individual's behavior. The above described behaviorsmay result in outcomes such as numbers of engines assembled, pupils' reading proficiency, sales figures, or number of successful heart operations. In many situations, the behavioral and outcome aspects are related empirically, but they do not overlap completely. Outcome aspects of performance depend also on factors other than the individual's behavior. For example, imagine a teacher who delivers a perfect reading lesson (behavioral aspect of performance), but one or two of his pupils nevertheless do not improve their reading skills because of their intellectual deficits (outcome aspect of performance).Or imagine a sales employee in the telecommunication business who shows only mediocre performance in the direct interaction with potential clients (behavioral aspect of performance), but nevertheless achieves high sales figure for mobile phones (outcome aspect of performance) because of a general high demand for mobile phone equipment.

In practice, it might be difficult to describe the action aspect of performance without any reference to the outcome aspect. Because not any action but only actions relevant for organizational goals constitute performance, one needs criteria for evaluating the degree to which an individual's performance meets the organizational goals. It is difficult to imagine how to conceptualize such criteria without simultaneously considering the outcome aspect of performance at the same time. Thus. the emphasis on performance being an action does not really solve all the problems. Moreover, despite the general agreement that the behavioral and the outcome aspect of performance have to be differentiated, authors do not completely agree about which of these two aspects should be labelled 'performance'. In the remainder of this chapter we follow the suggestion of Campbell et al. (1993) and refer to the behavioral aspect when we speak about performance.

### 2.2 Implications of Student Performance to Educational Management

In recent years many school systems have been rendering school leadership roles to drive improvements in learning outcomes and to manage greater school autonomy and accountability. This comes at a time when increased decentralisation in many countries is being coupled with more school autonomy, more accountability for school and student results, better use of education theory and pedagogical processes, and broader responsibility for supporting schools‟ local communities, other schools and other public services. This marks a shift from Tayloristic management paradigms towards the kinds of paradigms that are more suited to managing professionals or “knowledge workers". In the former, one typically sees bureaucratic “command-and-control” systems that leave little discretion to the workers and supervisors on the factory or service-delivery level of the Organisation. In the latter, the people responsible for actually making the product or delivering the services have much more control over the way resources are used, people are deployed, the work is organised and how the work gets done.

Policy Implication of Students Management Practice (PISMP) results show that in higherperforming systems, schools have more autonomy, with incentives and the capacity to improve. In the school systems of Hong Kong-China, Japan, the Netherlands and Korea, for example, schools have more responsibility for establishing student disciplinary policies, student assessment policies, approving students for admission to the school, and choosing which textbooks are used and which courses are offered.

A stand-alone policy to grant schools greater autonomy, however, will not, in itself, result in better outcomes. Schools with more autonomy tend to perform better than schools with less autonomy when the school system, as a whole, uses such accountability arrangements as setting clear objectives of what students are expected to learn and sharing information about outcomes, and/or when principals and teachers work together to manage schools. Some countries, like Colombia (Box IV.4.3), Boland (Box IV.2.1) and Korea (Box 1.4.1) have given schools and local authorities more autonomy and have recognized that autonomy works only in the context of collaboration and accountability. Others, like Portugal (Box 111.4.1), have reshaped the organisation of schools to facilitate collaboration and economies of scale among individual schools by creating school clusters. These countries‟ approaches to autonomy suggest that it is the combination of various conditions, rather than a single policy in isolation, that is related to better outcomes.

In contrast, some features, most notably the prevalence of private schools and competition for students have no discernible relationship with student performance, at least at the system level. Socio-economically advantaged students who tend to achieve higher scores are also more likely to attend private schools and schools that compete for enrolment.

## 2.2 Conceptual Framework of the Study

Students‟ performance in school is evaluated in numerous ways for regular grading. History and development of educational evaluation from the time immemorial were primitive, thereby subjective in nature. As at then, traditional doctors and priests, astrologers e.t.c, attempt to predict future events, and little was known about theoretical and practical science of human measurement (Awotunde & Ugolunde 2004). It was as a result of an explosion in population and in the increase of complexity in life that event required assessment of current behaviour and prediction more accurate.

Awotunde & Ugolunduwa (2004) noted that in the olden days, the Ephesians, the chance, and Greeks use or tests to assess the ability of members of their societies. Even in the universities, with the advancements of time adopted the system of oral questioning. The Great universities in Europe introduced their first oral examination for doctors of philosophy degree at the University of Bologna in 1200AD (Awutunde & Ugolunduwa 2004).

With the passage of time, the weakness of oral test was widely recognized due to its own reliability, and factors such as personal interaction among examiners and examinees begin to affect the evaluation processes. This, therefore, called for written examination, especially when Horace Mann, the secretary of the Massachusetts Board of Education 1845 called for a more adequate and objective of pupils‟ achievements that are more than oral examination (Abel, 1972). The first textbook in the evaluation was published in 1903 by Edward L. Thorndike who believed strongly in the value of experiment of evaluation.

In the secondary schools in Nigeria, teachers and some British Examinations bodies conducted the internal and final examination respectively. West African Examination Council (WAEC) was established in 1952 to conduct final examinations with the help Cambridge syndicate; National Board for Educational Measurement- NBEM in 1992 now transformed to National Examination Council (NECO), Teachers „Grade II exams taken over by National Teachers Institute (NTI) in 1980.

Evaluation in research is an indispensable tool in the realization of educational aims and objectives. According to Wilson (1972), it is a systematic process of determining the extent to which learners have achieved stated instructional objectives. Evaluation research is a type of research that is directed toward making decisions about the effectiveness or desirability of a program. According to Macmillan (2000), the goal of evaluating in research is to make judgment about alternatives in decision-making situations. Brown (1982) refers to evaluation as a decision-oriented inquiry that goes on under the domain of measurement and evaluation. Research in evaluation implies discovery in the evaluation that is, bringing up new theories or developing and improving on the existing theories. Such discoveries are not meant to support or condemn a particular theory, but to improve on them for the betterment of society.

**2.2.2 Meaning of Performance**

Performance is present at various human activities in life which is used to determine and evaluate the extent of success being achieved by the particular organization or an individual.

To perform is to take a complex series of actions that integrate skills and knowledge to produce a valuable result. Performance is defined as the observable or measurable behaviour of a person, an animal in a particular situation usually experimental situation (Simpson and

Weiner. 1989). This means that performance measures the aspect of behavior that can be observed at a specific period. To determine performance, a performance test is conducted. Singer (1981) defined performance test as the type of mental test in which the subject is asked to do something rather than to say something.

Performance test is the type of test which throws light on the ability to deal with things rather than symbols (Drever, 1981). In relation to educational research academic performance of a student can be regarded as the observable and measurable behavior of a student in a particular situation. For example, the academic performance of a student in social studies includes observable and measurable behavior of a student at any point in time during a course. In social studies students' academic performance consists of his scores at any particular time obtained from a teacher- made test. Therefore, we can equate academic performance with the observed behavior or expectation of achieving a specific statement of or statement of educational intention in a research. Academic performance of students consists of scores obtained from teacher-made test, first term examination, mid-semester test. And so on.

Several studies, according to Theodore (1995) conducted in such diverse states as Maine. Florida and Washington have directly or indirectly compared academic performance of home schooled students to national norms. It was discovered that home schooled students who perform well also do well in the standardized achievement test. What this indicates is that academic performance culminates and influences academic achievement. In addition, we can talk of academic performance or academic achievement in a subject. Stevenson. Shin-Yin and James (2001) while comparing Chinese, Japanese and American children academic achievement in mathematics' measured performance in perceptual speed, coding skill, spatial abilities, vocabulary, verbal memory and general information discovered that Japanese and Chinese performed than their American counterpart. The results in these different aspects of Performance affects academic achievement in Mathematics. The reason for the low student academic achievement in Mathematics is not within the confine of this study.

In what may look like further clarification, Illinois School Report Card Kingsley Elementary School (1999) observes that when interpreting the achievement data of small schools or districts, it should be noted that performance of a small school number of students can substantially affect schools achievement data. Thus, changes from one year to the next may be due to changes in the performance of a small group of students. Eventually students' academic performance influences students' academic achievement. Glass (1994) in his study on the academic performance of New Jersey's public schoolchildren stated that data from the 1992 National Assessment of Education Progress (NAEP) were used to compare .the performance of New Jersey Public School Children with those from other participating states. The comparisons were made with the raw mean scores and after standardizing all states scores to a common (National US) demographic mixture. It was argued that for most plausible questions about performance of the public schools the standardized scores were more reliable and useful for knowing the academic achievement of students. This is an indication to support the earlier submission that academic performance is short term and can be teacher made test scores, while achievement are medium or long term and standardized achievement test scores. The most critical measure of any educational system is the assessment of its students. The aim of any research is to determine the extent to which this objective is achieved. If not, why and what can be done to achieve it? The fact that modern education has different levels of aims suggests that we must measure the extent of its success in a variety of ways (Wainer, 1994). The implication of this is that it is the level of objective that goes a long way to determine the term to use. In other words it is the time frame that determines whether it is academic performance or achievement. Wainer (1994) elucidated further that the performance of more than 645000 children in 4000 public schools derived their education achievement through their performance scores over a long period of time.

Learning outcome can be measured by academic achievement and accountability (Steve. 2000). Mission and goals of the education system usually determine learning outcome. This suggests that learning outcome transcends cognitive assessment. It includes attitude and values. In research, learning outcome dwells on academic achievement and attitude of the students For example, among the purpose of Northern Michigan University (2000) outcome assessment plan for students is to obtain quantitative and qualitative information for use in evaluating and ultimately improving the quality of teaching and learning to meet its stated goals in academic programs. Also, NMU (2000) had as its outcome the ability to write, interpret, develop positive attitude and speak clearly and effectively which will enhance their learning as undergraduate and throughout their lives after graduation.

Thus, it is becoming very clear that learning outcome is a comprehensive plan for measuring both academic performance/academic achievement and attitude. It is observed that majority of studies avoid the use of outcome. This (may be due to its generic nature or vagueness.) NCA (2000) provided ways of measuring students' learning outcomes. These are:

1. Assessing learning gains through pre-test and post- test measures;
2. Questionnaire and self-report measures.

Measurement of outcome is considered most effective means of finding out information about Students. Probably that is why Outcome Based Education (OBE) is developed in USA.

Mueller (1992) stated that OBE is developed in response to the deteriorating performance of students in public examinations. OBE, according to Mueller (1992) is easy to identify by phrases that go along with it namely, performance outcome, learning outcome, exit behavior and whole-child development, authentic assessment, learner outcome certificate of mastery, holistic education, critical thinking and lifelong learning.

Furthermore, researcher has identified factors that influence students‟ performance, some of which are: socioeconomic status, family structure, type of school, absence, gender, ethnicity, geographical location, and Housing type.

**Socio-economic status:** Socioeconomic status can be defined as a person‟s overall social position to which attainments in both the social and economic domain contribute (Ainley et al., 1995: ix). When used in studies of children‟ School achievement, it refers to the SES of the parents or family. Socio-economic status is determined by an individual‟s achievements in: education; employment and occupational status; and income and wealth. Several comprehensive reviews of the relationship between SES and educational outcomes exist (Amato, 1987; Williams et al., 1991; Mukherjee, 1995; Ainley et al., 1995). These studies and reviews make it clear that students from low SES families are more likely to exhibit the following patterns in terms of educational outcomes compared to children from high SES families:

* Have lower levels of literacy, numeracy and comprehension;
* Have lower retention rates (children from low SES families are more likely to leave school early);
* Have lower higher education participation rates (children from low SES families are less likely to attend university);
* Exhibit higher levels of problematic School behaviour (for instance truancy);
* Are less likely to study specialized mathematics and science subjects;
* Are more likely to have difficulties with their studies and display negative attitudes to school; and
* Have less successful school to labour market transitions.

## 2.3 Students’ Performance in West African Examination Council (WAEC)/ NECO in Mathematics

Over a years, mathematics as a core subject in Nigeria educational curriculum has been the impediment to the progress of many students out of all the subjects in the school curriculum. This problem of students‟ poor performance in mathematics year – in year – out has been a source of concern, traumatizing, worry and appalling to all concern i.e. stakeholders in education, such as governments, teachers, guardians, educational organizations, learners, Principals, and educationists etc. However, that failure rate of students in their final examination leads to carry out for the need of conducting a research on the analysis of student‟s performance in WAEC (2011 – 2015) in Day and Boarding Senior Secondary School Certificate of mathematics examinations in Owerri.

Mathematics has been made a compulsory subject that Students must offer in Senior Secondary School due to its status, regardless of whether such Students are in Art, Science, and Commercial class. According to National Policy on Educational (2004) there are core

Subjects in Secondary School curriculum, as well as electives which Students must offer. These are English Language, one of the Nigerian languages (i.e. Hausa, Igbo and Yoruba) mathematics, one of Physics, Chemistry or Biology, one of Literature in English, History or Geography and Agriculture or a Vocational Subject. Similarly, there is a list of subjects as electives from which Students should offer. These include Government, Commerce and Health Science.

The Students‟ future career will determine which of the electives to offer. Each Student is expected to offer Mathematics, English Language, Biology one Nigerian Language and Economics. In addition, Students are expected to register for three or four additional Subjects making a total of eight or nine Subjects respectively. To further studies in higher learning, especially in University, each Student is expected to have credit pass in five Subjects including English and Mathematics.

Credit pass in Mathematics is also required for Students offering Science and Social Science courses. This, therefore, makes Mathematics one of the essential Subjects at every level of higher learning. It is because of its usefulness cuts across all spheres of human life.

Furthermore, considering the courtesy of modern technology, Mathematics play a significant role in preparing the Students with requiring skills in training personnel‟s, computers and other modern technological devices and manipulation. Subjects like Engineering, Computer processing and Music deals with Mathematics.

It is one of the Subjects taught at both the Primary and Secondary School levels.

Scholars in the field highlighted numerous factors often occur that lead to committing anerrorin Mathematics. The conceptual structure deals with the products of mathematics such as defined concepts, undefined concepts, postulates and theorems. The syntactic structure consists of the processes used in solving problems such as induction, deduction and idealization. For any successful problem solving, the problem solver is required to have adequate understanding of the two structures. That is, the problem solver must have adequate grasp of the conceptual content as well as understand the process recommended and know when and where to apply them in problem solving. Fajemidagba (1986) affirmed that, it is inadequate understanding of concepts featuring in mathematics word expression and ability to choose the appropriate process that leads students into committing errors in mathematic Clement (1982) classified errors usually committed in problem-solving into two forms.

These are Semantics and Syntactic errors. Semantic errors are committed due to lack of understanding of the meaning of a given problem, while Syntactic errors are committed when the problem is given direct translation as it is structured or constructed for a word problem to be meaningfully and conceptually interpreted, there should be cognitive interaction with the problem. Schwab (1964) conceptualized Mathematics as a highly structured discipline and identified two structures as conceptual and syntactic. The conceptual structure has to do with the products of Mathematics such as defined concepts, in defined concepts, postulates, and theorems. The Syntactic structure consists of the processes used in solving problems such as induction, deduction and idealization. It is good to know that for any successful problem solving, the actor is required to have an adequate grasp of the conceptual content as well as understand the process recommended and know how, when, and where to apply them in problem-solving.

More so, we may learn that Mathematics is a fundamental of Science which is necessary for an understanding of another field in academia. Above Scholars stressed further that, it is glaring and so crucial that no other Subject from any other field gather such strong force among the various branches and disciplines.

Aristotle (1783) view Mathematics as „‟the Science of quantity‟‟ and this definition prevailed until the 8th century. An early conception of Mathematics in terms of logic was

Benjaminpeirce‟s (1870) „‟ is the Science that draws necessary conclusions‟‟ in the principle Mathematical, Bertrand Russel and Altred (1819) white head advance the philosophical program in logicism, and attempted to prove that all Mathematical concepts, statements, and principles can be defined and proven entirely in terms of Symbolic logic. Russell‟s (1903) Sees Mathematics as all Symbolic logic, L.E.J Brouwer (1882) Identify Mathematics with certain mental phenomena. Viewed „‟Mathematics as the mental activity which consists in carrying out constructs one after the other.‟‟ Haskell Corry (1890) sees Mathematics „simply as the Science of formal Systems‟ A formal system is a set of Symbols or Tokens, and some rules telling how the Tokens may be combined into formulas. Mathematicians seek out patterns and use them to formulate new conjectures. They resolve the truth or falsity of conjectures by Mathematical proof. When Mathematical structures are good models of real phenomena, then Mathematical reasoning can provide insight or predictions about nature, through use of abstraction and logic, Mathematics developed from counting, calculation, measurement, and systematic study of shapes and motion of the physical object. Albert Ereim (1910) Galileo Galilei (1564 – 1642] Said “The Universe cannot be read until we have learned the language and become familiar with the characters in which it is written. It is written in Mathematical Language, and the later are triangles, circles, and other geometrical figures, without which means it is humanly impossible to comprehend a single word. In the same view, Carl fried rich Gause (1777 – 1855) referred to mathematics as „‟ the queen of the sciences‟‟.

Body like West African Examination Councils (WAEC) has shown a consistently poor performance in this subject.[Mathematics].Majority of secondary School Students often dread and show a negative attitude towards Mathematics (Awofola,2000)the trends of their achievement in the Senior Secondary School Certificate Examination is also a source of worry to stakeholders. Mathematics is an important School Subject because it is associated with more academic and or more career opportunity. (Akinsola and Tella, (2003). Burton cited in Agwagah and Usman (2003) relates the importance of mathematics to the scientific, industrial, technology and social progress of social society. It is a science that study numbers, shape, objects and their properties which are needed as a basic requirement for all sciences. That Mathematics as an important Subject is unbeatable. But it is very sad to note that the performance by undergraduate students particularly the majors in the subject in recent time is not encouraging. This can be attributed to the fact that majority of Mathematics Secondary School Students have been observing to be procrastination. This is confirmed by the observation by (Ferrari and Beck, (1998) that over 70% of Students engaged in frequent procrastination, most commonly with writing term papers. Procrastination is probably one single most common time management problem (Learning common Fast Fact Series, 2004). One basic thing about procrastination are that everyone procrastinates to some extent would certainly miss. However, some reasons can be put forward is why Students rank highly among those most vulnerable to procrastination (Learning common Fast Series, 2004). The reasons according to this group are:

1. There is always a tremendous amount of work to do. Regardless of how much time the Students spent studying. It can seem impossible to get finished;
2. For most Students, only a few hours each day is spent in class and laboratories. The majority of time is unstructured, and Students are responsible for deciding what to do and when to do it.
3. In School environment, particularly in hostels, there is usually something more enjoyable to do than study. Many activities compete for a limited number of hours in a week, and studying is often pushed to the bottom of the list.

It also recognized that many Mathematics students refer to the subject as difficult. And they (Learning Common Fast Series, 2004) have already asserted that procrastination often results when a task seems difficult, unpleasant, or overpowering. It seems reasonable to realize that at this point that if the College Mathematics Students continue to procrastinate, definitely the weak manifestation of academic achievement in the subject as the matter of fact will continue. As a result, the poor Performance of Secondary School Students in 32 the Subject (Mathematics) cannot be allowed to go unattended. Hence the effort to look into the probable causes of Student‟s Performance in the Subject and this research will also try to drive into the comparative analysis of the performance of Students and boarding Students in Secondary School Certificate in Mathematics examination.

Mathematics is essential in many fields, including Natural Sciences, Engineering, Medicine, Finance and Social Sciences. Applied Mathematics has led to entirely new Mathematical disciplines, such as Statistics and Game theory. Mathematicians also engage in pure Mathematics or Mathematics for its own sake, without having any application in mind.

Knowledge of Mathematics is absolutely necessary for the study of the Physical Sciences. Computation and calculation are the bases of all Studies that deal with the matter in any form. Even the physician who has to study biological cells and bacilli need to have a knowledge of Mathematics if he means to reduce the margin of error which alone can make his diagnosis dependable.

* To the mechanic and the engineer it is a constant guide and help, and without exact knowledge of Mathematics, they cannot proceed to one step in coming to grips with any complicated problem.
* Be it the aeroplane or the atomic bomb, radio – communication or no dear power, anything that has to do with anything concerning the matter in any forms knowledge and the principle of Mathematics is a bedrock and necessary. An elementary knowledge of the simplest branch of Mathematics Arithmetic as a daily requirement

of every man and woman in the ordinary affair of life.

## 2.6 Students (Physics, Chemistry, and Biology) Performance in West African Examination Council (WAEC) and NECO

The federal government of Nigeria has taken drastic measures in the previous years to improve, burst and promote the study of Science, Technology, and Mathematics in the country. This is evidence of such effort in recruiting more Science Teachers; Supply Scientific equipment to Science Secondary Schools as well as organizing a series of Science Secondary School Teachers a workshop in Imo State, to facilitate the teaching and learning Sciences. The teaching of the three basic Science Subjects in Secondary School is in line with the National Policy of Education. The statement made in section 39.1 stipulates that „‟ a great proportion of education expenditure will be devoted to Science and Technology‟‟ (NPE revised, 1998). In view of the fact, if this policy were properly implemented, there should be enough availability of learning resources for the teaching and learning of Science Subjects in most, if not all the Secondary Schools in the country. It becomes opened and clear that the relationship between learning Materials and Student‟s Academic Achievement has been carried out.

For instance, Aderounmu, Aworanti and Kasali (2007) investigate „‟ the impact of the supply of learning resources in Science, Technology and Mathematics education on the trend of Students Performance at the National Technical Certificate. (NTC) National Business Certificate (NBC) Examination in the five Government Technical College of Oyo state from 2000 – 2005 and found that learning resources revealed a significant effect on Students Performance. Okebukola (1992) who posited inadequate facilities and close-ended laboratory investigations were responsible for students‟ performance in Physics, Chemistry, and Biology in the Seventies and Eighties. Zimyilo (2000) and Ivowi (2000) noted that lack of Science equipment and laboratories are major cause of poor performance in the Science Subjects in Secondary Schools in Nigeria. In the same vein, Okafar (2000) reported that about 5% of the post-primary Schools in Lagos State had no Laboratories and Schools with those Laboratories were ill-equipped with human and material resources. These factors immensely affected Students‟ achievement and their attitude towards Sciences Subjects.

Lawal (2006), reported that no significant correlation between adequacy of Laboratory equipment‟s and academic achievement of Students in Sciences i.e. (Physics, Chemistry and Biology) in SSCE in his Study, Titled „Availability and impact of material resources on achievement in Physics, Chemistry, and Biology in Selected Secondary Schools in Katsina metropolis.‟

Oginbanwo (2014) in Dan Azumi on her study lamented that one of the most repeatedly mentioned problems causing poor performance in these Subject since the introduction of SSCE is lack of Equipment and Materials to conduct practical. In his study on communicating physics through teaching materials in AkwaIbom State, Government Science Colleges, Onwioduokit (1998) reported that there exists a positive relationship between the provision of materials and Secondary Students‟ Performance in Chemistry, Physics and Biology. They further revealed that Students‟ Performance was taken as an index of teacher effectiveness.

## 2.10 Empirical Studies

The issues and matters raised under empirical studies view are related works done by other Scholars: Ojimba (2013) research focuses on the relationship between home background and students‟ achievement in mathematics in River state, Nigeria. The export-facto research design was adopted for the study. Furthermore, data were gathered through home background and students‟ achievement in Mathematics, (H B S A M), questionnaire. A population of 10120, senior secondary II Students was involved in the study, out of which 4510 were chosen for the sample using the Yerrow-Yemen formula. Data were analyzed using the z-test statistics, means and simple percentages. The findings revealed that there is a significant relationship between home support for mathematics, socio-economic status of parents and students‟ achievement in mathematics. Similarly, it has been discovered that peers area major source of influence on youths‟ thinking and behaviour, especially during adolescence, for example, Ma (2001) investigated the effect of the peer on the English language, and the result of survival analysis indicated a significant decline in the participation rate in the transition from grade 11-12.

Management performances focus on estimating the return on either quality or quantity of teachers while attempting to control either variables. For example, Kruger et al. (2001) Jepson et al. (2002) work with data from poly experiment producing a random assignment of students to smaller and larger class obtain unbiased estimates of the effect of class size on students‟ achievement and controlling for teacher quality.

Adeyemi T. O (2010) in his work: A Comparative Study of Students‟ Academic Performance in public Examinations in Secondary Schools in Undo and Ekiti States, Nigeria. The instrument used for data collection for the study was an inventory, while the data collected was analyzed using percentages, chi-square statistic out t-test. It was found that the performance of Student in Junior Secondary School Certificate (JSC) and Senior Secondary Certificate (SSC) Examinations was low. Base on this, it was recommended that the educational system needs to be revamped and made to be result oriented in the two States. The teaching and learning processes in all Schools in the two States should be re-examine with the aim of improving the quality of performance of Students in (JSC) and (SSC) Examinations. The study population comprises all the 281 secondary school in Ondo state Nigeria, and 171 Secondary Schools in Ekiti State, Nigeria. Out of this population, a sample of 240 Secondary Schools in Ondo State and 146 Secondary Schools in Ekiti State was taken.

The method used for selection was stratified random sampling technique, taking in to consideration the location of the School on the basic of urban and rural location. The sample accounted for 85% of the study population in each of the two States. Out of the 51, 380 Students who registered for the Junior Secondary Certificate (JSC) Examination in 2009 in Undo State, Nigeria, 20,160 Students who made five( 5) credits and above, that is, grade A, B and C in the examination were selected for the study. In the Senior Secondary School Certificate (SSSCE) Examination, 11,570 are candidates who obtained credit and above, from the above State‟s Schools. In 2009, out of 30,000 candidates who registered for the Examination 26,224 were candidates who scored credits in Senior Secondary School Certificate (SSSCE) Examination in 2009, 11, 570 are candidates who obtained 5 five credit and above. There is no significant difference found in these studies in the performance of Students in JSCE Examinations in Ekiti State Nigeria, which implies that the Students‟ performance was almost goes hand in hand. This suggests that little or no improvement has occurred in performance level of students in the two states over the years.

WAEC resealed the result of the May/June W.A.S.S.C.E 2014 in which approximately 70% failure recorded. 145, 975 out of 1,750, 976 candidates‟ result are being withheld on the grounds of Examination malpractice. These malpractices were reported during both the conduct and marking of the Examination.

The percentages of failure recorded in the past four years range from 75: 06% in 2010, 44.66% in 2011, 61.19% in 2012 and 35.74% in 2013, up to a whopping 70% in 2014,in the two states.

According to result statistics for WAEC 2014 summary, Anambra, Abia and Edo states have the largest/highest of failure percentages of 65.92%, 58.52% and 57.82% respectively. In Anambra state, a total of 12, 947 Students made five credits and above including mathematics and English language out of 34,094. In Abia state, a total of 32, 947 Students sat for the examination, candidates who made five credits and above including Mathematics and English, were 15, 347, In Bayelsa state, 37, 242 were Students sat for the examination and scored five credits and above including Mathematics and English, 18, 479 were male Students, and 18,763 were female students. (WAEC Results 2009, 2010, 2011, 2012)

However, eight, out of the 36 states in Nigeria recorded less than 10%. In their examination are stated include Sokoto, Adamawa, Zamfara, Jigawa, Gombe, Bauchi, Yobe and Kebbi. While Adamawa state recorded 8.75% for those who made 5 credits including Mathematics and English Jigaawa, Sokoto, Zamfara and Kebbi recorded 7.47%, 7.12%, 6.65% and 6.30% respectively. Gombe state recorded 5.68%, Bauchi 5.28% and Yobe

4.85%.

In Adamawa state out of the 30,235 candidates who sat for exams. 1510 male and 1,136 females students made five credits and above including English and Mathematics. Out of 17,793 candidates who sat for the national examination and made 5 credits and above including Mathematics and English, in Jigawa state, were 944 male and 386 females. In Sokoto state, 25,392 candidates sat for the examination, 1,193 male and 616 female score 5 credits and above including English and mathematics. In Zamfara, Kebbi, Gombe, Bauchi and Yobe, students who scored five credits and above including English and mathematics, Male & female were 1,954, 1,676, 1,107, and 743 respectively.

Meanwhile, the scores for Borno, Taraba, Niger, Nasarawa and Oyo states fall within 15-24% range. Within this limit are Kogi, River, Plateau and Osun States.

Scores for Kano, Ogun, Kwara, Benue and the FCT fall within 26 – 45%. States within this limit also are Ekiti, Ondo, Imo, AkwaIbom, Imo, Lagos, Delta and Ebonyi states.

Proffering reasons for this failure, the Deputy Chancellor of the Tai Solarin University of Education, Professor Joseph Olusanya said that there were many factors responsible for the decline. He said, “Students nonchalant attitude towards school is very appalling, we also have a vicious circle of teachers, which means that most of the teacher at the primary and secondary school levels are half-baked.”

He went on saying that “The level of negligence among students is on the high increase because the introduction of modern technology has taken their precious time of the study, Due to the low remuneration of teachers, they combine business with teaching, which also seriously affects the output.”

The President of American University of Nigeria, professor Mangee Ensign, reacting to the mass failure of students in final examination, says “Nigeria as a fast-growing country must invest in training of teachers, as its revealed by (N P C) National population commission report, there is a population expansion, which has led to 11 million out of – school children. The training of teachers must be done consistently, as 200,000 are needed this year and by next year, an additional 500,000 will be needed to curb the menace of mass failure among secondary school students in public examination. While some are on the opinion that this is not the time to find fault or apportion blame, in view of fact, the causes of unacceptable performance in senior secondary school examination in Nigeria can be attributed to bad or inappropriate legislation and leadership, bad parenting, overburdened curricula and the negative influence „texting‟ and chatting with students can also be blamed.

There is the issue of teachers apathy, there is also poor examination conduct, Cheating during an examination has become the norm and regrettably, with the connivance of parents and teachers. There is no doubt that the quality of education is failing drastically despite the effort being exerting by the government and the major stakeholders in the sector.

In a more cheering development, however, WAEC has not released all the result for public schools in Imo and Borno states 2014 – 2015 at the due or normal time, because the states governments were allegedly unable to pay its bills for the Students of Public Schools. It is recommended that state governments should re- allocate more fund to cater the financial demand of education in their respective states, and state ministries of Education across the country should intensify more efforts in conducting regular short visit and routine inspection The similarities in these two areas of study by Adeyemi, T.O (2010) in his work ‘A Comparative Study of Students' Academic Performance in Public Examinations in Secondary Schools in Ondo and Ekiti States, Nigeria„ and this work titled Analysis of Students„

Performance in West African Senior Certificate Examinations in Boarding and Day Secondary Schools in Owerri, Nigeria (2011-2015)„ investigated Students'

Academic Performance in Core –Subjects Examinations in Secondary Schools in Nigeria.

As a descriptive research, the former used the study population which comprised of all the 281 secondary schools in Ondo State and the 171 secondary schools in Nigeria of this population, a sample of 240 Secondary Schools Ondo State and 146 secondary schools in

Ekiti State was taken. The method of selection was by stratified random sampling technique. The instrument used to collect data for both study was an inventory while the data collected was analyzed using percentages. chi-square statistic and then t-test. The latter researcher concentrated on the analysis of students performance in West African Senior Certificate Examinations in Boarding and Day Secondary Schools in Owerri. The scope of this study was restricted to the schools within the urban and rural areas that have presented students for West African Examination Council for at least eight years in Owerri, due to the limited number of schools in the zone, The researcher covered all the Day and Boarding Senior Secondary Schools in Owerri, which consists of seven Day and one Boarding School, in the zone. Samples were randomly drawn from day and boarding secondary schools: This researcher samples restricted on Senior Secondary Schools drawn from Day and Boarding Secondary Schools. This selection is to reflect the true character of all the Day and Boarding Senior Secondary Schools in Owerri. The former used the method of selection by stratified random sampling technique taking into consideration the location of the school on the basis of urban and rural location. The sample accounted for 85% of the study population in each of the two States. The method of selection was by purposive, multi-stage and stratified random sampling techniques.

The instrument used to collect data for both study was an inventory titled the Secondary Schools Academic Performance Inventory (SSAPl). The inventory requested among other things, data on enrolment figures, sex of school, type of school, number of classes, number of teachers and grades obtained by students in English Language, Mathematics and Integrated Science in JSC examinations for the years 2005 to 2009 and in English Language,

Mathematics, Physics, Chemistry and Biology in SSC examinations for the years 2005 to 2009 in Ondo and Ekiti States, Nigeria. These subjects selected for both research are core subjects in the Nigerian secondary schools' curriculum (Federal Republic of Nigeria, 1998). The data collected were analyzed with the use of percentages, Chi -Square test and the t-test.

The latter researcher used and answered Research Questions and the analyses of data were presented using simple percentage statistical tool to obtain mean score and frequency distribution table showing the extent of degree to measure student„s performance and mean percentile score was used to estimate the relationship between the variables of the study. It was found that the performance of students in the Day Senior Secondary Schools in West African Senior Secondary Certificate

Examinations (WAEC ) with particular reference to English, Mathematics, Sciences, and Home Economics for the years 2011 to 2015 in Owerri of Imo State was low. There was no year where the performance level of Day Senior Secondary Schools in Owerri reached 50% in any subject from 2011-2015. The study revealed that the performance of student in the Junior Secondary Certificate (JSC) and the Senior Secondary Certificate (SSC) examinations was low in Ondo and Ekiti States, while in the Senior schools Owerri, Imo state and Nigeria at large, with the view to maintaining quality. Parents are urged to be part and parcel of the school system by lending a helping hand to government Intervention to Schools in a bid to monitor the performances of Students in their various examinations.

KhoudFalah ; Reason for the low Academic Achievement Among the Students Of The Main Stages In Selected Schools in the Province of Al-Balqa. The study aimed to determine the causes of poor academic achievement among the students of the main stages in selected schools in the province of Al-balqa. The study sampled consisted of (100) of teachers of the basic stage were selected by using the simple random sampling‟ where the researcher used a questionnaire consisting of (30) distributed on three axis: (student hub‟the School hub and family hub). The study seeks to answer the following questions:

1 Is the student a founder mental role in the weakness of academic achievement among the student of the main stages, as has formulated (10) Questions relating to this exis.

1. Is the school a key role in the weakness of academic achievement among the students of the main stages, (10) as has been formulated (10) questions relating to this axis.
2. Is the family a key role in the weakness of academic achievement among the students of the main stages, as it has been formulated (10) Questions relating to this axis.

For the purpose of achieving the objective of the study, researcher developed the questionnaire on reason for the poor academic achievement among the students of the main stages, as has been the introduction of the observation of a group of faculty members at the University of Balqa, as well as introduction of the observation of a group of teachers and administrators the basic stage of the governorate of Balqa, with respect to axes questionnaire, and consisted questionnaires from (30) items distributed to the axes of tree, namely,( the center of the student, the center of the school and the center of the family) are included as a measure of the Likert five –which is not strongly agree (1 degree), Garmuaq (2 disagrees), neutral(3 degrees) OK (4 degrees) strongly Agree(5 degrees) After ending e from the collection of questionnaires was discharged, and enter into a computer, where data were analyzed, using the program (SPSS)and extract the arithmetic mean, standard deviation, and percentage) to identify the most important causes of poor academic achievement of students key stages. The result indicated that the reason for poor academic achievement among the students of the main stage in selected schools in the province of Al-Balqa fall under the following themes (89.60%) was the first place, followed by the school hub

(79.00%).followed by the family) and the study recommends the need for attention of the hub of educational process and call for early treatment of the problems of slow and the difficulty of learning attention to the academic level.

For the purpose of achieving the objective of the study, researcher developed the questionnaire on reason for the poor academic achievement among the students of the main stages, as has been the introduction of the observation of a group of faculty members at the University of Balqa, as well as introduction of the observation of a group of teachers and administrators the basic stage of the governorate of Balqa, with respect to axes questionnaire, and consisted questionnaires from (30) items distributed to the axes of three, namely,( the center of the student, the center of the school and the center of the family) are included as a measure of the Likert five –which isnot strongly agree (1 degree), Garmuaqs (2 disagrees), neutral(3 degrees) OK (4 degrees) strongly

Agree(5 degrees)

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

## 3.1 Research Design

This research study was designed to determine and analyses the students‟ performance in (WAEC and NECO) senior secondary schools in Imo state within (2011 – 2015). The descriptive research was used for the study.

**3.2 Population**

The research was carried out in rural and urban areas of Owerri in Imo state. The population of this study included nine senior secondary school with 3419 registered candidates, from 2011- 2015 in Owerri Local Government in Imo State, Nigeria. The schools are public schools. There are single-sex and mixed schools. They offer both science and art subjects but the focus for this study was on sciences. The researcher used the WAEC/NECO grading of candidates who score A1, B2, B3 C4, C5, C6 D7, E8 and F9. Permissible credit passes in their core subject in Senior Secondary School Examination in WAEC and NECO exam.

## 3.3 Sample and Sampling Techniques

The sample size of this study is the total candidates‟ grades of nine Senior Secondary Schools with permissible credit passes (A1, B2, B3, C4, C5, C6, D7, E8 and F9) in mathematics, physics and biology. The population of students registered for WAEC was 2880 that of NECO was 539.

The entire sample was 3.419 students.

## 3.4 Instrumentation

The instrumentation used for data collection in this study was self-design inventory named Secondary Schools Academic performance inventory (SSAP1). The grades obtained by student in West African Examination Council (WAEC) and NECO results were used with particular reference to mathematics, Biology, Physics and Chemistry.

These Subjects are science subjects in the Nigerian Secondary School Curriculum (Federal Republic of Nigeria 1998). The raw grades (A1, B2, B3, C4, C5, C6, D7, E8 and F9) were used in the study, because researcher believes that they would have provided better and arithmetic information about the students‟ performance of Day and boarding Senior Secondary Schools in West African and NECO.

## 3.5 Procedures for Data Collection

The researcher obtained a letter of introduction from the Department of Educational Foundation and Curriculum Faculty of Education, Imo state University addressed to whom it may concern, which virtually paved way for researcher to the zonal education office Owerri, as well as selected sampled schools visited to access valuable and relevant information for the research purpose. The researcher visited the different institutions personally with the latter of introduction officially signed and minutes by the Director of the zone, implore the school principals to assist the researcher with valuable data and information required accordingly, which is Statistics or raw grade of students‟ academic performance of Senior Secondary Schools in West African Examinations Council (WAEC) and NECO in Imo state.

In this study, four methods of data collection techniques were also deployed:

Acquire accurate information about the number of senior secondary schools, from Owerri office. Gathering of WAEC and NECO result analysis sheets form (2011 – 2015) of the selected Schools. Collection of raw grades of students‟ performance from(2011 – 2015) West African Examination Council gazettes from some Senior Secondary Schools, for yearly analysis of student‟s performance in WAEC and NECO from urban and rural areas of Owerri. These are collected from examination officers for directive given by principals of the respective Schools. Compilation of the percentile statistics of zonal WAEC and NECO result (2011–2015).

## 3.7 Method of Data Analysis

All Data collected in this study were analyzed, using simple percentage statistical tools for the data analysis, which include the following: simple percentages and mean percentile, the first one is to obtain mean score and frequency distribution tables showing the extent of the degree to measure student‟s performance.

**CHAPTER FOUR**

**DATA ANALYSIS AND DISCUSSION**

## 4.1 Answering the Research Questions

This section presents the analysis of the secondary data collected in form of frequencies and percentages in order to answer the research questions. There are five research questions answered based on Mathematics, Biology and physics.

1.  What is the performance of students in Mathematics, physics and Biology in WASSCE examinations in Imo State?

2.  What is the performance of students in Mathematics, physics and Biology in NECO examinations in Imo State?

3.  Compare the performance of students in WASSCE AND NECO examinations simultaneously in mathematics, physics and biology in Imo State?

4.  Which of the examinations do students perform better in when compared to the other?

5.  What are the reasons for the performances in WASSCE and NECO examinations in Imo State?

6.  Is there a significant difference between the performances of students in mathematics in WASSCE and NECO examinations?

7.  Is there a significant difference between the performances of students in physics in WASSCE and NECO examinations?

8.  Is there a significant difference between the performances of students in Biology in WASSCE and NECO examinations?

**Table 4.1 Performance of students in WAEC and NECO in Mathematics**

|  |  |
| --- | --- |
|  | **2011-2015** |
| **Status** | **%** |
| WAEC | 84.14 |
| NECO | 15.86 |
| **Total** | **100** |

Table 4.1 presented the performance level in WAEC and NECO exams among students in Mathematics from 2011-2015. The performance of Students in NECO was 84.14% and that of NECO was 15.86%. This showed that the Students put much interest and effort in their WAEC exams than their NECO in mathematics from 2011-2015.

## Table 4.2 Performance of students in WAEC and NECO among Students in physics

|  |  |
| --- | --- |
| **Years** | **2011-2015** |
| **Status** | **%** |
| WAEC | 86.12 |
| NECO | 13.88 |
| **Total** | **100** |

Table 4.2 presented the performance level of WAEC and NECO in physics from 2011-2015. The performance of Students in WAEC was 86.12% and that of NECO was 13.88%. This showed that the Students performed better in WAEC than in NECO in physics from 2011-2015.

## Table 4.3 Performance of Students in WAEC and NECO IN Biology

|  |  |
| --- | --- |
| **Years** | **2011-2015** |
| **Status** | **%** |
| WAEC | 69.14 |
| NECO | 30.86 |
| **Total** | **100** |

Table 4.3 presented the performance level of WAEC and NECO exams in physics from 2011-2015. The performance of Students in WAEC was 69.14% and that of NECO was 30.86%. This showed that the Students performed better in WAEC than they do in NECO from 2011-2015.

## 4.4 Discussion of the Findings

The foregoing analysis had shown that the performance levels of students in WAEC were low, especially with particular reference to core science subjects such as Mathematics, Biology and physics (2011 to 2015).

This revealed that there is a significant difference in the performance of students in WAEC and NECO from 2011 to 2015 in Owerri, Imo state Nigeria. The calculated mean score showed that there was a gap between the performances of Students in WAEC and NECO from 2011 to 2015. The calculated W (WAEC) was 79.8% which was greater than the calculated N (NECO) which was 20.92%.

Thus, (Where W calculated > W calculated). Therefore, the Performance level in WAEC was greater than NECO.

An evaluation of the findings revealed that there was no year which the academic performance level IN WAEC in Imo state reached 50% in any science subject from 2011 to 2015.

This showed that the performance level of students in WAEC had been below expectation, especially in the core Subjects at the time when the yearnings and aspirations of the Federal Government are to bust and improve the education sector. This suggests that the objectives of the Secondary Education in the National Policy on Education, (FRN: 2004) which included the preparation of the students for higher education have not been fully achieved in Owerri, from 2011 to 2015. As it had been defined, Academic performance has been described as the scholastic standing of a student at a given time. This could be explained in terms of the grades obtained in a subject or group of subject.

The low level of examination in NECO in Owerri Zone found in this study agreed with the findings of other researchers (Oke, 1992; Adeyemi, 1998; Onipede, 2003). Oke (1992) for example gave other reasons for this poor performance among Day Students. He argued that adolescents experience other problems, which affect their studies.

These include having to repeat classes and the lack of adequate knowledge in particular subjects, Mathematics, and Sciences, he then reported that the problem of failure has contributed a lot to the moral decadence of adolescents.

The low-performance level found Owerri day schools from 2011 to 2015 agreed with the findings made in previous studies (Adeyemo, 2001; Adeyegbe, 2002; Adeyemi,

2007). Adeyegbe (2002) for instance, observed a decline in students „performance in NECO in other States of the country and attributed this to the inadequacy of facilities in Schools. The study showed that students did far better in WAEC compared to NECO in secondary schools in Imo state.

**CHAPTER FIVE**

**SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

## 5.1 Summary of the Study

Education is a bedrock and fundamental of success/ achievement of every nation, state or even an individual person. It is also a foundation towards higher knowledge in tertiary institutions. Unfortunately, the voices were bitterly heard over the persistent menace of poor performance of Secondary School Students in public Examinations. Therefore, this study examined the Students performance in WAEC and NECO in Imo State Nigeria (2011-2015): the Implication for Educational Management. The study ascertains the relationship in the performance of students in WAEC and NECO in Imo state. Descriptive research was used for the study; the study population comprises of eight Schools in Imo state. Meanwhile, then researcher used WAEC and NECO grading of candidates who scored A1-C6 permissible credits passes, in Senior Secondary Examination of WAEC and NECO exams that produced candidates for West

NECO and (WAEC) in the last (5) Years. The objectives of the study were addressed with 7 research questions ranging Students Academic Performance in WAEC and NECO in Mathematics, Biology and Physics.

The instrument used for data collection for the Study was a researchers‟ inventory, titled Secondary Schools Academic Performances Inventory (SSAPI).

Researcher had encountered some problems during the research, which some are among the following; the first challenge threatening me was the voice to be use on how the school principals will be convince to grant me a permit to their respective examination officers (E O) to provide a copies of their yearly Students Examination analysis copies on

West African Examination Council (WAEC) and NECO for a consecutive five years i e. from 2011- 2015, some viewed my request as illegal, even though I presented my introductory latter which entails the direction and endorsement by the zonal Director which at the end clear the air. However, financial constraints found to be a barrier when I personally embark on visit each an every School, as most of the Schools situated far away from Owerri metropolis.

## 5.3 Conclusions

Considering the findings of this study, It was concluded that:

1. The performance level of Students in WAEC in core science Subjects from 2011-2015 in Imo state was better than in NECO. This implies that, the performance of students in Neco was poor and not encouraging for these years under study 2011-2015.
2. The findings, however, revealed that many students with only NECO results might not be qualified for admission into higher institutions in the country since they were unable to obtain a required credits/grades in core subjects for their various disciplines/professions of study in tertiary institutions.
3. Similarly, the Findings showed that, there were Secondary Students that would have no option rather than to concentrate on their reading, since they agreed that it was their pertinent at that time which enable them scored their grades as indicated.
4. It is understood that parent‟s role on Secondary School Students constituted a significant factor for the differences in their academic performances, otherwise Students should have performed well in both exams.
5. Thus, the study also showed that‟ good academic performances of Students in West African Senior School Certificate Examination (WAEC ) in core Subjects from 20112015 in Imo state was correlated with their respect for WAEC certificate.

Base on the research findings, researcher finally suggest that there should be good interpersonal relationship between students and teachers to bring about better climate conditions for good outcome in Nigerian Secondary Schools, it is predictable suffice to say that the success of any formal organization like Schools, depends largely on the quality of leadership, qualified and confident teachers required, class size, availability of instructional materials and output from supervision of human resources available.

Leadership, therefore, influences the outcome to be achieved and how it is pursed within the School.

## 5.4 Recommendations

On the basis of the findings and conclusions, the study recommends that:

1. The state ministry of education should constitute an investigative committee to find out the immediate and remote cause of low performance of students in Mathematics and core science subjects in NECO in Imo state.
2. The state ministry of education should spell out measures that help in minimizing the wider gap existing in performance of students in WAEC and NECO in Imo state.
3. The ministry of education should employ more technical and vocational teachers to improve the performance of secondary school students in technical and vocational subjects in Owerri in particular and Imo state.

## REFERENCES

Abunmurah, k, (2006) *Classroom management and Organisation.* Jaffa House for publishing and distribution, Jordan, Amman: printing press.

Aderounmu.A.OAworanti O.A. and Kasali.J.A (2007).*Science, and Technology Mathematics (STM) Education for Sustainable Development. Effects of Learning Resources on Students' Performance: A Study of Five Government Technical College of Oyo*

*State, 110 Nigeria from 2000 - 2005. In Uchenna (Ed.) Proceedings of 50th Annual Conference of Science Teachers Association of Nigeria 52 - 57*

Adieza, .A (2011) *Avoiding a repeat of mass failure in subsequent* WEAC/ NECO Examinations (online) Available: at http://www.peoples-daily online.com/news /Education (retrieved on 24-02-2017.)

Ajayi, K.O. (2011) Mock Examination Results as a Predictor of Students„ Performance in

Senior Secondary School Certificate Examination Results in Ogun State, Nigeria: European Journal of Scientific Research Vol. 49 No. 3 (2011), pp. 421-425. <http://www.eurojournals.com/ejsr.htm>

Ajayi. K. O. (2011) Examination result as a predictor of Students performance in Senior Secondary School Certificates Examination Result in Ogun State, Nigeria: European Journal of Scientific Research Vol. 49 No.3 (2011) pp.421425 http:/www.euro, Journals.com/ejsr.htm.

Akhadelor, S.S. (1979) Don„t Abolish Boarding Schools, Daily Times, 27th October, p.13.

Akintade, B. O. (2011*) Considering the Determinants of Selecting Geography as Discipline*: The Case Of Senior Secondary School Students In Ilorin, Nigeria in OzeanJournal of Social Sciences 4(3), 2011 131:Ozean Journal of Social Sciences. Albert, B. Views on Boarding Schools in Nigeria. Paper presented at Speech and Prize Giving Day of G.S.S. Malumfashi 12 June 1983.

Akinyemi, S.K and Ajayi K. (EDS), *Nigeria Education; Trends and issues,* Ile Ife. University Akuezuilo, E. 0 (1997).:Awka:NuelCenti (Nig) Publisher.

Andrew, J C. (1998).Schooling and literacy overtime.Research in the Teaching of English.pp 30, 311 - 327

Ango, M. L. (1990) *Basic Science Laboratory*. Jos: Ehindero Publishers Ltd.

Anih, (2002).*Fondamental of Technical thinking in Education*, Enugu Snap Press Ltd.

Anikweze, C. M. and Maiyanga, A.A. (eds.): *Teacher Education an Imperative for National Development.* Imo: NCCE Publications.

Anikweze, C.M.( 2009*). Simplified Approach to Educational Research*. Snap Press Ltd.

Ashikhia, D. A. (2010).*Students and teachers‘ perceptions of the causes of poor academic*

Asiya, (2006).An Appraisal of the Adequacy of the Physical Resources Available for

Teaching Chemistry in Senior Secondary.InUchenna (Ed.) Proceedings of the 47th

Annual Conference of Science Teachers Association of Nigeria. P 73 - 76

Awoyemi, M. O. (1986). Teacher Characteristics and Teacher Effectiveness in Selected

Secondary Schools in KwaraState.Unpublished PhD Thesis.The University of

Ilorin.

Ayo, L. Banjo. J. Bigson (1985) Developmental English Spectrum Book limited Ibadan. African Journal of Educational Studies in Mathematics and Sciences vol. 3.2005Journal of Educational research and development. vol. 9. 2015. Ahmadu Bello University Press limited, Zaria.

Balogun, T. A. (1985). Interest in Science and Technology Education in Nigeria. Journal of

Beeby, C.E. (1986). The States of Growth in Educational Systems.In S.P Heinemann and D.S. White (Eds).Education and Economic Development Washington, D.C. The World Banks, P. 37-44. Bello, (16th march,1981) Establishment of Day Secondary Schools in Nigeria. A publiclecture given during the Press week of A.T.C Zaria. Charles, C. (1998*). Introduction to Educational Research*. San Diego: Longman. press.

Bloom, B, (*Research methodology and statistics* 1974).*Taxonamy of Educational Objectives, Handbook: Cognitive Dormain.* London: Longman Company Limited.

Bressler, M. (1991). A teacher reflects. Princeton Alumni Weekly.93 (5), p 1 -14.

Bruce, H. C. & Neville, P (1979).*Evaluation in education.* Oxford: Pengamon Press.

Busari, I. Zulqarnain.(2013). *Analysis of Objective Test Items in the Arabic Language in*

*National Examination Council’ Senior Secondary School Certificate Examination in Nigeria,* M.ED Dissertation University of Abuja Loister Ltd.

Chediel, R. W. Sekwao, N. &Kirumba, P. L. (2000).Private and Community Schools in Tanzania mainland. Paris: UNESCO IIEP.

Cirfat, A. B. &Zumyil, C. F. (2000). Resource Utilization in Biology Teaching at Secondary Coady, D. & Parker, S. (2002). Cost-Effectiveness Analysis of Demand and Supply of Education Intervention: The case of PROGRESSA in Mexico. Washington D.C: World Bank.

Coleman, O.U. American Journal of Education Vol. 91 No. 1 November 1983.

Collette, A. T. and Chiapetter E.L (1980*), Science Instruction in Middle and Secondary School*, Boston: Allyn and Bacon, Inc.

Creswell, J. W. (2003*). Research Design: Quantitative, Qualitative and Mixed Method Approaches*. London: Sage Publication Thousands Oaks.