CORRELATIONAL STUDY OF CONTINUOUS ASSESSMENT (CA) GRADES AND ACHIEVEMENT IN SECONDARY SCHOOL EXAMINATION IN ENUGU STATE

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ABSTRACT

This study focused on Correlational study of Continuous Assessment (ca) Grades and Achievement in Secondary School Examination in Enugu State. Two specific purposes with two corresponding research questions and as well as two null hypotheses were formulated to guide the study. Correlational survey research design was adopted for the study. The population of the study comprised twenty-six thousand, nine hundred and seventy nine (26,979) students of 2021 academic session who graduated in public senior secondary schools in Enugu State. The sample of study comprised three hundred and ninety-four students randomly selected. Pearson Product Moment Correlation Coefficient statistical tool was used to answer the research questions while Linear Regression was used to test the hypotheses. The findings from the data analysis showed that: there is a high positive relationship between Continuous Assessment scores and the students' achievement in English Language in NECO SSCE, there is a very high positive relationship between Continuous Assessment scores and Students achievement in Mathematics in NECO SSCE, while the hypotheses revealed that there is significant correlation between the Continuous Assessment scores and the students' achievement in English Language, Mathematics, Civil Education and Biology in NECO SSCE in Enugu State. Based on the findings, the study recommended that: Ministry of Education should organize seminars and workshop for English Language teachers at least once in a term in order to update their knowledge on the practice of continuous assessment.

Keywords: Continuous Assessment, Grades, Achievement, Secondary School, Examination and correlation

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Introduction

Education is a process of transmission of required knowledge, ideas, skills, values norms from generation to generation. During the process, efforts are made to see that an individual learner acquires values, attitudes, skills and norms that would enable him to become a useful member of the society in which he belongs. The Federal Republic of Nigeria (FRN, 2014) asserted that, education helps an individual to acquire the necessary skills that will equip him to become a useful member of the society into which he belongs (Isu, 2019). Isu (2019) affirmed that education is a vital instrument in the advancement of the individual and national goal for the betterment of the society while Obanya, (2014) saw education as a veritable tool for development is predicated on its relevance to the needs, problems and aspirations of human beings. Indeed, throughout history, societies developed and underdeveloped, complex and noncomplex have used education as a relevant instrument for effecting desirable social, economic, political and technological changes. Secondary education is one of the levels in the Nigerian system of education.

Commenting on the above, Okpalanze (2010) maintained that the position of secondary education in the Nigerian education system is very critical considering the fact that it is the bedrock on which higher education is built upon in any society. Since it is the bedrock, its quality is expected to be high. According to Federal Republic of Nigeria (2013), secondary education is the education children receive after primary education and before the tertiary stage. In the same

vein, Ogbonnaya (2014) maintained that secondary education refers to full-time education provided in secondary schools usually for students between the ages of 11 or 12 and 18 plus. In addition, secondary education should be viewed as the foundation at which professional development of a person is based upon. From the above definitions secondary education can be said to be a type of education received in a formal setting after completing primary education.

The importance of secondary education to the nation can be seen in the broad goal of secondary education articulated by the FRN (2013: 18) as "preparing the individual for useful living within the society and higher education". According to Nkwoh (2011) secondary education occupies a strategic position in the national education system and it bridged the gap between the primary and tertiary levels of education in Nigeria. He further stated that it absorbs the primary level and prepares them for the tertiary which is the manpower base of the nation. From the above view, the secondary school is an agent of socialization, an institution or a human industry established for refining human beings in terms of skills, behavior and all-round excellence. To achieve the objectives of secondary education, an efficient and effective administrator must handle the activities of the institution effectively. Secondary schools are either owned by public or private individuals, whose managers are generally regarded as the principal or heads of the institution.

Therefore, Continuous Assessment (CA) in secondary schools encompasses assessment for learning, assessment of learning and more importantly,

improvement of learning in students. In this context, evaluation can be internal or external depending on its source, that is whether the conducting agency is within or outside the organization. An internal evaluation is usually controlled by the teachers or the institution concerned while an external one is carried out by government agency and examination bodies such as WAEC, NECO, NABTEB, NTI and others. Therefore, external assessment refers to use of tests that are produced and administered by external bodies away from school. The place of assessment in teaching and learning process cannot be overemphasized. Assessment is the process of making judgments about a student's performance on a given task. Greaney (2011) asserted that assessment is any procedure or activity that is designed to collect information about the knowledge, attitude, or skills of the learner or group of learners. Assessment is therefore a process through which the quality of an individual's work or performance is judged. When carried out as an on-going process, assessment is known as Continuous Assessment(CA).

Ogunnyi,(2014) defined Continuous Assessment as a formative evaluation procedure concerned with finding out, in a systematic manner, the over-all gains that a student has made in terms of knowledge, attitude and skills after a given set of learning experience. Assessment is either internal or external. Internal assessment refers to school-based assessment, which includes class assignments, teacher-made tests, recap exercise, projects, and all those instruments that form part of the continuous assessment tools in classrooms.

Assessment is a means by which the learners' academic achievements are ascertained by the teacher. In practice as well as in concept, continuous assessment provides feedback to teachers. Such a feedback provides information which is used for purposes of improving on the students' performance or modifying the content, context and methods of teaching, and making of many other decisions.

Both internal and external assessments are combined to determine the overall students' academic performance. At that level, Continuous Assessment contributed 60 percent of the students' final grading between 1986 and 1987 when the programme started, then later,30 percent but presently, it contributes 40 percent of the total score for each student in the state. The remaining 60 percent is derived from the students' performance/achievement in Senior Secondary School Certificate Examination (SSSCE) Core curriculum as stated below.

English Language, Mathematics, Civic Education are important and compulsory subjects while Biology is important but elective subject in the secondary school curriculum (NECO, 2014). These first three subjects are recognized as core and compulsory subjects and Biology as science elective subject in Senior Secondary Education level of Federal Republic of Nigeria (NECO 2014). Moreover, the public examination bodies that conduct Senior School Certificate (SSCE) examination in these subjects are West African Examination Council (WAEC), and National Examination Council (NECO).

English language is an academic discipline taught in primary, secondary, and post-

secondary education in English-speaking countries. It is not to be confused with English taught as a foreign language, which is a distinct discipline (Chinedu, 2019). The discipline involves the study and exploration of texts created in English literature. English studies according to Chinedu, (2019) include: the study of literature (especially novels, plays, short stories, and poetry), the majority of which comes from Britain, the United States, and Ireland (although English-language from any country may be studied, and local or national literature is usually emphasized in any given country); English composition, including writing essays, short stories, and poetry; English language arts, including the study of grammar, usage, and style; and English sociolinguistics, including discourse analysis of written and spoken texts in the English language, the history

of the English language, English language learning and teaching, and the study of World English. English linguistics (syntax, morphology, phonetics, phonology, etc.) is usually treated as a distinct discipline, taught in a department of linguistics.

Mathematics is an exact body of knowledge, concerned with the study of relative sizes, volume, weights and capacities. Mathematics is one of the skills everybody needs to survive in life. It is the basis of all sciences and technology for all human progress. Mathematics is the mother of all sciences that deals with the logic of shape, quantity, measurement and arrangement (Bashir, Abubakar & Garba, 2016). It is all round us and in everything we do. Its knowledge is used and applied in virtually everything in our society. Ugwuanyi (2015) described mathematics

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as a science that deals with the meaning of numbers and their relationships to space, measurements and quantities. Gupta and Pasrija (2012) described mathematics knowledge as an indispensable tool in every society because it has application in all other human endeavours including basic science, technology, social sciences and in the arts. It is also known that mathematics encourages the habit of self-reliance and assists learners to think and solve their problems themselves (Kravitz, 2013) stated that, all mathematics topics, beyond computational skills, have one good habit or trait they inculcate to the students.

Academic achievement is defined as the outcome expected from students as related to school establishment. It is the extent to which a student, teacher or institution has achieved their educational goals.

Academic achievement refers to performance of students in various types of knowledge and skills Wentling cited in (Okoro, 2022). Academic achievement, in other words has to do with what a student is able to achieve by attending to class work in the school.

Hence, the researcher felt the need to compare the relationship between the students' performance in Senior Secondary School Examination (SSSE)NECO and their achievement in Continuous Assessment in the following core and compulsory subjects; English Language and Mathematics in Enugu State.

Statement of the Problem

The researcher of this study also believe that some students may perform better in CA due to low standard of the teacher made- test, lack of ability to moderate

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questions, leniency in marking/scoring as it is an internal test conducted and marked in the school. Also parents uphold the idea that if standard is maintained in CA, students who do well in CA will definitely perform well in SSCE. Hence parents complain of the differences in their children's performances, that CA scores do not always show/go in line with the grades of SSCE.

Therefore, the study was to find out if any significant relationship exists between students' performances in CA and their performances/ achievements in SSCE, NECO in mathematics, English language, Civic Education and Biology since both are combined for their certificate. Therefore, the researcher intends to find out the correlation of continuous assessment grade and the students'

performance in NECO SSSCE in Enugu State.

Purpose of the Study

The general purpose of this study is to investigate the relationship between Continuous Assessment Grades and students' achievement in Secondary School Examination in Enugu State, Nigeria. Specifically, the study sought to;

1. determine the relationship between Continuous Assessment scores and students' achievement in English Language in NECO/SSCE.

2. ascertain the relationship between Continuous Assessment scores of Students and students' achievement in Mathematics in NECO/SSCE in Enugu State.

Research Questions

In this study, the following questions were raised to guide the study:

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1. What is the relationship between Continuous Assessment scores and students' achievement in English Language in NECO SSCE?

2. What is the relationship between Continuous Assessment scores of Students and students' achievement in Mathematics in NECO SSCE in Enugu State?

Hypotheses

The following null hypotheses guided the study and were tested at 0.05, level of significance:

1: There is no significant correlation between the Continuous Assessment scores and the students' achievement in English Language in NECO SSCE.

2: There is no significant correlation between the continuous assessment scores of Students and their

achievement in Mathematics in NECO SSCE.

Review of Related Literature

Continuous Assessment

Continuous assessment can be seen as a simple combination of two words „continuous" and „assessment". To Airasian, (2018), continuous assessment is continuing without interruption, unbroken. Assessment as the noun form of assess means „the value or amount at which something is calculated, a judgment or opinion". Hornby (2008) defined continuous assessment as a system of giving a student a final mark/grade based on work done during a course rather than on one examination. Equally, many educationists have defined continuous assessment in different ways. Alade (2011) defined continuous assessment as a mechanism whereby the final grading of a

student in cognitive, effective and psychomotor domains of behaviour. It takes into account in a systematic and objective process the extent of a student's performance and expected changes in his or her behaviour of all information derived with a view to using them to help the student. According to Faleya (2011), continuous assessment is the periodic and systematic method of accessing and evaluating a person's attributes. Information collected from continuous assessment of students will help to better understand their strength and weaknesses in addition to providing a comprehensive picture of each student over a period of time. From these definitions, one could infer that Continuous Assessment is an assessment approach which involves a use of variety of instruments, assessing various components of learning, not only

the thinking process but including behaviour, personality traits and dexterity.

SSCE (NECO) and Continuous Assessment (CA) Scores in English Language

Students continuous assessment scores in English language might effectively relate to their performance in their SSCE examination. Labo-Popoola (2010) has all noted that students' performance in English Language at the SSCE level is very poor and correlation of their continuous assessment to their SSCE score recorded low positive relationship. The 2010 Senior School Certificate Examination conducted by the National Examination Council (NECO) results showed that only 2% of the total candidates that sat for the examination passed with five credits including English Language. Poor performance in the subject

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has led to poor performance in the overall performance of students academically. The speaking and writing abilities of some University graduates have not shown they actually passed English Language at the SSCE level. Casual observations on how this course is taught in some universities revealed that many universities offer the course as just one course in the first semester of the session for all newly admitted students. Using Fountain University, Osogbo as a case study, this study investigated the possible existence of a relationship between students' SSCE grades and their level of performance in Use of English. Labo-Popoola (2010) observed that the internal examinations conducted by various secondary schools in English Language testing in order to ascertain their performance at the SSCE

level are basically influenced with students continuous assessment.

Methodology

The study adopted correlational research design. The design according to Nworgu (2015), sought to establish the relationship that existed between two or more variables, that is, Continuous Assessment Grades and achievement in Senior Secondary School Certificate. Usually such studies indicate the direction and magnitude of the relationship between the variables and employ the correlation coefficients or regression analysis for data analysis. This design was used because the study was based on the description of the relationship between Continuous Assessment Grades and Achievement in Senior Secondary School Certificate Examination. The area of the Study is Enugu State. Enugu State has six

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Education Zones. Enugu State secondary schools are organized under the Post Primary School Management Board (PPSMB) with headquarters in the state capital, Enugu. The population of the study comprised 26,979 students who graduated in Senior Secondary School in the year 2021 in Enugu state (PPMB, 2022). Enugu State has two hundred and ninety two (292) secondary schools (PPMB, 2022). The sample for the study was 394 students that sat for NECO examination. This sample size was arrived by using Taro Yamane formular for finite population. Multi stage sampling procedure was employed by the researcher. In stage one, the schools were stratified into Education zones. In stage two, the researcher randomly drew three schools from each of the six education zones. The instrument was an official

grades of students on Continuous Assessment and Senior Secondary School Certificate Examination Results Sheets from National Examination Council Office Enugu State. The students Continuous Assessment Grades and Senior Secondary School Examination results which were directly collected from NECO office in Enugu State. The scores were not submitted for validation because the data collected were official documents having no need for validation. The instrument was not passed through pilot testing since it made use of secondary students' official results/grades in NECO. The research with the use of official letter collected data from NECO. The body released the score used for the research. The research questions were answered using Pearson Products Moment Correlation coefficient (r). The null

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hypotheses were tested at 0.05 alpha levels using Linear Regression Tool at 0.05 alpha level. This was used to determine the degree of relationship between the variables under study. In answering the research questions Pearson Product Moment Correlation was used.

Results

In this chapter, the researcher presents the data as analyzed. The results are presented in tables based on the research questions and hypotheses. The findings of the study are also summarized.

Research Question 1

What is the relationship between continuous assessment scores and students' achievement in English Language in NECO SSCE?

Table 1: Relationship between Continuous Assessment Scores and Students' Achievement in English Language in NECO SSCE

Continuous Assessment Scores		Achievement in English
CA Scores	1.0000 (394)	.726 (394)
Students' Achievement in English	.726 (394)	1.0000 (394)
	r=0.726	**r²=0.528**

The results in Table 1 show a correlation coefficient(r) of 0.726 which indicates a high positive relationship. This signifies that there is a high relationship between students

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assessment scores (CA) and students' academic achievement in English Language in NECO SSCE in public secondary schools in Enugu State. However, the coefficient of determination (r^2) is 0.528 which when converted to percentage is 53%. This value explains the variation in students academic achievement in English Language as shown in students official results in public secondary schools.

Research Question 2

What is the relationship between continuous assessment scores of Students correlate with students' achievement in Mathematics in NECO SSCE?

Table 2: Relationship Between continuous assessment scores of Students and Students' Academic students' achievement in Mathematics

	Continuous Assessment Scores	Achievement in Mathematics
CA Scores	1.0000 (394)	.899 (394)
Achievement in Mathematics.	899 (394)	1.0000 (394)
	r=0.89	**r^2=0.81**

The results in Table 2 show correlation coefficient of 0.89. This signifies that there is a very high positive relationship between students' continuous assessment scores and students' academic achievement in Mathematics in NECO SSCE in public secondary schools in Enugu State. However, the coefficient of determination (r^2) is 81%, which explains the variation in students' academic achievement in Mathematics as indicated by NECO official results.

Test of Hypotheses

HO₁: There is no significant correlation between the Continuous Assessment scores and students' achievement in English Language in NECO SSCE

Table 3: Significant correlation between Continuous Assessment Scores and Students' Achievement in English Language in NECO SSCE

Computed r (r)	r-Squared	Adjusted r-Square	Standard error	Beta	t-cal	P-Value	Dec.
.726	.528	.527	.925	.726	14.552	.0000	Sig.

From Table 3, r represents the coefficient of correlation which established on relationship between students continuous assessment score and students' academic achievement in English Language in public secondary schools in Enugu State. The coefficient of determination (r^2) for computed r value is 0.726. This value shows students continuous assessment scores as it determines students academic achievement in English Language in NECO SSCE in secondary schools. On the test of significance of the hypothesis as indicated in table 5, the calculated 't' value is 14.552 while the p-value is 0.0000. Therefore, the

hypothesis that there is no significant correlation between Continuous Assessment scores and students' achievement in English Language in NECO SSCE was rejected.

HO₂: There is no Significant Correlation between Continuous Assessment Scores of Students and their achievement in Mathematics in NECO SSCE.

Table 4: Significant Relationship between Continuous Assessment Scores and Students' Academic Achievement in Mathematics

Computed r (r)	r-Squared	Adjusted r-Square	Standard error	Beta	t-cal	P-Value	Dec.
.899	.808	.808	2.08477	.899	18.87	.0000	Sig.

From Table 4, r represents the coefficient of correlation which is established on relationship between the two variables. The coefficient of determination (r^2) for computed r value is 0.899 which is 81%. This value shows students continuous assessment scores as it determines students academic achievement in Mathematics in NECO SSCE in secondary schools. On the test of significance of the hypothesis as indicated in table 4, the calculated 't' value is 18.87 while the p-value is 0.0000. This indicates a significant result between the p-value (0.000) is less than the level of significance (0.05). Therefore the hypothesis that there is no significant correlation between the continuous assessment scores of Students and their achievement in Mathematics in NECO SSCE was rejected.

Discussion

The findings of the study show that there was a high positive relationship between students' continuous assessment scores and students' achievement in English Language in NECO SSCE in public secondary schools based on the computed r in line with the co-efficient of

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determination (r^2) implying that, students continuous assessment scores enhance students' academic achievement in English Language. Hypothesis 1 on Table 3 concluded that there was significant correlation between the continuous assessment scores and the students' achievement in English Language in NECO SSCE, since the t. test of significance of r at an alpha level of 0.05 was greater, and significance of t (probability value) was low. So, the study concluded that there is significant correlation between the Continuous Assessment scores and the students' achievement in English Language in NECO SSCE.

The above finding is in line with some works of other scholars like Idowu and Esere (2017) who observed that Continuous assessment relates to students'

class was described by the Universal Basic Education Commission as the periodic measurement of students' progress in the process of teaching the curriculum content of a given course of study which aids in improving their performance.

The finding of the study showed that there was a high positive relationship between students' Continuous Assessment Scores and students' achievement in Mathematics based on the computed r, in line with the co-efficient of determination (r^2) which ratings implied that, principals' discipline maintenance competence attributed secondary schools students' academic performance. Hypothesis 2 on table 4 concluded that there was significant correlation between the continuous assessment scores of Students' and their achievement in Mathematics in NECO SSCE, since the t. test of significance of r,

at an alpha level of 0.05 was greater than the significance of t (probability value). It indicated that there was significant correlation between the continuous assessment scores of Students and their achievement in Mathematics in NECO SSCE.

The above finding is in line with Adeshina (2011), who asserted that, continuous assessment approach has many advantages over the short method of assessment; it is capable of making assessment more meaningful and more representative of the learners' overall abilities; that CA lies in its being guidance oriented. Since it involved data gathering over a long period of time, it yielded more accurate data reaching the teachers early enough to modify instruction. This could play a vital role in diagnosing and remediating areas of

learners' weaknesses if properly anchored in what occurs in classrooms.

Conclusion

In subscription, the main focused of the study which was on the correlational study of Continuous Assessment Grades and Achievement in Secondary School Examination in Enugu State. Based on the findings, the following conclusions were made: the study shows high positive relationship between Continuous Assessment scores and students' achievement in English Language in NECO SSCE, which vehemently revealed that students' academic achievement in Mathematics and are improved through their continuous assessment scores. This is an indication that students' continuous assessment grades are totally important on their academic performance in secondary schools.

Recommendations

From the findings of the study, the following recommendations were made:

1. As regards the relationship between Continuous Assessment scores and the students' achievement in English Language in NECO SSCE in Enugu State, Ministry of Education should organize seminars and workshop for English Language teachers at least once in a term in order to update their knowledge on the practice of continuous assessment.

2. In the case of the very high positive relationship between Continuous Assessment scores and Students achievement in Mathematics in NECO SSCE in Enugu State, Government should promote continuous assessment program under federal and state levels for developing

assessment techniques and our existing educational environment should be developed at all levels.

References

Adeshina, T.J. (2011). Relationship between information technology skills of secretarial teachers in colleges of education and their ability to utilize the internet for effective lecturer. delivery. *Unpublished Dissertation* presented to the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria.

Airasian, I. (2018) *Educational administration and management*. Owerri: Tons and Tons PDS Press.

Alade, H. (2011). *A hand book of human resource management practice toward effective administration* (9th Ed). Kundli: Replica press Ltd.

Bashir, N., Abubakar, K.O., & Garba, B.K. (2016). *The importance of mathematics teaching and learning: Problems and prospects*. Oxford: Oxford University Press. Benson, O. (2014) Relationship between training and employment of technical college graduates in Oyo State between 1998 and 2001. *Unpublished Ph.D Thesis*. University of Ibadan, Ibadan.

4

Chinedu, E O. (2019). Linguistics Challenges in the Study of English Language in Senior Secondary Schools in Abakaliki Education Zone, Ebonyi State *Unpublished Dissertation Department of Arts and Social Science*, Ebonyi State University

Fajola, O. (2011). Effective teaching and learning for developing students academic performance. Ekiti: Esuma Publishers

Faleya, D. (2011). Techniques for developing students assessment and performance. Kwara: Isuderis publisher.

Fape, O. (2015). *Principles and practice of education*. Lagos: Macmillan Publishing

Federal Government of Nigeria., (2013). *National policy on education*. Lagos: NERDC Press.

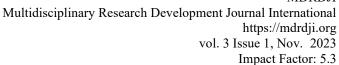Federal Republic of Nigeria (2014). *National policy on education.* Lagos: NERDC

Greaney, G. (2011). *Assessment techniques for scoring.* New Delhi: Prentice-Hall of India, private Limited

Gupta, M. & Pasrija, P. (2012). Effect of cooperative learning on high school students mathematical achievement and retention using TAI and STAD methods. *Indian Journal of Psychology and Education,* 2(1), 75-86.

Isu, K. (2019). Continuous assessment (CA) as a predictor of students academic performance in external examination in Imo State. *Journal of research and Education.*2(3),21-39

Kravitz, C. (2013). Why mathematics is important. Retrieved on 10th July 2013 from www.slidesshare.net/chelseakravitz/why-math-is-important.

Labo P. & Olubunmi, S. (2019). Correlated analysis of students' SSCE grade and performance in first year Use-of-English: A case study of Fountain University, Osogbo. *Journal of Languages and Culture*4(8),150-154

Labo-Popoola, S.O. (2010). The place of literature in the teaching of English as a second language. *Social Sciences.* 5(1):49-54.

Musek, U. (2011). *Relationship between Time Management and Academic Performance for Primary Schools*. A Case Study of Morogoro Municipality: An Unpublished Master Dissertation in Public Administration and Management of Mzumbe University, Tanzania.

Nitko, A. J. (2010). Educational assessment of students (3rd Ed.) New Jersey

Nitko, J. (2012). *Students' assessment scores and education development.* New York: Paris

5

Nkwoh, J. (2011). *Why students perform poorly in science subjects.* Enugu: Nworie Publsihers.

Nworgu, B.G. (2015). *Optimization of service delivery in the education sector: Issues and strategies.* Nsukka: University Trust Publishers.

Obanya P. (2014). Guideline for realizing Nigeria millennium education dream: *The UBE paper presented at a seminar on stakeholders in UBE.* Abuja, September 17th -20th.

Odile, G. & Ajuar, P. (2012).Pupil perso nnel administration. Enugu: mag net business enterprises.

Ogbonnaya, N. O. (2014). *Major concepts in Educational administration.* Onitsha: Outshot cape publisher

Ogunnyi, J. (2014). *Improving impact of continuous assessment.* Enugu: Nsuri Publishers

Okpalaze, N. (2010). Competencies employed by principals in managing secondary schools in Enugu state. *Unpublished M. Ed Thesis*, Department of Education: University of Nigeria Nsukka.

Post Primary Management Board (2022). Annual report on students enrolment and academics performance, Enugu: Enugu State

Ugwuanyi, C.C. (2015). Effectiveness of cooperative learning method in

mathematics Nigeria: A meta-analysis. *International Journal of Cross-Disciplinary Subjects in Education (IJCDSE),* 6(2), 2159-2164.