PERCEPTION OF UPPER BASIC STUDENTS ON CONTINUOUS ASSESSMENT AND ATTITUDE TOWARDS MATHEMATICS IN BIDA LOCAL GOVERNMENT AREA, NIGER STATE

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JULY, 2021

ABSTRACT

This study examined the Perception of Upper Basic Students'on Continuous Assessment and Attitude towards Mathematics, in Bida Local Government Area, Niger State. Cross-sectional Survey design was adopted for the study. the population of the study was 5,420 and the sample of this study consists of 265 **(**139 Male students and 126 Female**)** and multi-stage sampling technique was employed in the selection. Two instruments were adapted for the study which consists of perception on Continuous Assessment by students and students' attitude towards mathematics. The instrument was subjected to face and content validity by two experts and Cronbach Alpha coefficient was used to obtained the reliability coefficient of 0.73 and 0.75. Descriptive statistic (mean and Standard Deviation) methods were used to answer the research questions while ANOVA was used to test the three Research Hypotheses at 0.05 level of significance. Six research questions were answered using mean and standard deviation with the criterion mean set at 3.0.The findings (4.30) of the study revealed that students perceived continuous assessment as an innovative practice. The results (3.67) also showed that the students have developed positive attitude towards mathematics. Recommendations included among others that teachers should always keep adequate record of their students' academic performance for immediate and future use. There should be proper monitoring of students whenever they are given any academic activities to do.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Mathematics as a subject is very important to the daily life of every individual as it aids the development of knowledge and the required skills in problem solving situations. Mathematics was made a core subject of science curricula, yet students' performance in the subject continues to worsen as years go (Segun, 2011 andHussaini, 2013). Teaching and learning of mathematics was established in schools in order to produce competent persons who are skillful in applying mathematical knowledge in solving everyday life problem. Mathematics cannot be completely separated from sciences because of its applications to physical sciences. To succeed in science, students must use Mathematics as it is the language of science. Thus, high quality science depends on high quality Mathematics. As the importance of Mathematics to man and the society at large, seems to contribute more to the problem of poor achievement in Mathematics by using test and other evaluation instruments during the instructional process as to guide, direct and monitor students' learning and progress towards attainment of course objectives (Ajogbeje, 2012).

This important subject has suffered a lot of neglect and hatred which has resulted in poor performance and given rise to poor quality of students. Poor academic achievement in Mathematics could also be attributed to many factors such as, students negative attitude to Mathematics, inadequate motivation from teacher, inadequate supply of instructional material, lack of qualified teachers, use of teacher centered instructional strategies, nonchalant attitude to the use of available ICT resources for teaching of Mathematics

(Akinoso, 2011;Olafare*et al.*, 2016). According to Aliyu and Akinoso (2017), several research efforts have been made to solve the problem of poor performance in Mathematics. Many of such efforts followed the observations of Akinoso (2015) and some of these efforts are in the improvement of method of teaching, quality of instructional technique employed by teachers'effective use of continuous assessment and method of presentation of lessons before the students in order to improve Mathematics result. Continuous assessment is introduced to guide and assist students in making decision about their future careeralsopredict future students' performance in the final examinations and the possible success at the work place or on a particular job. It is therefore critical that CAs could utilize strategies that are able to measure the changing students' abilities and attitudes.

Attitude as a major factor affecting learning processes, may be implicit hence has not attracted enough attention from all stakeholders in education and therefore, it is important to consider the fact that learners can mainly contribute to their learning outcomes as a result of their belief and perceptions about the subject matter e.g. whether they like it or not and whether they see any value in it. Attitudes are seen as more or less positive and encompass emotions, beliefs, values and behavior and hence affect individual way of thinking, acting and behaving which has a lot of implications to teaching and learning (Mensah*et al*., 2013). They have a strong effect on behavior which helps in understanding and predicting peoples' behavior in a wide range of contexts. Attitudes though not directly observable are inferred from observable responses and behaviours which reflect a pattern of beliefs and emotions. Evident that classroom assessment is an integral component of the teaching and learning process. Effective mathematics teaching requires understanding of what students know and need to know as assessment helps the teachers to determine what kind of remediation and

enrichment activities to provide for students.As statistics indicated that there was high level of perception of continuous assessment among upper basic student in mathematics (Ajayi, 2011).

Perception is the process by which organisms interpret and organize sensation to produce meaningful experience of the world (Falade, 2013). The perception of upper basic students' of mathematics continuous assessment into teaching and learning process will go a long way in its easy assessment. Research has revealed that most students perceived mathematics as a difficult subject, which has no meaning in real life (Hussaini, 2013). This perception begins to develop at the elementary school where students find the subject (mathematics) very abstract and heavily relying on algorithm, which the students fail to understand. This trend continues up to higher school and college as they lost interest in mathematics and they cannot be able to explain some mathematics operations (Asnake,2016). The aim of every educational programme is to help learners acquire a frame work of knowledge and concepts that lead to the total development of the individual. It is only through the use of assessment procedures that one can establish the extent to which educational goals have been attained.

Assessment involves the measurement of the extent of progress made by a student in the process of learning. It is the process of collecting, synthesizing and interpreting information for the purpose of decision making. In broad terms, assessment includes all the strategies teachers employ to gather descriptive information in the classroom (Bathel and Hillary, 2013).To establish the level of students' progress, most educationist resort to the use of various form of continuous assessment strategies. The strategies includes: Structured formal test, Observation, Interview, Oral question and Projects and these are the different

approaches that are commonly used by teachers to assess the students level of understanding and comprehension.

Before the implementation of the 6-3-3-4 system of education in Nigeria, there were two types of assessments in the school system namely the internal and the external assessments. The school conducted the internal assessment to determine the progress of learning and the academic performance of the students. These assessments were conducted during and at the end of each term. Annual examinations were conducted at the end of each year, which were used for promotion and other purposes. The external examination was conducted at the national level to mark the completion of the course by the students. This was the assessment considered for certification of students at the post primary school level. Many educators tried to query external system of assessment pointing out that, it failed to give what happen to the individual students from the beginning of schooling to the time of evaluation, since examinations were conducted only at the end of the course. Fafunwa (2010) observed that the external examination had created a wrong impression of the possession of paper qualification, which is termed to be more important than the ability possessed.

The weakness of the external assessment had prompted the Federal Government of Nigeria in 1982 to introduce another method of assessment when internal and external assessments are combined for the certification and predication of the further performance of the students (Gabriel *et al.*, 2019). The method is called Continuous Assessment and it is the most revolutionary aspect of the current national policy where students' assessment at each level of education incorporates continuous assessment in the final assessment and grading of students. The National Policy on Education (FRN, 2004) states that "Educational

evaluation will be liberated by adding them in whole or part on continuous assessment of the individual". Broadly**,** Continuous assessment is a form of educational examination that evaluates students' progress through out a prescribed course. It is often used as an alternative to the final examination system. Anyor and Abah (2014) viewed continuous assessment as a learning performance related to a course module that is separated from examinations and accompanied by regular feedback.

In Mathematics, continuous assessment can take various forms depending on the final objectives which include observation of skills and attitudes, insight into a theoretical concept, (Anyor andAbah, 2014). This can take place within various types of contact moments such as practical, workshops, lessons, placements, project cases. The National Policy on Education has the characteristics of combining continuous assessments scores obtained as a result of internal assessment to determine the overall performances of each student. The combined score which is known as the weighted score is believed to give the true ability and capacity for further studies of each student. Hence, given the opportunity for correct decision making such as certification and placement of students and for the prediction of their future performance.

According to Mwebaza (2010) who viewed continuous assessment as an objective judgment considered as an important part of structured assessment purposely designed and administered to enable the teacher to evaluate some aspect of student learning at a specific time. In the light of this, assessment refers to activities undertaken by teachers, which provide information to be used as feedback to modify the teaching and learning activities (Olutola*et al.*, 2016). Continuous assessment is the appraisal technique which systematically covers all the students' performance in class tests, home assignment, projects and other school activities during a given school period such as term, semester,

year, entire duration of course. At the post-secondary school level, continuous assessment is similar to course work, as opposed to a single sessional or final examination system. Under this system, teachers are to evaluate the learners using written tests, assignments, projects and other assessment instruments during the course and at the end of the term or session.

Evaluation of how a teacher carries out his teaching should be carefully and honestly be done so that, data obtained can be used as a basis for improvement on the particular teacher's lapses such as not passing instruction well to students. Mathematics teachers also need to know that students' continuous assessment is intended to provide feedback and information on what needs to be emphasized as well as what needed to be put in place in order to identify and remedy a student's particular lapses; weakness and problems during Mathematics lessons.

But how much of these techniques do teachers practice in the classrooms, and how far do they use the assessment to assist the learners in the teaching learning process?Tefera (2014) who examined teacher's perceptions and practices of continuous assessment in Mathematics class found out that most Mathematics teachers had incomplete understanding about continuous assessment in that they concentrated on summative components of assessments.Also, Umendu (nd) whose study was on continuous assessment and impact on studentsattitude towards Mathematics. The study was carried out in Senior Secondary School in Orumba South Local Government Area of Anambra State. The difference is that the present study is to determine the perceptionsof upper basic students on continuous assessment and attitude towards mathematics in Bida Local Government Area, Niger State.

1.2 Statement of the Research Problem

Mathematics as one of the subjects in academics has been known as what majority of students dislikes as being a difficult subject (Ajogbeje, 2012). Mathematics teaching as it requires understanding of what students know and need to know lead to overall evaluation. Using continuous assessment is to assess the total learning experience of the learner in the teaching-learning setting. It focuses on the intellectual, affective and psychomotor behaviours of the students, which are based on inputs like the syllabus and school facilities, teaching personnel and the interactions; between teachersand students, students and materials, students and students, teachers and materials. It is because continuous assessment ensures a positive change in behaviour, improvement in learning, and enrichment of the entire school system that the Federal Ministry of Education decided to enforce its effective practice and continuity. This is as a result of the recurring higher rate of failure. The resultant feature has been inconsistent performance of students in A' level examinations nationwide and performance still varies from school to school. This undermines the future of many students that are in schools that persistently perform poorly. To achieve this purpose, the Federal Ministry of Education promulgated the use of continuous assessment to assess performance, which prescribed that: Educational assessment and evaluation will be liberalized by basing them in whole or in part on continuous assessment of the progress of the individual (Tefera, 2014).

However, teachers could perceivecontinuous assessment system as a problem where a teacher teaches more than the required periods in a week and has large classes;the teacher would carry a considerable amount of workload, particularly in respect of giving and marking assignments and tests regularly. Tefera (2014) opined that teachers may resort to

giving less standard forms of assessment which they can mark quickly or give only the barest minimum of tests per term also proper supervision of teachers is not undertaken, some may produce fake assessment scores in order to meet deadlines for the submission of marks, where they fail to give any test to their students also as a mechanism whereby the final grading of a student in the cognitive, affective and psychomotor domains of behaviour systematically takes account of all his performance during a given period of schooling.continuous assessment would restore normalcy and sanity to teaching/learning and evaluation in our school thus lowering the tension, fear and anxiety associated with examination. It promotes passing examination and ensures more effective realization of the nation's educational aims and objectives.

In teaching/learning situation, the learners need to be guided into areas where he/she is competent. The result obtained from continuous assessment would provide the means of diagnosing the learners' problem, so as to identify his strengths and weaknesses. It also involves the 'dos' and 'don'ts' of student's activity in school.

Therefore this study will investigate the perception of upper basic students on continuous assessment and attitude towards mathematics in Bida Local Government Area, Niger State.

1.3 Aim and Objectives of the Study

Aim of the study is to assess perception of upper basic students' continuous assessment and attitude towards mathematics in Bida Local Government area, Niger State. Specifically the objectives of the study are as follows:

1. To determine the type of Upper Basic students' perception of continuous assessment.

2. To find out the type of perception Male and Female Upper Basic students on

Mathematics continuous assessment

3. To assess Upper Basic Students' perception on various Continuous Assessment strategies being used by Mathematics Teachers

4.To investigateMale and Female Upper Basic students perception on various continuous assessment

strategies being used by Mathematics Teachers

5. To examine the Upper Basic students perceptions of continuous assessment and their attitudes towards mathematics

6. To identify the extent to which Male and Female Upper Basic students perceptions on Continuous Assessment and their attitudes towards mathematics

1.4 Research Questions

1. What type of perception do Upper Basic student possess on Continuous Assessment?

2. What perception do Male and Female Upper Basic students' possess on Mathematics

Continuous Assessment?

3. How is Upper Basic students' perception on various Continuous Assessment strategies being usedby Mathematics teachers?

4. Do Male and Female Upper Basic students' perceived various continuous assessment strategiesbeing used by mathematics teachers?

5. How do Upper Basic students' perceptions of continuous assessment affect their attitude towardsmathematics?

6. How do Male and Female Upper Basic students' perceptions of continuous assessment affect their attitude towards mathematics?

1.5 Null Research Hypotheses

The following null hypotheses were formulated for testing at 0.05 level of significance.

HO_1: There is no significant difference between perception of Male and Female Upper Basic studentson effect of continuous assessment in upper basic school in Bida Local Government Area.

HO_2: There is no significant difference between perception of Male and Female Upper Baicstudents on variouscontinuous assessment strategies being used by Mathematics teachers inupper basic school in Bida Local Government Area.

HO_3: There is no significant difference between Male and Female Upper Basic students' perception of continuous assessment as it affect their attitude towards mathematics in upper basicschool in Bida Local Government Area.

1.6Significance of the Study

The significance of this study will be of benefit to the, curriculum planners, policy makers, students and the teachers.

Curriculum Planners: To curriculum planners this research will help to determine the number of Continuous Assessment to be inserted when designing the curriculum as it would help in bringing about meaningful evaluation after teaching and learning process. It will also give direction and confidence to the teacher and students whose activity is to put the curriculum into use and to ensure the attainment of specific objectives of learning mathematics.

Policy Maker: the findings will help policy makers to decide on the effectiveness of the Continuous Assessment process as it is hoped that the result of this study will make an enormous Contribution to the existing literature in the area of Continuous Assessment.

Teachers: it will provide empirical data that would show the number of Continuous Assessment that could be administered in a term to give optimum performance by students. It will also provide teachers with skills and techniques in schools to diagnose the learning difficulties of an individual students or an entire class to provide information that will be useful in subsequent teaching. The teacher would also be better positioned to provide parents with a very reliable feedback of the students' performance in school. The Continuous Assessment that correlates more is the most reliable and will predict the final performance of the students and when passed to parents it gives more reliable feedback.

To students: the study will help the students to pay more attention in the classroom when mathematics concepts are taught. It will also help the students to concentrate more on those identified mathematics concepts during their private study session.

1.7Scope of the Study

This study focused on the Perception of upper basic school Mathematics students' on continuous assessment and attitude towards mathematics in Bida Local Government Area, Niger State. The study was restricted toJunior Secondary Students (JSS 2) in Bida Local Government Area, Niger State. Junior Secondary two and three students for 2019/2020 academic session were used for the study. The choice of the category of the students is informed by the fact that they have experienced different assessment technics from their Mathematics teachers. The time scope last for a period of Six weeks.

1.8 Basic Assumptions

The basic assumptions of the study are as follows:

1. That assessment is an integral part of the teaching process.

2. That assessment procedure which takes into account the learner's performance throughout the entire period of schooling is likely to be more valid and more indicative of the learner's overall ability than a single examination.

3. That continuous assessment procedure facilitates appropriate guidance of the learner both in learning and preparation for a career. That the system provides involvement opportunities for teachers to continuously assess instructional methods to improve performance.

1.9 Operational Definition of Terms

Assessment:-Is the process of collecting, synthesizing and interpreting information to aid class room decisions making.

Continuous Assessment (CA):- An assessment approach which should depict the full range of sources and methods about learners, information that is used to help teachers understand their learners, plan and monitor instruction and establish available class room culture

Continuous Assessment Practice: The overall efforts made in the implementation of continuous assessment.

Class size: Refers to the number of students assigned to and enrolled in a specific class

Feedback: Information returned to students on their progress in their course/subject.

Attitudes: Attitude as a positive or negative emotional disposition towards mathematics

Perception: Perception is the process of attaining awareness or understanding of sensory information.

Upper Basic Students: Refers to junior secondary school students of class JSS 1, JSS 2 and JSS 3

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Importance of Mathematics

Mathematical ability is crucial for the economic success of societies (Lipnevich*et al.,*2011). It is also important in the scientific and technological development of countries (Enu*et al.,* 2015). This is because mathematics skills are essential in understanding other disciplines including engineering, sciences, social sciences and even the arts (Patena andDinglasan, 2013; Phonapichat, *et al.,* 2014). Abe and Gbenro (2014) point out that mathematics plays a multidimensional role in science and technology of which its application outspread to all areas of science, technology as well as business enterprises. Due to the importance that mathematics engulfs, the subject became key in school curriculum. According to Ngussa and Mbuti (2017), the mathematics curriculum is intended to provide students with knowledge and skills that are essential in the changing technological world.

2.1.2 Meaning of Continuous Assessment and Nature of Continuous Assessment

Continuous assessment is a classroom strategy implemented by teachers to ascertain the knowledge, understanding, and skills attained by pupils (Udeh, 2014). Teachers administer assessments in a variety of ways over time to allow them to observe multiple tasks and to collect information about what pupils know, understand, and can do. These assessments are curriculum-based tasks previously taught in class.

The Federal Government Handbook on Continuous Assessment (1985) defined the C.A. as:

A mechanism whereby the final grading of a student in the cognitive, affective and psychomotor domains of behaviour systematically takes account of all his performances

during a given period of schooling. Such an assessment involves the use of a great variety of modes of evaluation for the purpose of guiding and improving the learning and performance of the student. The cognitive domain includes knowledge, comprehension, application, analysis, synthesis, and evaluation. The affective domain also includes attitudes, feelings, emotions, interest, punctuality, attendance in class, honesty and so on. It also has some hierarchical sub levels. While the psychomotor domain deals with motor-skills such as reflex movements, basic fundamental movement, physical abilities among others.

The concept of continuous assessment, Gabriel*et al.*(2019) said it is a method of evaluating the progress and achievement of students in educational institutions. Which aim at getting the truest possible picture of each student's ability at the same time helping each student to develop his or her abilities to the fullest. It is a method whereby the final grading of students takes account in a systematic way of their whole performance during a given period of schooling. You can notice that the emphasis here, as in other descriptions is on grading. It indicates that the individual pupil would be seen and assessed in totality. It also implies that the three 'H's – Head, Heart and Hand – relating to cognitive, affective and psychomotor domains respectively, should be taken care of in the continuous assessment strategy by looking at the pupil as a whole person.

Tefera (2014) stated that continuous assessment is a system of assessment which is carried out at predetermined intervals, usually coinciding with some identifiable units of instruction or levels of educational system, for the purpose of monitoring the progress or otherwise of students and the general performance of the education system. If you look at this definition very well, you will notice that it goes beyond the assessment of the students and incorporates assessment of some aspects of the educational system. It also includes the

monitoring of students' learning with a view to improving their performances and helping them in the areas of deficiencies as a way of ensuring success at related to formative evaluation where by formative tests are developed and administered to the pupils after a unit of lessons, and remediation given in areas of identified difficulties before the next unit is taken up. Justin and Joachim (2014) defined continuous assessment as a mechanism whereby the final grading of student is cognitive, effective and psychomotor domains of behaviour takes into account in a systematic and objective process the extent of a students' performance in all the expected changes in his or her behaviour of all information derived with a view of using them to help the student.

Gabriel *et al*.(2019)explained that continues assessment should involve a formal assessment of learners' affective characteristics and motivation in which they will need to demonstrate their commitment to task over time their work force readiness and their competence in team or group performance contexts. Furthermore, continues assessment is a way of collecting information about learners and on regular basis in order to improve the teaching learning process (Gabriel *et al*., 2019).

2.1.3 Origin of continuous assessment

The present National Policy on Education (FRN, 2014) observed that the existing practice (in most institutions of learning) of basing the assessment of students‟ work on final examination as the only assessment is no longer tenable. The policy further pointed out that the first school leaving certificate examination will ultimately be abolished and primary school certificate will be issued by the Head-teacher of individual schools and would be based on continuous overall guidance-oriented assessment of pupils and not on the results of a single final examination.

The introduction of continuous assessment in the National Policy on Education dated back to 1969 curriculum development conference in a paper presented by National Education Research Council (NERC) National Policy on Education (FRN, 1981). The National Policy on Education has advocated for the following in all institutions of learning with particular reference to 6-3-3-4 or 9-3-4 system of education:

Primary education = C.A.

Junior secondary education = C.A. + Final Examination

Senior secondary education = C.A. + Final Examination

Tertiary education = C.A. + Final Examination.

The continuous assessment in all institutions takes, 40% or 30% of the total mark (depending on the educational level) except for primary education where continuous assessment constitute a total of hundred marks.

2.1.4 Characteristics of continuous assessment

According to Broohart (2011) continuous assessment has the following characteristics:

1. *Systematic:* Continuous assessment is said to be systematic in the sense that it requires an operational plan which indicates what measurement are to be made about the learners‟ performance, at what time intervals or times during the school year, the measurements are to be made and the results recorded and the nature of the tools or instruments to be used in the measurement.

2. *Comprehensive:* Continuous assessment is comprehensive because many types of instruments are used in determining the performance. Continuous assessment may come in the form of test, projects, assignments, observations, questionnaires and interviews.

3. *Cumulative:* Cumulative nature of continuous assessment means any decision to be made at any point in time on the learner takes into account of all previous decisions about the child. This requires the keeping of up-to-date or cumulative records of each learner.

4. *Guidance-Oriented:* Continuous assessment is guidance-oriented because information is used to guide the child‟s placement, career prospects, vocational training and further development.

2.1.5 Uses of continuous assessment

Udeh (2014) commented that, "the aim of continuous assessment in the new educational system in Nigeria is that of an all integrative education of the child". In his view, this could include the child's ability, achievement, attitude, character, emotions, interests, vocational skills and that an overdue emphasis on one area to the neglect of others is not the aim but a negation of the aim of the policy.

The assessment of students is always done with an aim in mind. The results so obtained are used for the purpose they are collected. Udeh (2014) identified the issue of continuous assessment as applied to education. These uses are summarized below:

1. To appraise the achievements of individual students.

2. To diagnose the learning difficulties of an individual student or an entire class to provide information, helpful in subsequent teaching.

3. To appraise the educational effectiveness of a curriculum instructional materials and Procedures as well as organization and administrative arrangement.

4. To access the educational progress of large population in order to provide the public with dependable information to help in the understanding of educational problems and needs and to develop sound policy regarding education.

On the other hand, the major objectives for the implementation of continuous assessment into Nigerian schools are for the liberalization of educational assessment and evaluation. The Federal Ministry of Education, Science and Technology specified advantages of implementing continuous assessment in schools as:

1. Giving the teacher an involvement in the overall assessment of the student.
2. Providing a more valid assessment of students‟ overall ability and performance.
3. Enabling teachers to be more flexible and innovative in their instruction.
4. Providing a basis for more effective guidance of the learner.
5. Providing a basis for the teacher to improve on his/her instructional method.
6. Reducing examination malpractice in schools Udeh (2014).

These advantages give Continuous Assessment the opportunity of assessing teaching – learning process and finding the extent to which instructional objectives have been attained as a result of the instruction. It gives the opportunity of finding the true ability of students at each level of education. This is true since the continuous assessment scores are combined with the end of the course assessment or final result of the student at each level of education.

Most importantly, the result obtained by using continuous assessment system in the evaluation of students, are used for various administrative decisions such as promotion, grading, certification, prediction of future performance and placement of students.

2.1.6 Nature of continuous assessment

Continuous assessment by its nature is systematic, comprehensive and cumulative and guidance oriented activity and that its effective implementation needs to fulfill these Peculiar features (Udeh, 2014) In terms of comprehensiveness, continues assessment

practice requires the use of varied approaches and assessment tools stated otherwise, teachers by using continues assessment can address behavioral domains which could not be assessed by terminal based assessment.In view of this International Centre for Dispute Resolution (ICDR, 2004) has listed the following areas which continuous assessment can address assessment achievements in various subjects using real examination and different written tests. Assign schools related behavioral aspects, extracurricular activities and fulfillment of assessments discipline and punctuality. Assessing general behavioral aspects like characteristics, interest, beliefs and attitudes.

Comprehensiveness is not only in terms of the behavioral domains measured but also in terms of the assessment, other than tests or examinations must include varied assessment tools such as projects, presentation, interviews,observation,oral questions, home-work, Quiz and similar other kinds.

Projects:a planned piece of work involving careful study of a subject or presentation of a model being constructed guiding the course of study.

Presentation:the teacher used presentation during teaching and learning process as to show new evidence or way which could arouse student interest in topic taught.

Interviews:the teacher used interview as question in oral form to find out students opinion on the subject/topic taught as an evaluation.

Observation:is the act of watching the students carefully for a period of time during teaching and learning process

Oral:a test of verbal rather than written that express students understanding of the subject matter

Questions: students were expected to give response from one word or several lines to over a page and include forms such as complete the sentence, supply the missing line.

Home-work:are unsupervised pieces of work that often combine formative and summative home-work task.

Quiz:it like oral form of response that required high level thinking in giving respond to questions.

Therefore, comprehensiveness in assessment is meant for addressing multiple learning styles, variety in semester and weekly projects and variety in the thinking skills and inquires.Hence pupils' marks could then be a profile of many areas of competence rather than concentrating on a single behavioral domain (Udeh,2014).The cumulative nature of continues assessment is related with decision making.This means in order to make dependable and reasonably accurate decisions,teachers must depend on variety of evidences collected using instruments at different times. In support of this Patrick(2015) prescribed teachers to collect enough evidences to get representative sample of what their pupils have learned and can do. The justification is that a complete picture of pupils' performance could be known only when teachers put together enough pieces of evidence. Assessment is not an end by itself but means to an end.The guidance nature of continues assessment is driven from this general principle of measurement and evaluation.

Continuous assessment mainly focuses on monitoring and guiding pupils' progress throughout the content of the subject material taught.Continuous assessment plays a significant role in making our learners to be what we want them to be. Concerning this, Gabriel *et al*., (2019) underlined that continuous assessment contributes largely to the full development of the learners' potential if handled properly. In other words, Continuous assessment affirms higher order and critical thinking because it enables teachers to assess the cognitive, affective and behavioral outcomes of learners. Regarding this William (2010) asserted that continuous assessment can promote students learning by building their

confidence and their understanding if it is effectively planned and monitored. Continuous assessment is important as it provides regular information about teaching, learning and the achievement of learning objectives and competencies. It allows the teacher to assess performance-based activities in a classroom environment that are difficult to assess in examinations. Similarly, Udeh (2014) outlined the educational advantage of Continuous Assessment as follows:

i. The Continuous Assessment involves data gathering over a longer period of time enabling teachers to get more accurate data that is important to modify instruction. This in turn, is helpful in diagnosing and remediating areas of learners‟ weaknesses.
ii. Continuous assessment encourages regular, systematic study and discourages last minute cramming. Thus, it rewards students who have been actively engaged throughout the course.
iii. Continuous assessment generally provides a more natural assessment environment type of assessment that is better fitted to the situations in which students will find themselves working in later life.

2.1.7 Purpose of assessment, importance of feedback and comments

2.1.7.1 Purpose of assessment

The purpose of continuous assessment cannot be over emphasized. It serves to see whether the teaching learning carried out in schools achieve its objective or not. According to Namibia Ministry of Basic Education and Culture, Teachers Manual on formative Assessment in science (Class 10), the following purpose of assessment was suggested.

To ascertain what learning, change and progress takes place in the child over a period of time in different subjects of study and other aspects of the Child's personality, to find out

the needs and learning style of every learner and to devise teaching- learning plan that is suitable to the individual needs and learning style. Further, it helps to improve the teaching-learning materials by adding value and help every learner find out their interest, aptitudes, strengths and weaknesses so that the learner can evolve effective learning strategies, to measure the extent to which curricular objectives have been realized and to enhance the effectiveness of the teaching-learning process. Gabriel *et al*. (2019) stated the following purpose of assessment as it were suggested in improving instructional materials, regarding how effective teaching procedures, activities, the text book, and other materials are in teaching, improving students learning.

First, of all, they should know that the goal is towards the effectiveness of mathematics teaching as it requires understanding of what students know and need to know as assessment helps the teachers to determine what kind of remediation and enrichment activities to provide for students.

On the other hand, William (2010) has identified reasons for using Continuous Assessment as: To improve teaching, to lead the overall evaluation, to find out what students know and can do, to promote learning for understanding, to let parents know how their children are progressing, to gain confidence in what we say our students know and to provide all children with opportunities to show what they know, to let students know how well they are in the learning, to determine what kind of remediation and enrichment activities to provide, and to identify which students need help. In general the purpose of continuous assessment circles around improving teaching-learning activity, addressing students' interest in the course of learning and creates an opportunity for both teachers and students to work for the same purpose-improving students‟ learning. So, in order to make assessment activity

fruitful, prior to the implementation teachers are expected to suit their assessment activity to serve the above listed purpose.

2.1.8 Rationale for continuous assessment in secondary schools

Teachers' implementation of continuous assessment as part of their instruction may help students achieve quality education, develop innovativeness and a sense of competence, and get opportunities for independent as well as life-long learning. Let us look at them in details.

1. Assessment as a very important part of teaching and learning process:

As a teacher, you should be involved in the final assessment of the pupils you have taught. The continuous assessment provides you with this important function which is integral to the teaching-learning process. This is a radical departure from the old assessment system whereby the final assessment is done through a single one-slot examination set by an external examination body or agency like the Ministry of Education. This method does not give the teacher the opportunity of participating in the final assessment of the pupils he/she has taught.

2. It gives a true picture of the pupil's ability: The final grade which a pupil makes at the end of his primary education takes into account all his performances throughout the period of schooling. This gives the true picture of the total ability of the pupil.

3. It facilitates appropriate guidance of the pupils: Continuous Assessment provides procedures that bring about necessary guidance to the pupils in both their learning Endeavour and in their preparations for careers. It also provides guidance in Psychological areas to the pupils and their parents.

4. It makes teachers become innovative and creative: The Continuous Assessment situation makes teachers become innovative, creative and exploratory in their approach to

teaching. This is because teachers continuously assess the pupils, therefore they device various ways of making the assessment interesting and valuable. Again, they assess pupils‟ performance on innovations, interesting and valuable topics introduced in their teaching. This forms part of the final grade of the pupils at the end of the primary school.

5. It helps teachers to assess their own teaching:

From time to time, teachers use the continuous assessment to assess their own teaching strategies. This will help them to improve on their performance

6. It helps to reduce examination malpractices:

If after several years of work, one slot examination which is seen as very crucial is used to decide the fate of the future of the pupils, the temptation to pass by any means, fair or foul will be very high. This temptation is reduced since the final grade of the pupils includes all their performances during the entire period of schooling.

2.1.8.1 Tools and techniques for assessing cognitive and non-cognitive behaviors

A variety of instruments and techniques are required by the class room teachers to assess cognitive and non-cognitive (affective and psychomotor) behaviors of the students.

Tools for Assessment

According to Patrick (2015) there are several kinds of assessment which facilitates effective teacher-learning process. These assessments form part of the continuous assessment process that could be used in the schools to determine students‟ understanding, knowledge, and performance levels and success in the educational sector. The author stressed that examinations and Assignments are the two most commonly used approaches for assessment in education, particularly higher education; adding that negotiated and computer-based assessment are emerging approaches that are gaining popularity among some disciplines. The following are some types of assessment (William, 2010):

Examinations

It is a common misconception that examinations are a type of assessment rather than an approach. An examination defines the conditions under which students' abilities will be tested. They usually restrict the time and place where the assessment task will be performed. Any of the methods of assessment below can be taken under examination conditions.

Assignments

Assignments are unsupervised pieces of work that often combine formative and summative assessment tasks. They form a major component of continuous assessment in which more than one assessment item is completed within the semester? Any of the methods of Assessment below can be set as assignments although restrictions in format, such as word limits and due dates, are often put on the assessment task to increase their practicality.

Negotiated

Negotiated assessment involves agreements between staff and students on issues associated with learning and assessment. The most common negotiation method is to develop a written learning contract that outlines the conditions of assessment for example project assessment were the student agreed to construct an object/model for presentation.

Short-answer Questions

A large proportion of assessment items make use of short answer questions of some form (in assignments, quizzes, examinations, laboratory tests). These questions vary in expected student response from one word or several lines to over a page, and include forms such as complete the sentence; supply the missing line, problems and exercises in Science-based subjects, short descriptive or qualitative answers, essay plans, diagrams with explanation. According to Gabriel *et al*. (2019) a Self-assessment is valuable for learning and measurement for example, when they try to learn the criteria for high quality performance, and they experience a willingness to apply those criteria.

2.1.9 Students' attitude toward mathematics

Attitudes are psychological orientations developed as a result of one's experiences which influences a person's view of situations, objects people and how to respond to them either positively or negatively or favourably or unfavourably (Mensah*et al.,* 2013).Students' attitude towards mathematics is given various definitions in the literature. For example, Kibrislioglu (2015) defined attitude towards mathematics as liking or disliking of the subject; a tendency to engage in or avoid mathematical activities; a belief that one is good or bad at mathematics; and a belief that mathematics is useful or useless. Tahar*et al.*(2010) gave a simpler definition by defining attitude as a positive or negative emotional disposition towards mathematics. From this, when defining attitudes towards mathematics, both aspects of beliefs and emotions should be considered. We adopt the definition by Tahar*et al*.(2010) because it looks better at students in both the cognitive and social perspectives.

Several studies have demonstrated that attitudes towards mathematics are directly and significantly associated with students' performance. For instance, Mensah and Kurancie

(2013) conducted a study in Ghana and found a significant positive correlation between students' attitude and performance. In a more recent study, Ngussa and Mbuti (2017) conducted a study in Arusha, Tanzania, involving secondary school students. They established a moderate relationship between students' attitude and performance when teachers use humour as a teaching strategy. They concluded that the enhancement of students' positive attitude can boost students' performance in mathematics. However, Joseph (2013) in his study of community secondary school students in Kagera, Tanzania found that the majority of students (55%) had a general negative attitude towards mathematics, with a positive and significant correlation between attitude and performance ($r = 0.33$).

2.1.10 Students' perceptions on mathematics

Perception according to Etuk*et al.* (2013) is one's view about the outcome of an experience. They further defined perception as an individual's view or stance on using a particular idea or strategy that will enhance or improve his or her performance. This implies that perception has a positive relationship with behavioral intention. Considering students opinions and beliefs regarding mathematics; how much they value and like it and what they forecast for their own future education, reflect the strongest predictor variables affecting student achievement. Students with higher self- concepts *i*.e. those who thought that doing well in mathematics was not so difficult and who valued the importance of Mathematics were more likely than their peers with low self- concepts to attain a higher Mathematics achievement. It is therefore important to know what students think concerning the subject as this is likely to influence their performance (Alphine, 2011).

Studies on the relationship between mathematics achievement and some learner related variables including self- efficacy, beliefs regarding knowledge and attitudes towards

mathematics, showed that the student's beliefs regarding their academic performance capabilities in mathematics were the strongest predictor of achievement in mathematics. The better the students (Alphine, 2011), evaluated themselves in doing Mathematics, the higher their academic performance. The conceptions, attitudes, and expectations of students regarding Mathematics and Mathematics teaching have been considered to be very significant factors underlying their school experiences and achievements. The general conceptions determine the way students approach mathematics tasks, in many cases leading them into non-productive paths. "Students have been found to hold a strong procedural and rule-oriented view of mathematics and to assume that mathematical questions should be quickly solvable in just a few steps, the goal just being to get "right answers" and within the shortest time possible. For them, the role of the student is to receive mathematical knowledge and to be able to demonstrate so; the role of the teacher is to transmit this knowledge and to ascertain that students acquired it. Such conceptions may prevent the students of understanding that there are alternative strategies and approaches to many mathematical problems, different ways of defining concepts, and even different constructions due to different starting points." (Mensah*et al.,* 2013).

Writing on the perception of students on the effect of continuous assessment on mathematics achievement, Umendu (n.d) suggested the assessment in which a teacher and his students are actively involved in meaningful activities. Therefore, introduction of continuous assessment in the school system has a number of advantages. It will provide a more reliable assessment of student's abilities than the single examination. With continuous assessment, students are involved in more intensive classroom exercises also stated that continuous assessment would restore normalcy and sanity to teaching/learning and evaluation in our school thus lowering the tension, fear and anxiety associated with

examination. It promotes passing examination and ensures more effective realization of the nation's educational aims and objectives.

In teaching/learning situation, perception of upper basic students on continuous assessment and attitude towards mathematics need to be guided into areas where the student is competent. The result obtained from continuous assessment would provide the means of diagnosing the learners' problem, so as to identify his strengths and weaknesses. It also involves the 'dos' and 'don'ts' of student's activity in school.

2.2 Theoretical Framework for the Study

Instructional theories have been seen as the conglomeration of small, incremental steps sequenced to link information in a logical order (Tennyson, 2010). Instructional theories entail active learner participation in responding to instructional stimuli with immediate feedback as a positive reinforcement. Philips *et al*. (2012) related that the characteristics of a theory are that, it is derived from empirical evidence or from other theories; that it can provide a generalized explanation of a phenomenon to the accuracy of the evidence, sometimes based on a model, framework or analogy and it can predict the behavior of another instance of the phenomenon. In regards to this study, Piaget's theory of cognitive Development, Brunner's cognitive theory of learning and Kolb's Experiential Learning theory are reviewed. Entail active learner participation in responding to instructional stimuli with immediate feedback as a positive reinforcement.

2.2.1 Piaget's theory of cognitive development.

Piaget was a Biologist who originally studied mollusks but moved into the study of the development of children understanding, through observing them and talking and listening to them while they worked on exercises he set (Joubish andKhurram, 2011). Piagets' theory basically stated that children must continually reconstruct their own understanding through

active reflection on objects and events till they eventually achieve an adult perspective (Gillani, 2013). To Piaget, intelligence is represented by how an organism interacts with its environment through mental organization or structures (Schema) that an individual uses to represent the world, driven by a biological impulse to obtain balance (equilibrium) between those mental structures and the environment (Lutz andHuitt, 2004).

Generally, Piagets' work consist of two principal parts; first his theory of adaptation and the process of using cognitive schemes; second, his theory of cognitive developmental stages. The first aspect deals with the concept of schema, assimilation, accommodation and equilibrium. The second aspect posited four major stages of cognitive development that occurs over a lifetime, namely: Sensorimotor, pre-operational, concrete operational and formal operational.

Piagets' schemas are building blocks of intellectual development that adapt to the environmental patterns as learners encounter new learning experiences (Anderson and Pearson, 1984). This adaptation occurs through assimilation and accommodation and is predicated on the belief that building of knowledge is a continuous activity of self-construction (Lutz andHuitt, 2004). Assimilation itself is the cognitive process which integrates new patterns, data or processes into their existing schemata (Gillani, 2013). As a person interacts with the environment, knowledge is invented and manipulated into cognitive structures. According to Piaget (2001) the change that occurs in the mental structure of a schema is called accommodation. When discrepancies between the environment and mental structures occur, either the perception of the environment can be changed to allow for new information or new cognitive structures themselves can change as a result of the interaction through accommodation. Series of related assimilation and

accommodations result in equilibrium, a balance between mental schemas and the requirements of the environment (Lutz andHuitt, 2004).

The combination of maturation and actions to achieve equilibration advances an individual into a higher development stage. Basically, a stage is a period in a child's development in which he or she is capable of understanding some things but not others (Joubish andKhurram, 2011). According to Piaget, the sensorimotor stage (birth to 2 years old) begins with the reflex actions of infants and proceeds through the development of basic concepts such as time, space and casualty. The sensorimotor stage ends with the beginning of symbolic thought in the child. The pre-operational stage (2 to 7 years) is characterized by the development of symbolic thinking and language. The concrete operational stage (7 years to adolescence) is marked by a significant increase in the child's ability to analyze and classify patterns according to the attributes of events and objects (Gillani, 2013). At this stage, children attain the cognitive ability of reversal and generalization. The formal operational (adolescence to adult) is marked by the ability to handle abstraction. Individuals at this stage can control variables systematically, test hypotheses and make inferences.

One focal fact that emerges from an in-depth study of Piagets' work is the provision of frame of reference by which educators and educational technologists can analyze the behaviour of a learner and design instructional environments within which students can control their own knowledge (Gillani, 2013). Piagets' theory of cognitive development as a philosophical and theoretical foundation provides answers to the questions of "why" and "how" specific pedagogy, including the administration of continuous assessment should be employed. The cognitive constructivist world view dictates that the search for knowledge is the search for how the world really works and the value of knowledge is determined by its

correspondence with the real world (Prawat andFloden, 1994). Utilization of continuous assessment is an indication to make students construct true cognitive structures.

Piagets' theory is important in assessing readiness for learning in school. According to Piaget, children cannot learn certain concepts until they are at a particular stage of development. He argued that teachers should understand that each individual child's cognitive development does not occur quickly and little, if any progress may be assessed on weekly or even monthly basis. To assess the progress, the teachers should be guided by such questions as: How little or how much of the curriculum does a learner know at the beginning of school year? What changes occur in the behaviour of the learner during and at the end of the school year? What are the individual learner's interest, aptitudes and achievement – at the beginning, during and at the end of the instructional programme? And how effective are instructional methods for each individual learner? Piaget emphasizes social interaction. Children must be involved in the learning process and assessed individually based on each learner's ability.

The use of continuous assessment involves using criteria to judge the adequacy of a problem solution. For example, the learner can follow a predetermined rubric to judge the correctness of his solution to a problem. Assessment leads to formulating hypotheses about future events, assuming ones problem solving is correct thus far. Piagets' cognitive constructivism provides that criteria for judgment (Gardner, 2005). The piaget theory of cognitive development as a philosophical and theoretical foundation provide answers to the questions of 'why' and 'how' specific pedagogy, including the administration of continuous assessment should be employed.

2.2.2 Bruner's cognitive theory of learning

Bruner is one of the pioneers of cognitive psychology in the United States, which began through his own early research on sensation and perception has been active, rather than passive processes (Bruner, 1947). According to Bruner, the outcome of cognitive development is thinking. The intelligent mind creates from experience "generic coding systems that permit one to go beyond the data to new and possibly fruitful predictions". Thus, children as they grow must acquire a way of representing the "recurrent regularities" in their environment. To Bruner, important outcomes of learning include not just the concepts, categories and problem-solving procedures invented previously by the culture, but also the ability to "invent" these things for oneself. Cognitive growth involves an interaction between basic human capabilities and culturally invented technologies that serve as amplifiers of these capabilities. As a result, the aim of education should be to create autonomous learners.

In his research on cognitive development of children, Jerome Bruner proposed three modes of representation namely; Enactive (action-based), Iconic (image-based) and Symbolic (language-based) representations. Modes of representation are the ways in which information or knowledge are stored and encoded in memory. In the Enactive (0-1 year) involves encoding action based information and storing it in the memory. The child represent past events through motor responses. This is not just limited to children; adults too can perform a variety of motor tasks (such as typing, sewing) that they would find difficult to describe in picture or word form.

The iconic representation (1-6 years) is where information is stored visually in the form of images (a mental picture in the mind's eye). For some, this is conscious; others say they do not experience it. This is why it is important to have diagrams or illustrations to accompany

verbal information when learning a new concept. In the symbolic (7 years onward), this develops last. It is where information is stored in the form of a code or symbol such as language. Symbolic is the most adaptable form of representation for actions and images have a fixed relation to that which they represent. Symbols are flexible because they can be manipulated, ordered, classified and so on. Bruner's theory is effective when faced with new materials to follow a progression from enactive to iconic representation (Bruner, 1961). Another focal point of Bruner's work is the concept of discovery learning (Bruner, 1961) Bruner proposes that, learners construct their own knowledge and do this by organizing and categorizing information using a coding system. He believed that, the most effective way to develop a coding system is to discover it rather than being told by the teacher. The concept of discovery learning implies that students construct their own knowledge for themselves; this is known as constructivist approach to learning. To Bruner, the role of the teacher should be to facilitate the process by designing lessons that help students discover the relationship between bits of information rather than rote learning.

While Bruner has influenced education greatly, it has been most noticeable in Mathematical education. The theory is useful in teaching Mathematics which is primarily conceptual, as it begins with a concrete representation and progresses to a more abstract one. Initially, the use of manipulative in the inactive stage is a great way to hook students who may not be particularly interested in the topic. Furthermore, Bruner's theory allows teachers to be able to engage all students in learning process regardless of their cognitive level of the concept at the moment (Brahier, 2008). In the same vein, Continuous Assessment will be diversified since there are various stages in representation of information. This can help the students to do better as one will not be entirely weak in all aspect of learning and assessment.

According to Bruner, important outcomes of learning include not just the concepts, categories, and problem-solving procedures invented previously by the culture, but also the ability to "invent" these things for oneself. Thus, the basic aim of education and assessment should be to create autonomous learners. Again, in assessing the learners, teachers should adopt numerous approaches in order to let the students have variety of tasks to perform. Bruners cognitive theory of learning create high level of perception of upper basic students on continuous assessment and attitude towards mathematics as it help the students in terms of feedback.

2.2.3 Kolb's experiential learning theory

Kolb was born on the 1939, is an American educational theorist whose interests and publications focuses on experiential learning, the individual and social change, career development, executive and professional education. He is the founder and chairman of Experience Based Learning Systems, (EBLS) and an Emeritus Professor of Organizational Behaviour in the Weather Head School of Management, Case Western Reserve University, Ohio.

Kolb's Experiential Learning Theory (ELT) was propounded by David A. Kolb in 1984 (Kolb, 1984). He was inspired by the work of Kurt Lewin who was a gestalt psychologist in Berlin. Experiential learning theory is a method where person's skills and job requirement can be measured. Kolb's experiential learning theory is based on the following principles:

1. Emphasis is on how learning can be applied.
2. Relate to participant's goals.
3. Relate to participants‟ past experience.
4. Encourages debate and challenges ideals.

5. Respect for the opinions of participants.

6. Encourages all participants to be a resource for the instructor and the group.

7. Treat participants like adults.

8. Gives the participants elements of control.

Kolb's experiential learning theory works on two levels; a four-stage cycle of learning and four separate learning styles (Mcleod, 2013). Kolb theory has a holistic perspective which includes experience, perception, cognitive and behaviour.

Hence, the Kolb's experimental learning theory gives high level of perception of Upper basic students on continuous assessment and attitude towards mathematics as it create room for self-control.

2.2.4The experiential learning cycle

The learning cycle basically involve four stages namely; concrete learning, reflective observation, abstract conceptualization and active experimentation. Effective learning can be seen when the learner progresses through the cycle. The learner can also enter the cycle at any stage of the cycle with logical sequence (Antherton, 2013).

The first stage is concrete learning, where there is encounter of new experience or interpretation of existing experience. Then it is followed by the next stage of reflective observation, where one reflects on the experience on personal basis. After this, the abstract conceptualization, where new ideals are formed based on the reflection or could be modifications of the existing abstract ideals. Lastly, active experimentation stage is where a learner will apply the ideals to his surroundings to see if there are any modifications in the next appearance of the experience. All these lead to concrete experience. This can happen over a short duration or over a long duration of time. Hence, experimental learning cycle

allow students participation on continuous assessment toward mathematics as the students developed positive attitude and high perception toward mathematics.

2.2.5 Kolb's learning styles

Kolb's learning style is explained on the basis of two dimensions; they are how a person understands and processes the information. This perceived information is then classified as concrete experience or abstract conceptualization and processed information as active experimentation or reflective observation (Smith, 2010).

The following learning styles were identified by Kolb

1. *Diverging:* Individuals of this kind of learning style look at things in different perspective. They prefer watching than doing, also they have strong imagination capacity, emotional, strong in arts, prefer to work in groups, open minded to take feedback and they have broad interest in different cultures and people. The learning characteristic is of concrete experience and reflective observation.

2. *Assimilating:* People of this kind of learning prefer good clear information; they can logically format the given information and exploring analytic methods. They are more interested in concepts and abstracts than in people.

3. *Converging:* Converging type of learners solves problem, put their learning onto practical issues. Also, they prefer technical task, experiment with new ideals and unemotional. The learning characteristics are abstract conceptualization and active experimentation.

4. *Accommodation:* Individuals with this kind of learning style prefer to do things practically; they are attracted to new challenges and solve problems intuitively. The learning characteristics are concrete experience and active experimentation.

According to Kolb (1984) “learning is the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping experience and transforming it”. Kolb also developed six main characteristics of experiential learning as follows:

1. Learning is best conceived as a process, not in terms of outcome.

2. Learning is continuous process grounded in experience.

3. Learning requires the resolution of conflicts between opposing models of adaptation to the world (learning is by its very nature full of tension).

4. Learning is a holistic process of adaptation to the world.

5. Learning involves transaction between the person and the environment.

6. Learning is the process of creating knowledge that is the result of the transaction between social knowledge and personal knowledge.

Kolb’s learning cycle and styles can be represented diagrammatically as shown below:

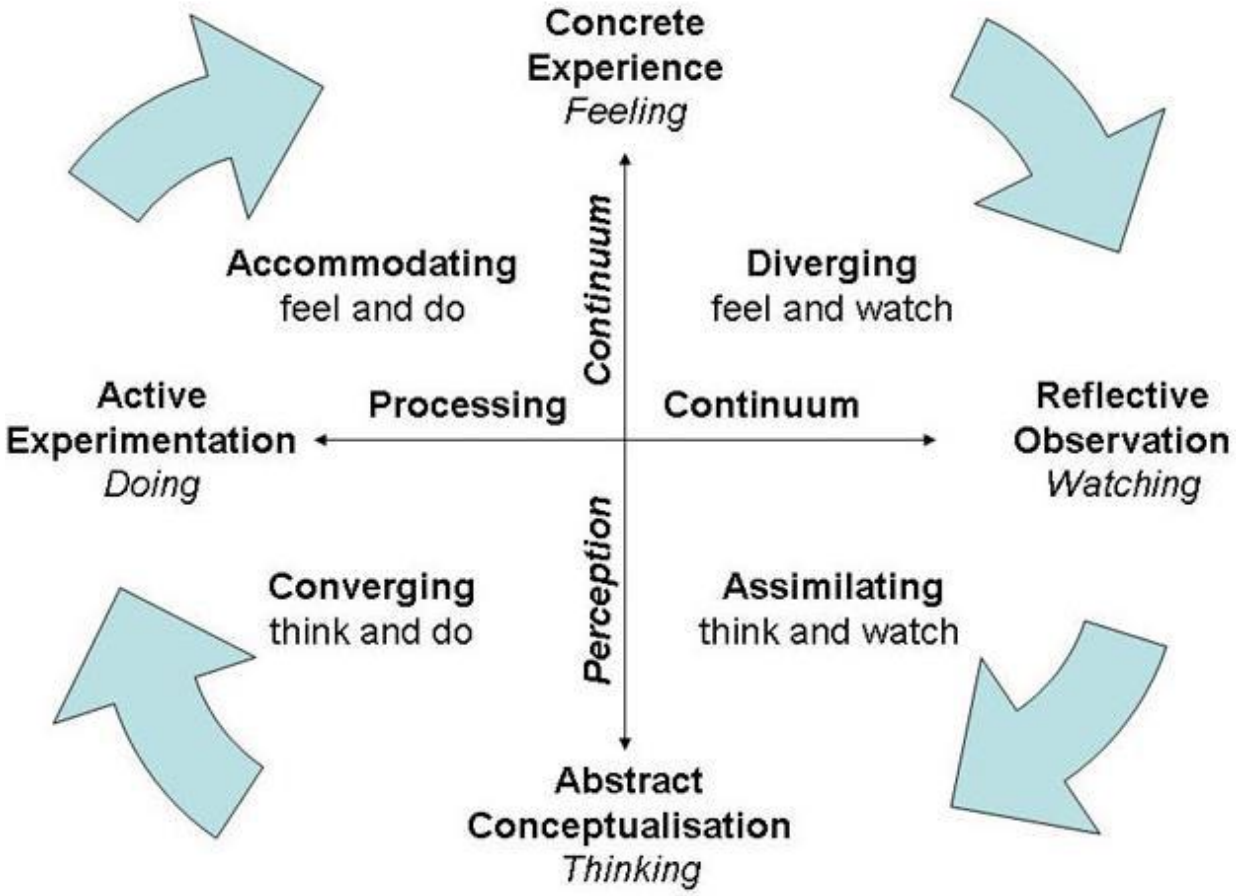

Fig.2.1**:** Kolb‟s learning cycle (1984)

Source: Kolb (1984)

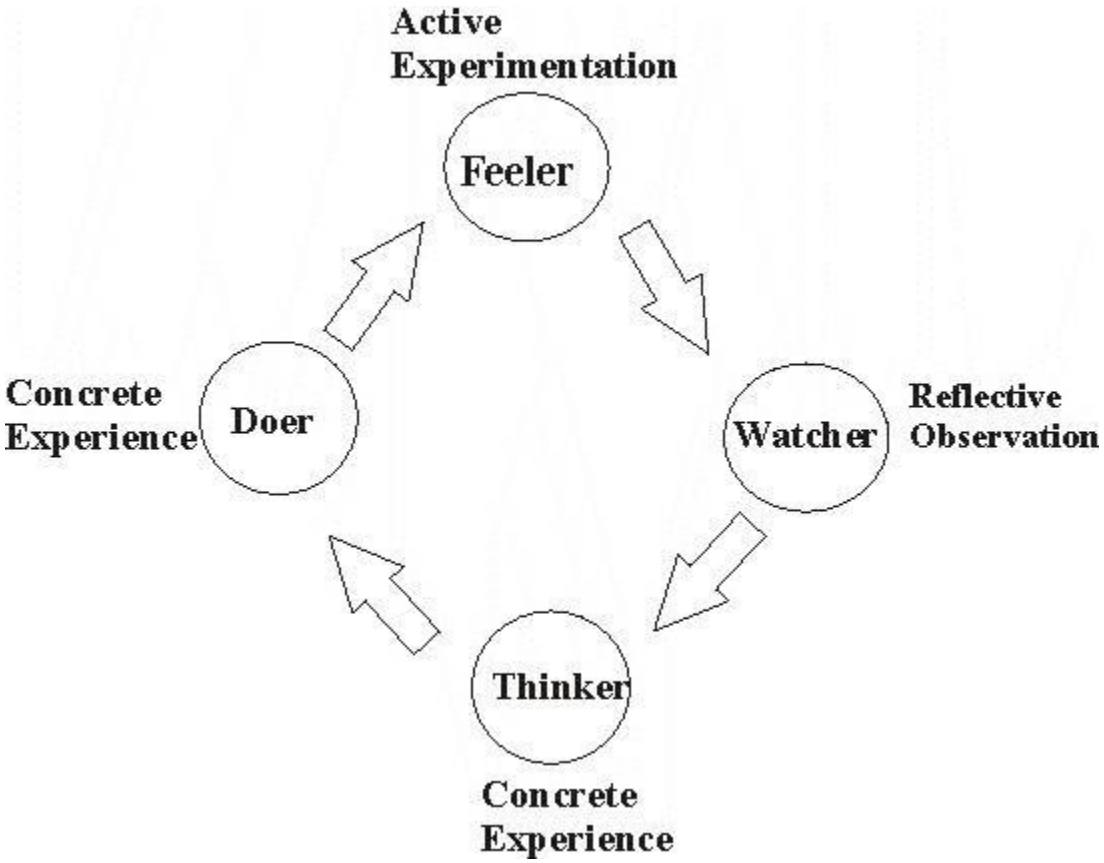

Fig 2.2: Kolb's learning styles (1984)

Source: Kolb (1984)

In assessing students, Kolb's theory is of great impact because it helps teachers to develop more appropriate learning opportunities for the learners (Atherton, 2013). Teachers should also design activities that will give opportunities to all the learners to learn in the best way which suites them. This enhances their performance. In the same vein, the activities carried out should make the learner to go through the whole process of experiential learning cycle. As students are given numerous learning opportunities, there is positive relationship between the continuous assessment and their performance. Hence, the upper basic students learn in the best way as the teachers design activities that will give the students opportunity to learn at appropriate time.

2.3 Review of Related Empirical Studies

Ajayi (2011) carried out a study on measuring continuous Assessment literacy of primary school teachers. One hundred and two teachers (102), participated from twenty primary schools selected from Ijebu -Ode and Odogbolu local Government areas in Ogun state. The participating schools were selected using simple random technique out of a total of twenty primary schools in the two local government areas. The sample size of teachers was selected on the average of five (5) teachers from each of the participating schools, using simple random sampling technique. A composite instrument known as Teachers Continuous Assessment Literacy Survey (TCALS) was used to collect data for the study. The instrument was developed by the researcher. TCALS is made up of four parts. The Knowledge Assessment sub-scale consisting of 13 items indicates mean of 19.6 out of a possible score range of 13 to 26 with a standard deviation of 5.3. This finding indicates a high level of knowledge of continuous assessment among the primary school teachers. For teachers' perception of continuous assessment, mean score of 16.3 with a standard deviation of 4.7 were recorded within a score range of 10 to 20.

The statistics indicated that there was high level of perception of continuous assessment among the primary school teachers. Mean of 37.9 and standarddeviation of 12. 4 were recorded for Teachers attitude towards continuous assessment within a possible score range of 15 - 60. Meanwhile, 29.7 and 9.8 were recorded as the mean and standard deviation respectively for teachers' continuous assessment practice. The possible score range is between 11 and 44. The result shows that the primary school teachers have a moderately high level of continuous assessment practice.

The present study focused on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State. The study had similarities in the use of simple random sampling technique the use of questionnaire as instrument for data collection data and also the use of descriptive statistics for analyzing in both studies. The difference in the study was that the present study focused on perceptions of upper basic school mathematics students on continuous assessment while the later was on measuring continuous assessment literacy of primary school teachers.

Frazer and Beukein Gabriel *et al.* (2019) carried out a research in Pretoria, South-Africa, 500 students were assessed to establish the relationship between continuous assessment and High School Examination. The study used a 20-item questionnaire (Cronbach‟s alpha = 0.80) to generate scores on students‟ continuous assessment and their final examination. A further detailed observation of a small number of students (N=10) from two combined High Schools used to test the designed tool, reveal that positive relationship between Continuous Assessment and Final High School Examination was established. This present work tends to narrow continuous assessment score of students in mathematics and their Basic Education Certificate Examination result. Also the target population of this study is the Junior Secondary School environment which is the indispensable to Basic Education.The similarities in the study were that both studies were carriedout on upper basic school students and also the use of questionnaire as an instrument for data collection. The difference in the study was that the present study focused on the perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the previous study was to establish the

relationship between continuous assessment and high school examination in Pretoria, South Africa.

Adekeye (2011) conducted a study focused on the relationship between Continuous Assessment Scores and Junior School Certificate Examination Results of students in Kwara state, Nigeria. The study further sought to find out the contributions of each Junior School year to performance at Basic Education Certificate Examination. The sample for the study was made up of 540 participants selected from 18 secondary schools in Kwara state, Nigeria. The data generated were analyzed using Pearson's product moment Correlation 'r', independent, t-test and multiple regression analysis. It was found that the continuous assessment actually predicted students' achievement at the end of the three years in Junior Secondary School especially the male students study.

The similarities in the study werethat both studies focused on junior secondary school (upper basic education). The difference in the studies was that the present study focused on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later focused on the relationship between continuous assessment scores and junior secondary certificate examination (JSCE) results on students in Kwara State also in terms of data analysis the present study will analyzed its data using descriptive statistics while the later used t-test and multiple regression analysis.

Edwin (2014) investigated the influence of continuous assessment on academic performance of senior secondary school students in Edo State, Nigeria. The researcher designed a well-structured questionnaire for 100 respondents in some selected secondary schools in Oredo Local Government Area. The data generated were interpreted using simple percentage analysis. The data finding revealed that students who were continuously

assessed performed better than those who were not assessed continuously. It was also discovered that continuous assessment can lead to eradication of examination misconduct among students. Again, it was recommended that effective records should be kept in schools on students' performance. This study draws its sample from Makurdi Local Government Area of Benue State, Nigeria with particular attention to continuous assessment as a predictor of students‟ achievement. The similarities in this study were that both studies used questionnaire as instrument for data collection. The difference in the study was that the present study focused on the perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later focused on the influence of continuous assessment on academic performance of senior secondary school students in Edo State. The present study used descriptive statistics (mean and standard deviation) to analyze data collected while the later used simple percentage.

Mwebaza (2010) underscores Continuous Assessment and students' performance in "A" level secondary schools in Masaka District, Uganda. The researcher employs a descriptive survey design on a sample of four hundred and sixty (460) people including 100 teachers, 300 students and 60 Directors of Studies were selected to participate in the study. The study used Questionnaires, Structured Interview and Focused Group Discussions (FGD). The findings of the study indicated that continuous assessment boast students‟ performance in their academics. The study also reveals that continuous assessment help teachers to assess their own performance and effectiveness of their teaching. The work elaborately identified numerous assessment tools used and their importance. But the Researcher draw his sample from across different disciplines, not expounding what the relationship holds for individual subjects such as Mathematics.The similarity in this study was that both studies used

descriptive survey design also used of questionnaire for data collection while in the difference, the present study carried out investigation on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger Statewhile the later was underscores continuous assessment and students performance in "A" in level secondary schools in Masaka district, Uganda also structured interview and focused group discussions was part of the instrument used.

Alphine (2011) carried out study the persistent under-achievement in mathematics has warranted further research to determine what factors have not been considered nor given enough attention in the on- going reform efforts. The attitude of students towards mathematics is a factor that is known to influence students' learning and achievement in the subject. The purpose of this study therefore was to determine the effect of students' attitudes towards their learning and achievement in mathematics by first trying to establish their attitudes regarding the subject and also finding out the factors that influence these attitudes. The study would provide understanding of some of the learners' behaviours as a result of their attitudes towards the subject and would go a long way in helping the learners to develop positive attitudes which is a recipe for better learning and performance in the subject. This study adopted a descriptive survey design due to the implicit nature of the study. The study involved some seven sampled public secondary schools in Kiambu county and the target population were the form four students who were about to sit for their K.C.S.E examinations. Purposive and random samplings were employed in selecting the schools and the students from those schools respectively with the use of students' questionnaires as a method of data collection.

The questionnaires were designed to capture some of the students' perceptions and beliefs regarding the subject which were grouped according to themes including liking, difficulty, usefulness and future expectations regarding the subject, learners' mathematical ability and achievement. These factors were adapted from the Fennema-Sherman attitudes scales and the students were expected to respond to these scales. The data was captured and arranged with the use of statistical package for social sciences (SPSS). The data was then transferred to Excel sheet where analysis was done by calculating simple frequencies and percentages. These findings were used to make inferences and conclusions. The study found out that most students had a positive attitude towards mathematics and that they perceived mathematics as doable, learnable and important yet this did not translate to good grades. The findings also show that perceptions and beliefs, perceived learning abilities and competencies and previous performances of students in mathematics affected their level of motivation leading to low outcomes. The study recommends the use of varied instructional strategies by the teachers, which promote discovery and elicit learner interest. The students should be encouraged to apply the taught knowledge and skills through feedback and assignments. There is therefore, a need to offer and build on experiences and opportunities that inspire the students to engage fully in the material fact and acquire knowledge and skills that would enable them excel in the mathematics because they like and value it.

The similarities in this study were the attitude of students towards mathematics is a factor that is known to influence students' learning and achievement in the subject both adopt descriptive statistics to analyze their data. The difference in the study was that the present study was on the perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while

the later is students' attitudes and their effects on learning and achievement in mathematics: a case study of public secondary schools in kiambu county, kenya.

Gabriel*et al.* (2019) investigated continuous assessment scores as a predictor of students" achievement in Mathematics at the Junior Secondary School Level in Makurdi Local Government Area of Benue State, Nigeria. It explicitly focused on the correlation and regression between Continuous Assessment scores and Basic Education Certificate Examination (BECE) results. Ex-post facto research design was adopted for the study. A simple random sample of 718 students drawn from five secondary schools in Makurdi Local Government Area was used. Pearson Product Moment Correlation and Regression Analysis were used to answer the research questions while correlation coefficient and regression analysis were used to test the stated hypotheses at 0.05 level of significance. In-depth of analysis of data obtained in the study revealed that there was strong positive correlation as well as regression between continuous assessment scores and Basic Education Certificate Examination results. The outcome of this study has shown that Continuous Assessment scores can correctly predict students' achievement in Basic Education Certificate Examination Results. Based on the outcomes of the study it was recommended that school authorities should endeavour to submit the actual continuous assessment scores of students to external examination bodies without bias in favour against any results.

The similarities in this study were that it was carried out on junior secondary school students. The difference in the study was that the present study was on the perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later investigated continuous assessment scores as a predictor of students' achievement in mathematics at the

junior secondary school level in Makurdi Local Government Area of Benue State. The descriptive cross sectional survey will be used on the present study while in the later study Expost-facto research design was adopted. In the present study descriptive statistics was used to analyzed the data while the later study used Pearson Product Moment Correlation and Regression analysiswere used to answer the research question while t-test of correlation coefficient and t-test of regression analysis were used to test the stated hypothesis at 0.05 level of significance.

Gashaw (2014) the study examined teachers` perceptions and practices of continuous assessment in mathematics class. The participants of the study were 20 teachers, 152 students, and 4 school principals in Chekaganet General Secondary, Salaysh General Secondary, Bitotesa 17 General Secondary and Bitotesa 17 preparatory schools in North Shoa zone DeraWoreda. Different instruments that include Questionnaires, Interviews, Observations and Document analysis were used to gather data. Teachers perception of continuous assessment with respect to age, qualification, teaching experience and teaching load were analyzed using descriptive statistics and one way ANOVA from this finding there is no statistically significance difference for age, Educational qualification, and teaching experience about perception of continuous assessment. The Mann-Whitney U test was applied. Here, compare and contrast was done in relation to different assessment tools used by the teachers. Based on these findings, it was concluded that the mathematics teachers do not used different assessment method and techniques of continuous assessment in their Schools. Finally, it was recommended that the principals and education office should frequently organize workshop and seminars for serving teachers on the perception and practice of continuous assessment in their schools.

The similarities in the studies were that both studies used questionnaire as part of instrument for data collection and also descriptive statistics were used to analyze data collection. The difference in the studies was that the present study was on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later examine teachers' perceptions and practices of continuous assessment in mathematics class.

Udeh (2014) the assessment of learning outcome provides objective evidence necessary in the decision – making process in educational system. This study investigated the knowledge and use of continuous assessment among teachers in basic schools of Nursing in South East zone of Nigeria. Descriptive survey was adopted for the study. Four objectives and five hypotheses guided the study. The subjects studied were all the 194 teachers in the basic schools of nursing who gave their informed consent. A face and content validated structured questionnaire in 4 point likert scale format with a reliability of 0.96 was used for data collection. Data were analyzed descriptively using frequencies, percentages, mean and standard deviation. Major findings revealed that majority of the teachers have knowledge of Continuous Assessment (means score = 3.0), most teachers do not use various continuous assessment techniques in carrying out continuous assessment (means score = 2.3), continuous assessment data is not adequately used in decision making in most schools (mean score = 2.4), there is a significant positive relationship between knowledge and practice of continuous assessment ($P < 0.05$), and there was significant difference in the practice of continuous assessment between teachers with diploma and teachers with university degree ($P < 0.05$). Furthermore, there was no significant difference in the practice of continuous assessment between male and female teachers ($p > 0.05$), there

wassignificant difference in the practice of continuous assessment as regards years of work experience ($p < 0.05$) but there is no significant difference in the use of continuous assessment as regards years of work experience ($p > 0.05$). Based on the findings above, the researcher recommended among other things that more emphasis be placed on the knowledge of the teachers on the use of continuous assessment. The main limitation of the study is great dearth of knowledge and literature in this area. Suggestions for further research were also highlighted.

The similarities in the study were that both studies adopted descriptive survey research. Also both studies used questionnaire as instrument for data collection. Data's were analyzed using descriptive statistics for both studies. The difference in the studies was that the present study focused on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later study investigate the knowledge and use of continuous assessment among teachers in basic schools of Nursing in South East zone of Nigeria.

Patrick (2015) the study evaluated the extent to which Continuous Assessment (CA) waspracticed by university lecturers in Delta State University, Abraka, Nigeria. The evaluation of continuous assessment focused on the cognitive, affective and psychomotor domains of students' behaviour. That is teaching and learning should focus on these areas. Two research questions were raised, and two hypotheses were tested to achieve the purpose of the study. A sample of 200 lecturers was randomly selected using simple random sampling and stratifies random sampling techniques. A 5-point scaled questionnaire was used as an instrument to collect data. The validity of the instrument was determined through expertjudgment and factor analysis. Thus the instrument has face and constructs validities. The reliability of the instrument was established through cronbach alpha. A

reliability coefficient of 0.86 was obtained as a measure of internal consistency. The data collected were analyzed. The research questions were answered with the use of mean. The hypotheses were tested with Z-test at .05 level of significance. The result of evaluation revealed that the extent to which university lecturers practice continuous assessment with emphasis on the cognitive, affective and psychomotor domains of students' behaviour was low. There was no significant difference between male and female as well as junior and senior lecturers on the practice of continuous assessment in the university. It was noted that there should be a continuous and effective monitoring of continuous assessment practice by the university lecturers.

The similarities in the study were that both studies adopted descriptive research design and also used questionnaire as instrument for data collection. The descriptive statistics were also used to analyze the data. The difference in the studies is that the present study focused on the perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later evaluate the extent to which continuous assessment was practiced by university lecturers in Delta State University.

Alufohai andAkinlosotu(2016) the study investigated knowledge and attitude of secondary school teachers towards continuous assessment (CA) practices in Edo Central Senatorial District, Nigeria. The study was undertaken to determine the influence of gender, age, years of experience and area of educational specialization on teachers' attitude towards continuous assessment practices in secondary schools in the district. 543 teachers were drawn from the population of 1084 teachers' across the district. However, 512 questionnaires were recovered and used for analysis. Mean (X) and standard deviations (S.D) were used to analyzed the research questions while the t-test statistics was used to

test the hypotheses. Findings showed that majority of the teachers, perceived CA practices as a systematic and comprehensive system of evaluation but have inadequate knowledge of its cumulative and guidance oriented characteristic. Results also showed that teachers' attitude towards CA practices was negatively skewed. Result ofhypotheses showed that years of experience and teachers' area of specialization are the only significantpredictors of teachers' attitude towards CA practices among other variables (gender and age). It was recommended that guidance counselors need in schools to sensitize teachers on the relevance of CAs as a road map for appropriate guidance and decision making among students.

The similarities in the study was that both studies adopted descriptive research design and also both studies used questionnaire as instrument for data collection, both studies also analyzed its data using descriptive statistics. The difference in the studies was that the present study was on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State while the later investigate knowledge and attitude of secondary school teachers towards continuous assessment practice in Edo central senatorial district.

Mzomwe*et al.* (2019)investigating students' attitude towards learning Mathematics.Students' learning of and performance in mathematics is affected by a number of factors, including students' attitude towards the subject, teachers' instructional practices, and school environment. This study was conducted to investigate students' attitudes towards learning mathematics in Tanzania. It also sought to ascertain reasons for the liking or disliking mathematics and the relationship between attitude and performance. We employed the ABC Model and the Walberg's Theory of Productivity to investigate

students' attitudes towards mathematics and associated factors. The quantitative and qualitative data were collected from 419 primary school students, 318 secondary school students, and 132 College students from 17 schools and 6 colleges in mainland Tanzania using a survey. The collected data were analyzed using percentages, means, standard deviations, ANOVA, correlation, regression and thematic analysis. The results show that initially students exhibit a positive attitude towards mathematics, but their attitude becomes less positive as the students move forward to higher levels of education. A significant positive weak correlation between students' attitude and performance was established. Mathematics' enjoyment and attitude significantly predicted students' performance in our data. The factors influencing the students' liking or disliking of mathematics constituted student's aptitude attribute, instructional and social psychological environmental factors. Furthermore, the results show that failure in examinations is attributed to teacher didactic strategies, institutional resources, poor learning and examination strategies, and failure to understand instructions. The results provide insights for future research and inciting changes in teaching- learning practices that would promote mathematics enjoyment and subsequent better performance in the subject. The difference in the studies was that the present study was on perception of upper basic students' continuous assessment and its impact on their attitude towards mathematics in Bida Local Government Area, Niger State.

Umendu (nd).The purpose of this study is to find out students' perception of continuous assessment and its impact on their attitude towards mathematics in government owned secondary schools in Orumba South Local Government Area of Anambra State. The sample of the study was made up of 330 students. Two research questions were used for the study A structured questionnaire rated on 5-point Likert scale was used for data collection. Data was analyzed using means. Findings revealed among other things: that students

perceive continuous assessment as an innovative practice. It also showed that the students have developed a positive attitude towards mathematics. Recommendations included among other things that teacher should keep adequate record of their students' academic performance for immediate and future use; there should be adequate monitoring of students whenever they were given any academic work.The similarities in the studies was that both studies focusedon perception of students' continuous assessment and its impact on their attitude towards mathematics and both used questionnaire as instrument for data collection. The difference in both studies was that the later focused its studies on senior secondary schools while the present studies focused its studies on upper basic schools in Bida Local Government Area, Niger State

2.4 Summary of Literature Reviewed

For several years, the educational systems of many African nations were dominated by the one short summative type of assessment. It was to counter the problems of the single summative examination that suggestions for a broader approach to assessment, which would be flexible and also provide valid and reliable results, were made. It has been discovered that continuous assessment provides cumulative records of the students which can be used to extrapolate for a students' final examinations if need be in the event that the student falls sick during examination time. Various concepts of continuous assessment like definition, nature, characteristics and scope were discussed.

Continuous assessment ensures a positive change in behaviour, improvement in learning, and enrichment of the entire school system that the Federal Ministry of Education decided to enforce its effective practice and continuity. This is as a result of the recurring higher rate of failure. The urgent need to promote learning and improve performance in Upper

Basic schools in Bida Local Government Area, Niger State resulted into a range of related but different developments in continuous assessment at classroom levels.

The resultant feature has been inconsistent performance of students in A' level examinations nationwide and performance still varies from school to school. This undermines the future of many students that are in schools that persistently perform poorly. To achieve this purpose, the Federal Ministry of Education promulgated the use of continuous assessment to assess performance, which prescribed that: Educational assessment and evaluation will be liberalized by basing them in whole or in part on continuous assessment of the progress of the individual.

Piaget, Brunner and Kolb theory of policy tools was used to explain the theoretical review, while various empirical reviews were used to explain practical works done by other researchers as regards knowledge and use of continuous assessment. Studies carried out by Umendu was similar to the present study as both studies focused on students perception on continuous assessment and its impact on their attitude towards mathematics. The difference in the studies was that the later study was carried out in senior secondary schools while the present study was carried out in upper basic schools.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The design adopted was cross-sectionaldesign. Incross-sectional design, is one in which data are collected from selected individuals at a single point in time (Udeh, 2014). This is considered most important for this study to obtain current information about the perception of upper basic students' continuous assessment and attitude towards mathematics in Bida Local Government Area, Niger State

3.2 Population of the Study

Thepopulation of the studycomprises all the Upper Basic School (JSS 2) students in the four Upper Basic Schools in Bida, Niger State. The target population of the study isfive thousand four hundred and twenty (5,420) upper Basic School students (Male=2830, Female=2590) particularly the Junior Secondary Students two (JSS2)(Planning Unit of NSUBEB, Niger State, 2020).

Table 3.1 Population distribution of upper basic school (JSS 2) students in Bida, Niger State and gender as at 2020/2021 session

S/No.	Name of School	Gender		
		Male	Female	Total
1.	UmaruSanda (UBA) Sch. Bida	725	630	1355
2.	J.S.S KuchttahgiBida	700	620	1320
3.	J.S.S DzwayagiBida	690	640	1330
4.	J.S.S GbazhiBida	715	700	1415
Total		**2830**	**2590**	**5420**

Source: Planning unit of NSUBEB, Niger State (2020)

3.3 Sample and Sampling Techniques

A multi-stage sampling procedure was used in selecting the samples for this study. First, purposive sampling technique was used to select a particular class of Upper Basic School students to participate in this study. Junior Secondary School Students two (JSS 2)are more favourable for this study because they are seen as stable class while JSS 1were newly admitted students and JSS 3 students were in their exit class. At the second stage, simple random sampling technique was adopted using lucky dip (ballot) method to select two schools from the four schools. The sample size for the study was two hundred and sixty five (265) students (male= 139 and female= 126) (Krejcie and Morgan, 1970).

Table 3.2 Distribution of samples of the study by school and gender as at 2020/2021 session

S/No	Name of School	Gender		
		Male	Female	Total
1.	JSS KuchttahgiBida	70	62	132
2.	JSS DzwayagiBida	69	64	133
	Total	**139**	**126**	**265**

3.4 Research Instrument

Two research instruments were used for this study. Theresearch instrumentwas adapted based on Perception of Upper Basic Students' on Continuous Assessment and Attitude towards Mathematics Questionnaire (PUBSACAMQ). The questionnaire was administered to sampleUpper Basic Schools Students in the selected School. (See Appendix A)

3.4.1 Perception of upper basic students' on continuous assessment and attitude towards mathematics questionnaire (PUBSACAMQ)

The questionnaire was prepared based on Perception of upper basic students' continuous assessment and attitude towards mathematics questionnaire (PUBSACAMQ) and administered to sampled upper basic schools in Bida Niger State respectively. Five – point Likert scale was adapted for perception of students' continuous assessment and attitudes towards mathematics in this study. There are four (4) sections and the measurement items were rated on the five- likert point scale which ranges from Strongly Agree (5), Agree (4), Undecided (3), Disagree (2) and Strongly Disagree (1).While perception on continuous assessment strategies items was adapted and was rated on the four-point likert type scale which ranges from Very Often (4), Often (3), Not Often (2) and Never (1). Also, instrument for attitudes of students' toward Mathematics was rated Strongly Agree (5), Agree (4), Undecided (3), Disagree (2) and Strongly Disagree (1).

3.5 Validity of Research Instrument

The instrument for data collection was subjected to face and content validity by two senior lecturers experts in Science Education Department, Federal University of Technology, Minna, Niger State. These experts were requested to examine the items of the instrument whether the item statements are simple and unambiguous. The experts observations, corrections and suggestions on the appropriateness, clarity as well as simplicity and suitability were taken into considerations (see Appendix B). Observations were raised on some items to be modified to suit the objectives also suggestions were made to group items according to perception of Upper Basic Students on Continuous Assessment, Continuous Assessment Strategies and Attitude towards Mathematics.

3.6 Reliability of Research Instrument

In order to determine the reliability of the research instruments, a pilot study was carried out using 35 Upper Basic Students of Umaru Sanda (UBA) School, Bida. The school was not part of the sample for the study. The result from the upper basic students was analyzed based on the defined criteria for pilot study. Cronbach Alpha coefficient was used to obtained reliability coefficient of the instrument which yielded 0.73 for perception of Upper Basic School Students and 0.75 for Attitudes towards mathematics. Based on the coefficient obtained, the instrument was considered reliable (see Appendix C)

3.7 Method of Data Collection

The researcher collected letter of introduction from Science Education Department, Federal University of Technology, Minna and used the first week to visit the sampled schools in Bida to seek for permission from the school authorities to use the school for research purpose. In second week, research assistants were co-opted and enlightened on the process of data collection. In third week, the researcher with the help of two (2) research assistants administered the instruments on selected sample drawn from selected upper basic students' in Bida Local Government Area, Niger State. The PUBSACAMQ have duration of 1hour 30minutes. The filled questionnaires were collected for data analysis.

3.8 Method of Data Analysis

The data collected were analyzed using descriptive statistics (mean and standard deviation).The mean and standard deviation were used in answering the posed research questions and the decision mean of 3.0 was used to determine the students' perception and students attitude. Inferential statistics of one way analysis of variance (ANOVA) was used

to test the null hypotheses HO_1, HO_2 and HO_3. ANOVA was used because it comperes and give generalization of two sample t-test, using "statistical package for social sciences"(SPSS) version 23.0

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Answer to Research Questions

Research Question One

What type of perception do Upper Basic student possess on Continuous Assessment?

In order to answer research question 1, mean and standard deviation of the respondents were calculated and presented in Table 4.1

Table 4.1: Mean and standard deviation of the students' perception about continuous assessment

S/N	Items Statement	No	Mean($\bar{x}$)	SD	Remarks
1.	I am familiar with continuous assessment	265	4.30	1.30	Agree
2.	I don't know what continuous assessment is	265	2.27	1.26	Disagree
3.	Mathematics teachers' used continuous assessment as a means of evaluation	265	3.40	1.72	Agree
4.	Mathematics teachers' do not used any form of continuous assessment as a means of evaluation	265	2.25	1.30	Disagree
5.	Mathematics teachers' assessed the students regularly in my school	265	4.15	1.21	Agree
6.	Mathematics teachers' give students scripts after scoring in my school.	265	3.62	1.40	Agree
7.	Mathematics teachers' do not give students scripts after scoring in my school	265	1.92	1.25	Disagree
8.	Mathematic teachers' mark students' notes and use it as part of continuous assessment in my school	265	3.72	1.31	Agree

9.Mathematics teachers' do not mark students' notes as part of continuous assessment in my school	265	2.06	1.26	Disagree
10. Mathematics teachers', mark and record students' test and assignment regularly in my school.	265	3.75	1.48	Agree
11. Mathematics teachers' do not mark and record students'test and assignment regularly in my school.	265	1.85	1.29	Disagree
12. Continuous assessment improves students' participation in the mathematics.	265	3.57	1.48	Agree
13. Continuous assessment does not improve students' participation in mathematics.	265	1.99	1.31	Disagree
14.Continuous assessment in mathematics frightens and disturbs the students.	265	2.34	1.40	Disagree
15. Continuous assessment in mathematics does not frighten and disturbs the students.	265	3.34	2.54	Agree
16. Continuous assessment help me to remember what was taught	265	3.91	1.37	Agree
17.Continuous assessment makes me more confident and ready for examination.	265	3.94	1.25	Agree
18. Continuous assessment make teachers give quick Feedback	265	3.86	1.33	Agree
19. Continuous assessment improves my understanding in solving problems in mathematics	265	3.96	1.28	Agree
20. Continuous assessment help me to master the formula in mathematics	265	3.77	1.47	Agree
21. Continuous assessment arouses my desire to attention and concentrate in class	265	3.68	1.33	Agree
22. Continuous assessment help me to interact with the teacher during self-assessment	265	3.61	1.52	Agree
Grand Mean		**3.24**	**1.41**	**Agree**

Table 4.1Showthe students' perception on continuous assessment. The mean and standard deviation values of questionnaire items 1-22 on perception about continuous assessment in Bida local Government. Items 1, 3, 5, 6, 9, 10, 12, 15, 16, 17, 18, 19, 20, 21 and 22 with their respective means values as 4.30, 3.40, 4.15, 3.62, 3.72, 3.75, 3.57, 3.34, 3.91, 3.94, 3.86, 3.96, 3.77, 3.68 and 3.61. These figures indicated among others perception associated with continuous assessment. They include familiarity with continuous assessment, Mathematics teachers' used continuous assessment as a means of evaluation, Mathematics teachers' assessed the students regularly in the school, Mathematics teachers' give students scripts after scoring in my school, Mathematic teachers' mark students 'notes and use it as part of continuous assessmentin my school, Mathematics teachers', mark and record students' test and assignment regularly in my school, Continuous assessment improves students' participation in the mathematics, Continuous assessment in mathematics does not frighten and disturbs the students, Continuous assessment help me to remember what was taught, Continuous assessment makes me more confident and ready for examination, Continuous assessment make teachers give quick Feedback, Continuous assessment improves my understanding, in solving problems in mathematics, Continuous assessment help me to master the formula in mathematics, Continuous assessment arouses my desire to attention and concentrate in class and Continuous assessment help me to interact with the teacher during self-assessment.From the grand mean of 3.24 was greater than the decision mean 3.00. Hence, the highest mean of 4.30 of item one indicated perception of Upper Basic Students are familiar with continuous assessment in Mathematics.

Research Question Two

2. What type of perception does Male and Female students' possess on Mathematics

Continuous Assessment?

In order to answer research question 2, mean and standard deviation of respondents was calculated and presented in Table 4.2

Table 4.2: Mean and standard deviation of Male and Female students' perception on Mathematics Continuous Assessment being used by Mathematics teachers

S/N	Gender	N	Mean(x)	SD	Mean Difference	Remark
1.	Male	139	69.98	15.98		
					2.82	High
2.	Female	126	72.80	15.98		
	Total	**265**				

Table 4.2above revealed the Mean and Standard Deviation of male and female students in mathematics class. The perception on mathematics continuous assessment Figure on Table 4.2 above show the mean and standard deviation values of 69.98, 15.98 and 72.80, 15.98 for male and female students respectively. This indicates that the female have high perception of continuous assessment over their male counterpart.

Research Question Three

What is students' perception on various Continuous Assessment strategies being used by Mathematics teachers?

In order to answer research question 3, mean and standard deviation of respondents was calculated and presented in Table 4.3

Table 4.3: Mean and standard deviation of students' perception on various Continuous Assessment strategies being used by Mathematics teachers

S/N	Strategies	No	Mean($\bar{x}$)	SD	Remarks
23.	Oral Test	265	2.33	1.21	Disagree
24.	Written Test	265	3.01	1.15	Agree
25.	Take-home assignment Programme	265	2.85	1.20	Disagree
26.	Observation	265	2.21	1.10	Disagree
27.	Questionnaire	265	1.90	1.11	Disagree
28.	Quizes	265	2.07	1.13	Disagree
29.	Examination	265	2.62	1.34	Disagree
30.	Project work	265	1.71	1.71	Disagree
31.	Peer assessment	265	1.75	1.75	Disagree
32.	Self-assessment	265	2.70	1.26	Disagree
	Grand Mean		**2.13**	**1.30**	**Disagree**

Table 4.3shows the mean and standard deviation values of questionnaire items 23-32 on strategies that mathematics teachers used for their continuous assessment among junior secondary school students in Bida Local Government. Item 24 with mean value of 3.01.This figure indicated among others which mathematics teachers used mostly as continuous assessment. The written test strategy is mostly adopted by mathematics teachers in Bida Local Government Area.The result therefore shows disagreement with other types of strategies used by mathematics teachers in Bida Local Government Area. This is because all the means are less than the decisions mean 3.00 only item 24 with 3.01 which indicates written test are mostly by mathematics teachers.

Research Question Four

What is Male and Female students' perception on various continuous assessment strategies being used by mathematics teachers?

In order to answer research question 2, mean and standard deviation of respondents was calculated and presented in Table 4.4

Table 4.4: Mean and standard deviation of Male and Female students' perception on various Continuous Assessment strategies being used by Mathematics teachers

S/N	Gender	N	Mean($\bar{x}$)	SD	Mean Difference	Remark
1.	Male	139	23.56	7.60		
					1.91	High
2.	Female	126	2.65	8.86		
	Total	**265**				

Table 4.4 above revealed the Mean and Standard Deviation of Male and Female students in the continuous assessment strategies used by mathematics teachers in Bida Local Government Area. The mean and standard deviation values of 23.56, 7.60 and 22.65, 8.86 for male and female students respectively. Similarly, the standard deviation values of 7.60 and 8.86 were not significantly different. This result indicated that the Male high perception on continuous assessment strategies adopted by mathematics teachers over their female counterpart in Bida Local Government Area.

Research Question Five

How do students' perceptions of continuous assessment affect their attitude towards mathematics?

In order to answer research question 5, mean and standard deviation of respondent was carried out and presented in Table 4.5

Table 4.5: Mean and standard deviation of students' perceptions of continuous assessment affect their attitude towards mathematics

S/N	Item Statement	No	Mean(x) ¯	SD	Remarks
33.	My study habit towards mathematics has improved	265	3.67	1.46	Agree
34.	I felt repulsive towards mathematics	265	2.61	1.49	Disagree
35.	I felt being forced to study mathematics	265	2.41	1.58	Disagree
36.	I felt being attracted towards the study of mathematics	265	3.16	1.63	Agree
37.	I felt happy being taught mathematics	265	3.57	1.53	Agree
38.	I felt like doing projects, assignment daily in mathematics	265	3.00	1.60	Agree
Grand Mean			**3.07**	**1.55**	**Agree**

Table 4.5shows the mean and standard deviation values of questionnaire items 33-38 on their attitude towards continuous assessment among junior secondary school students in Bida Local Government. Items 33, 36, 37 and 38 with their respective mean values as 3.67, 3.16, 3.57 and 3.00. These figures indicated among others the attitude of students towards the continuous assessment used by mathematics teachers in Bida Local Government Area. They include: study habit towards mathematics, feel attracted towards the study of mathematics, and feel happy when taught mathematics, feel like doing projects, assignment daily in mathematics. Therefore, the student shows positive attitude on the use of continuous assessment by their mathematics teachers in Bida Local Government Area. This

is because item 33 withhighest mean 3.67indicates students habit towards mathematics has improved.

Research Question Six

How do Male and Female students' perceptions of continuous assessment affect their attitude towards mathematics?

In order to answer research question 6, mean and standard deviation of respondents was carried out and presented in Table 4.6

Table 4.6: Mean and standard deviation of Male and Female students' perceptions of continuous assessment affect their attitude towards mathematics

S/N	Gender	N	Mean(x) ¯	SD	Mean Difference	Remark
1.	Male	139	18.40	6.42		
					0.04	High
2.	Female	126	18.44	7.73		
	Total	**265**				

Table 4.6revealed the Mean and Standard Deviation of male and female students' attitude towards continuous assessment used by mathematics teachers in Bida Local Government Area. The mean and standard deviation values of 18.40, 6.42 and 18.44, 7.73 for male and female. Similarly, the standard deviation values of 6.42 and 7.73. This result indicated that there were slight differences in the Male and Female student attitude in continuous assessment adopted by mathematics teachers in Bida Local Government Area.

4.2 Testing of Null Hypothesis

Hypothesis One (HO_1): There is no significant difference between perception of Male and Female students' on effect of Continuous Assessment in upper Basic School in Bida Local Government, Niger State

Table 4.7: Summary of ANOVA Analysis of difference between perception of Male and Female students' Continuous Assessment in Upper Basic Schools in Bida Local Government Area, Niger State

Sources of variation	sum of square	Df	Mean square	f	sig
Between Groups	482.238	1	482.238		
Within Groups	61819.250	264	234.164	1.888	0.17
Total	62301.488	265			

N.S: Not Significant p>0.05

Table 4.7: revealed the result of one way ANOVA comparison of the difference between perception of male and female students on effect of continuous assessment in upper basic schools in Bida Local Government Area. The result revealed that there was no significant difference between the perception of Male and Female students (Fcal=1.888, df=264; p>0.05) on the basis of this, hypothesis one was retained.

HO_2: There is no significant difference between perception of Male and Female students' on various Continuous Assessment StrategiesSelf-assessment being used by mathematics teachers' in upper Basic School in Bida Local Government, Niger State

Table 4.8: Summary of Analysis of Variance (ANOVA) Analysis of difference between perception of Male and Female students' on various Continuous Assessment Strategies being used by mathematics teachers' in upper Basic School in BidaLocal Government, Niger State

Sources of variation	sum of square	Df	Mean square	f	sig
Between Groups	50.241	1	50.241		
Within Groups	16307.738	264	61.772	0.746	0.389
Total	16357.980	265			

N.S: Not Significant p>0.05

Table 4.8: revealed the result of one way ANOVA comparison of the difference between perception of Male and Female students on various continuous assessment strategies being used by mathematics teachers in upper basic schools in Bida Local Government Area. The result revealed that there was no significant difference between the perception of Male and Female students (Fcal=0.746, df=264; p>0.05) on the basis of this, hypothesis two was retained.

HO_3: There is no significant difference between Male and Female students' perception in Continuous Assessment as its affect their attitude towards mathematics in upper Basic School in Bida Local Government, Niger State

Table 4.9: Summary of Analysis of Variance (ANOVA) analysis of difference between Male and Female students' perception in Continuous Assessment as its affect their attitude towards mathematics in upper Basic School in Bida Local Government, Niger State

Sources of variation	sum of square	Df	Mean square	f	sig
Between Groups	0.1261	0.126			
Within Groups	1045.235	264	45.626	0.003	0.960
Total	12045.361	265			

N.S: Not Significant p>0.05

Table 4.9: revealed the result of one way ANOVA comparison of the difference betweeMale and Female students'perception in continuous assessment as its affect their attitude towards mathematics in upper basic schools in Bida Local Government Area. The result revealed that there was no significant difference between Male and Female students (Fcal=0.003, df=264; p>0.05) on the basis of this, hypothesis three was retained.

4.3 Summary of Findings

The summary of the findings of the study shows that

1. The Upper Basic students'have positive perception on continuous assessment as they are familiar with CA in Bida Local Government Area.

2. The mean value of male and female junior secondary school students shows little difference in their perception towards the use of continuous assessment by their mathematics teachers in Bida Local Government Area. The test revealed there was significant difference between perception of male and female students on effect of continuous assessment in upper basic school in Bida Local Government Area, Niger State.

3. The Upper Basic students' shows positive perception on written test as it was the most common adopted strategy used as continuous assessment in Bida Local Government Area.

4. The mean value of Male and Female Junior Secondary School Students' shows little difference in their perception towards the strategy used by mathematics teachers' in Bida Local Government Area. The test revealedthere was significant difference between perception of Male and Female students' on various Continuous Assessment Strategies being used by mathematics teachers' in upper Basic School in Bida Local Government, Niger State.

5. The findings on the attitude of Upper Basic Students' on continuous assessment shows they indicate positive attitude towards continuous assessment as the students habit towards mathematics has improved in Bida Local Government Area.

6.The mean value of Male and Female Upper Basic Students' shows little difference in their attitude towards continuous assessment used by mathematics teachers' in Bida Local Government Area. The test revealed there was significant difference between Male and Female students' perception in Continuous Assessment as its affect their attitude towards mathematics in upper Basic School in Bida Local Government, Niger State.

4.4 Discussion of the Result

Continuous assessment has helped Nigerian Educational system to improve. Null hypothesis One revealed there was no significant difference between perception of male and female students on effect of continuous assessment in upper basic school in Bida Local Government Area, Niger State.In this belief, students and teacher relationship has improved and a meaningful activity is being achieved at the end. This phenomenon can be viewed from Temesgen (2017) where he said that assessment, in which a teacher and his students are actively involved, is a meaningful activity. Therefore, through continuous assessment, the students' and their teachers' for the development of the country will calve new innovations out. Due to continuous research through tests and assignments, new ideas were being built. Temesgen (2017) also supports this argument, because when the teacher and the students involve themselves with meaningful activities, they develop new ideas.

Continuous assessment is a strategy to spur students to work hard. Null hypothesis two revealed there was significant difference between perception of Male and Female students' on various Continuous Assessment Strategies being used by mathematics teachers' in upper Basic School in Bida Local Government, Niger State. If a student does not involve

themselves in assignments and tests, they will not feel like a student. Again, their final examination will not be satisfactory. So they work hard in order to achieve good grades at the final examination. Therefore, a meaningful activity is being achieved at the end, Temesgen (2017).

Continuous assessment is a way out of examination malpractice. Asnake (2016) also sees it as a method whereby the final grading of the students, takes account in a systematic way of their whole performance during a given period of schooling.

The study habit has improved and is attracted towards the study of mathematics. Students study habit has changed from what it used to be. This is because continuous assignments and tests have increased their reading habit more especially in mathematics. This was in line with Edwin(2014) who revealed that students who were continuously assessed performed better than those who were not assessed continuously as it can lead eradicate examination malpractice among students. Also their attraction towards the study of mathematics was as a result of continuous practice with the subject. Hence their interest in mathematics increases whenever they are carrying out any assignment on the subject. Patrick (2015) said that every learner in the school shows behaviors in cognitive, affective and psychomotor domains, and there is need for assessing cognitive, affective and psychomotor behavior of the learners.

Since students' gains from continuous assessment at the final grading, which are an integral part of the continuous assessment, their happiness increases whenever such opportunity is being given (Nwebeza, 2010). So on effect, they have shown a change in behavior towards learning. According to Mzomwe*et al.* (2019), continuous assessment is a systematic and objective process of determining the extent of a student's performance in all expected changes in his behavior. Also due to the increase in the final grading, which continuous

assessment has helped students to gain, they develop interest in carrying out more research, assignments and projects in mathematics in order to beef-up their scores at the long run. Adekeye (2011) sees continuous assessment as a method whereby the final grading students, takes account in a systematic way of their whole performance during a given period of schooling.

Alphine (2011) revealed that attitudes affected the effort and behaviour of students towards mathematics in various ways. students who liked and enjoyed mathematics are expected to be motivated, could complete all the assignments, do extra work, pay attention to the teachers in class, could not miss a lesson and were always prepared for mathematics lessons regardless of the presence or absence of the teacher.Null hypothesis three revealed there was significant difference between Male and Female students' perception in Continuous Assessment as its affect their attitude towards mathematics in upper Basic School in Bida Local Government, Niger State. A good percentage of students were in contrary to this expectation which is reflected in their dismal Performances. They fail to complete the assignments and do practice which makes it difficult for them to perform. Attitude determines students' ability, willingness to learn, choice of action and response to challenges. It determines the level of engagement, interest, personal effort without which one can hardly perform. Students are aware of what it takes to perform in mathematics yet they lack commitment. They know if they work hard they can improve but would constantly fail to do the necessary. Attitude also influences the confidence level of students in mathematics. The study found that students were positive of getting good grades in their final KCSE exams, had confidence in tackling mathematical related problems and most would pursue mathematics related courses in future which reflect high level of confidence

of students in mathematics. However, on the contrary the positive attitude of the students does not match their performance as most of them scored dismally in mathematics.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

Based on the findings from the analysis of the data collected for this study, the following conclusions are made:

The Upper Basic students' have positive perception on continuous assessment as they are familiar with CA in Bida Local Government Area.

The mean value of male and female junior secondary school students shows little difference in their perception towards the use of continuous assessment by their mathematics teachers in Bida Local Government Area. The test revealed there was significant difference between perception of male and female students on effect of continuous assessment in upper basic school in Bida Local Government Area, Niger State.

The Upper Basic students' shows positive perception on written test as it was the most common adopted strategy used as continuous assessment in Bida Local Government Area.

The mean value of Male and Female Junior Secondary School Students' shows little difference in their perception towards the strategy used by mathematics teachers' in Bida Local Government Area. The test revealedthere was significant difference between perception of Male and Female students' on various Continuous Assessment Strategies being used by mathematics teachers' in upper Basic School in Bida Local Government, Niger State

The findings on the attitude of Upper Basic Students' on continuous assessment shows they indicate positive attitude towards continuous assessment as the students habit towards mathematics has improved in Bida Local Government Area.

The mean value of Male and Female Upper Basic Students' shows little difference in their attitude towards continuous assessment used by mathematics teachers' in Bida Local Government Area. The test revealed there was significant difference between Male and Female students' perception in Continuous Assessment as its affect their attitude towards mathematics in upper Basic School in Bida Local Government, Niger State.

From the findings of the study, therefore the researcher concludes that introduction of continuous assessment in secondary school has alleviated the students from the tension of not passing the final examination and the necessity of involving in continuous assessment.

It also helped the students to be conscious of their studies. A large number of students have accepted the usage of continuous assessment record as an integral part of the final examination. So at this stage, therefore, the students' performance in academics depends on their effective performance in continuous assessment and this will entail their performance in future life in general.

5.2 Recommendations

Based on the findings of the present study, it seems reasonable to suggest the following ideas for better implementation of mathematics continuous assessment among Junior Secondary Schools in Bida Local Government Area.

1. The principals and Education office should frequently organize workshops, seminars and conferences for serving teachers on the practice of continuous assessment in schools Specifically the training should focus on

i. Selected and challenged topics from each course thatwere not easy for CA implementation.
ii. How and when to provide feedback for students.
iii. How and when to practice self and peer assessment.
iv. How to use CA plan.
v. How to prefer CA related to the objective and etc.

Therefore, Practice and intensive training for teachers and should be provided to change their knowledge, attitude and skills of CA.

2. Mathematics teachers should be provided with exemplar assessment tasks and assessment administration instructions to give them clarity on the different techniques and how it has to be carried out.

3. Training programmers to impart the required knowledge/understanding and skills in assessment designs and procedures, along with opportunities to prepare and demonstrate methods of assessment should be conducted on regular basis.

4. Review workshops should be held where Mathematics teachers shall meet frequently and share the experiences and measures taken by them during the implementation process.

5. Different teaching and learning materials should be provided for helping teachers and successful implementation of CA

6. Mathematics teachers and concerned bodies that implement CA have to be rewarded.

5.3 Contribution of the Studyto Knowledge

The study has contributed to knowledge in the follow ways:

If continuous assessment has not been introduced in secondary school, the students' performance may not have improved tremendously. Students will be depending on examination malpractice in the final examination. Continuous Assessment is a tool towards checking examination malpractice in schools which stated its educational goals and objectives.

5.4 Limitations of the Study

The following are challenges regarding the study

1. The study was only designed to assess the perception of upper basic students'on continuous assessment and attitude towards mathematics in Bida Local Government Area, Niger State. The findings may thus not generalizable to private Junior Secondary Schools,due to how they operate and how they gave automatic promotion to their student.
2. The study assessed the continuous assessment strategies employed by Mathematics teachersto find out the most commonly used strategyinassessing students in the upper basic class.

5.5 Suggestions for Further Research

Based on the findings of this study, the following recommendations for further researches are made:

1. The study was limited to students in Bida Local Government Area. However, the perception of Upper Basic Students on CA and attitude of students towards

mathematics continuous assessment could be different in other Local Government Area of Niger State. The study suggests that an extensive similar study be done in all secondary schools within Niger State, so as to have a comprehensive report on influence of students' attitudes on mathematics performance of secondary schools students.

2. This study should be replicated using university students in departments of Mathematics.

3. The study was only limited to students. However, the views of the teachers who play a very crucial role in the teaching of mathematics were left out. There is need to carry out a similar study involving the teachers in order to incorporate their views so as to have a comprehensive report.

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APPENDIX A

PERCEPTION OF UPPER BASIC STUDENTS CONTINUOUS ASSESSMENT AND ATTITUDE TOWARDS MATHEMATICS QUESTIONNAIRE (PUBSACAQ)

Dear Student,

Please kindly respond to the questions and statements as frankly and truthfully as you can. Your cooperation and contribution towards this research will be very much appreciated. All information given will strictly be kept confidential. (Do not write your name)

SECTION A: Bio-data Information

1) Gender: Male ☐ Female ☐

2) Class: ……..

3) What is your current class? .....

Instruction: kindly read each statement and tick (√) provided that best represent your assessment of the perception on continuous assessment using the following response scale.

RESPONSE GUIDE

Response categories

Strongly agree (SA)=5, Agree(A) =4, Undecided(U)=3, Strongly Disagree (SD)=2 and Disagree (D)=1

SECTION B: Perception Questions

Perception of upper basic school students on continuous assessment						
S/N	**ITEMS**	**SA**	**A**	**U**	**SD**	**D**
1.	I am familiar with continuous assessment					
2.	I don't know what continuous assessment is					

3.	Mathematics teachers' used continuous assessment as a means of evaluation					
4.	Mathematics teachers' do not used any form of continuous assessment as a means of evaluation					
5.	Mathematics teachers' assessed the students regularly in my school					
6.	Mathematics teachers' give students scripts after scoring in my school.					
7.	Mathematics teachers' do not give students scripts after scoring in my school					
8.	Mathematic teachers' mark students' notes and use it as part of continuous assessment in my school					
9.	Mathematics teachers' do not mark students' notes as part of continuous assessment in my school in my school					
10.	Mathematics teachers', mark and record students' test and assignment regularly in my school.					
11.	Mathematics teachers' do not mark and record students' test and assignment regularly in my school.					
12.	Continuous assessment improves students' participation in the mathematics.					
13.	Continuous assessment does not improve students' participation in mathematics.					
14.	Continuous assessment in mathematics frightens and disturbs the students.					
15.	Continuous assessment in mathematics does not frighten and disturbs the students.					
16.	Continuous assessment help me to remember what was taught					
17.	Continuous assessment makes me more confident and ready for examination.					
18.	Continuous assessment make teachers give quick feedback					
19.	Continuous assessment improves my understanding in solving problems in mathematics					
20.	Continuous assessment help me to master the formula in mathematics					
21.	. Continuous assessment arouses my desire to attention and concentrate in class					

22.	Continuous assessment help me to interact with the teacher during self-assessment					

SECTION C: **Continuous Assessment Strategies**

How often do your teacher carry out the following to check your progress ?

S/N	Strategies	Very Often	Often	Not Often	Never
1.	Oral Test				
2.	Written Test				
3.	Take-home Assignment				
4.	Observation				
5.	Questionnaire				
6.	Quizes				
7.	Examination				
8.	Project work				
9.	Peer assessment				
10..	Self-assessment				

SECTION D: Attitudes towards Mathematics Questions

How do students' perceptions of continuous assessment affect their attitude towards mathematics?

My attitude to mathematics has been affected in the following ways						
S/N	**ITEMS**	**SA**	**A**	**U**	**SD**	**D**
1.	My study habit towards mathematics has improved					
2.	I felt repulsive towards mathematics					
3.	I felt being forced to study mathematics					
4.	I felt being attracted towards the study of mathematics					
5.	I felt happy being taught mathematics					
6.	I felt like doing projects, assignment daily in mathematics					

APPENDIX B

VALIDITY OF THE INSTRUMENT

Sir/Ma,

RESEARCH INSTRUMENT VALIDATION FORM

The candidate AMINA I. NMARUBU with Admission Number MTech 2017/7552 is a student of the department. You are requested to make amends or inputs that will improve the quality of the instrument. Your professional expertise is expected to assist the researcher towards the award of the degree.

Thank you.

14 SEP 2020

Fed. University of Tech. Minna

Dr. Rabiu M. Bello

HOD (Signature, Date & Official stamp)

Title of the Research Instrument: PERCEPTION OF UPPER BASIC SCHOOL MATHEMATICS STUDENTS ON CONTINUOUS ASSESSMENT IN BIDA, NIGER STATE

SECTION A

1. Appropriateness of the Research Instrument title: Not quite as Perception — involves other variables
2. Suggest amendment if not appropriate: Think of variables such as Awareness, Usefulness.
3. Completeness of Bio-data Information: O.K
4. Suggest inputs if incomplete Revise the instruments and
5. Suitability of items generated Revise based on the variables suggested
6. Structure of the questionnaire/ test items generated OK
7. Structure of the instrument in line with the objectives of the study. appropriate There are 8 objectives 4 and 5 not for upper basic students
8. Items coverage and distribution across constructs and domains measured Revisit
9. Appropriateness of the instrument in relation to the type of data to be collected O.K.
10. What is the general overview and outlook of the instrument? Need serious restructure based on the suggestions.
11. Rate the instrument between 1-10 5

SECTION B

Name of the validator: DR. A A. HASSAN

Designation/Rank: Senior Lecturer

Name of institution: FUT, Minna

Department/ School: Sci. Edu/ SSTE

Telephone No/GSM No: 08036276378

E-Mail Address: [illegible] @ futminna.edu.ng

21/10/2020

Signature, Date and stamp (if available)

RESEARCH INSTRUMENT VALIDATION FORM

Sir/Ma,

The candidate Aminu .T. Nakolu with Admission Number M/TECH/2017/7552 is a student of the department. You are requested to make amends or inputs that will improve the quality of the instrument. Your professional expertise is expected to assist the researcher towards the award of the degree.

Thank you.

Dr. Rabiu M. Bello

HOD (Signature, Date & Official stamp)

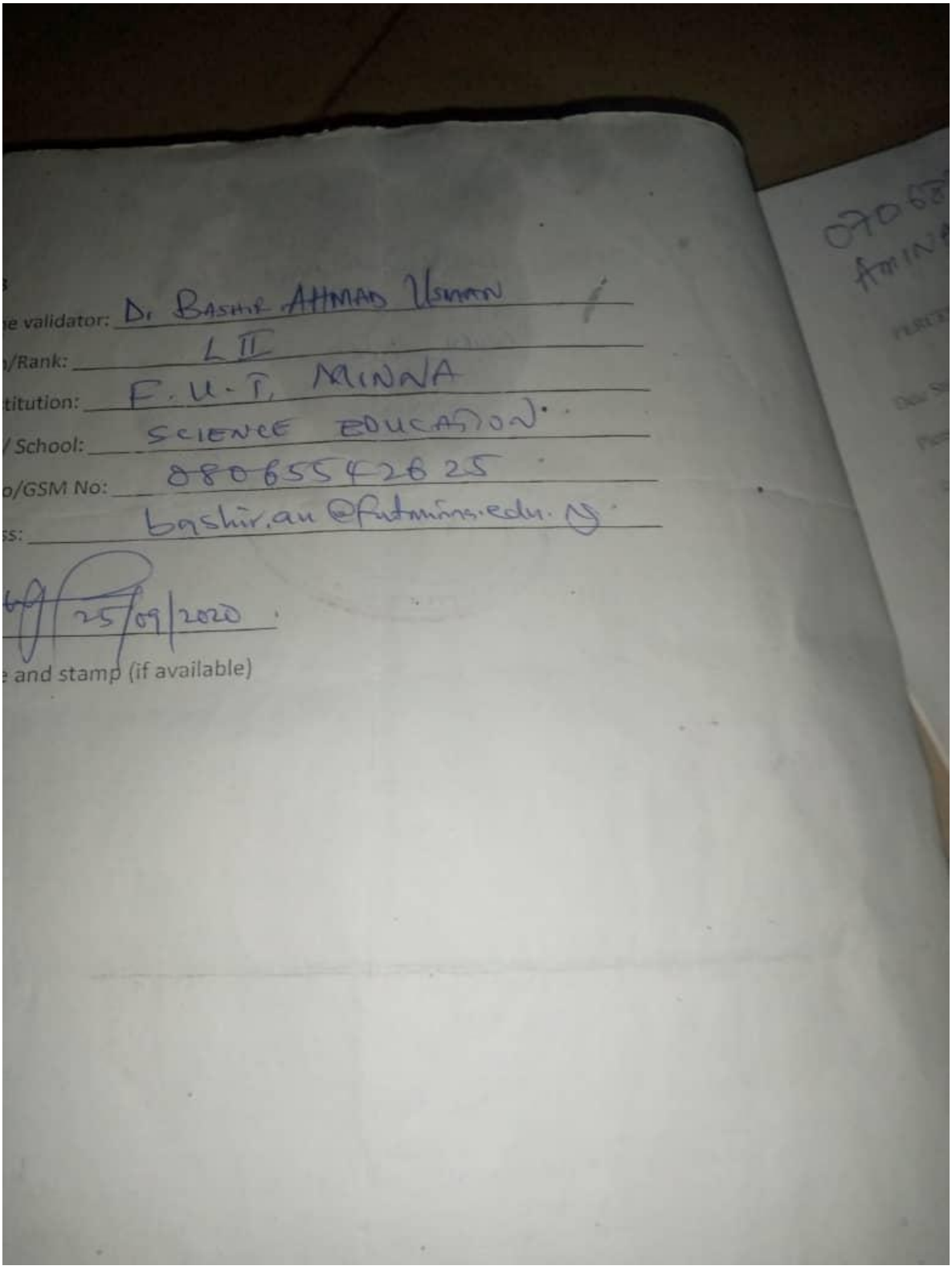
14 SEP 2020

Head, Fed. University of Tech. Minna

Title of the Research Instrument: PERCEPTION OF UPPER BASIC SCHOOL MATHEMATICS STUDENTS ON CONTINUOUS ASSESSMENT IN BIDA, NIGER STATE.

SECTION A

1. Appropriateness of the Research Instrument title: ________
2. Suggest amendment if not appropriate: "BASIC SCHOOL" SHOULD BE REPLACED WITH "BASIC LEVEL STUDENTS"
3. Completeness of Bio-data Information: OKAY.
4. Suggest inputs if incomplete N/A
5. Suitability of items generated NEED TO BE RE-GROUPED UNDER "AWARENESS" "USAGE" AND "STRATEGIES"
6. Structure of the questionnaire/ test items generated OKAY, SUBJECT TO AMENDMENT AS ATTACHED
7. Structure of the instrument in line with the objectives of the study. OBJECTIVES 3 & 4 NEED TO BE REVIEWED AS OBSERVED FROM ATTACHED
8. Items coverage and distribution across constructs and domains measured ADEQUATE
9. Appropriateness of the instrument in relation to the type of data to be collected APPROPRIATE
10. What is the general overview and outlook of the instrument? IT IS OKAY IF CORRECTIONS EFFECTED.
11. Rate the Instrument between 1-10 7



e validator: Dr. BASHIR AHMAD USMAN
)/Rank: LIT
titution: F.U.T. MINNA
/ School: SCIENCE EDUCATION.
o/GSM No: 08065542625
ss: bashir.au@futminna.edu.ng

25/09/2020

e and stamp (if available)

APPENDIX C
Reliability for Perception of BSS on CA

```
GET DATA /TYPE=XLSX
  /FILE='C:\Users\User\Desktop\Amina \Amina Coding.xlsx'
  /SHEET=name 'Sheet1'
  /CELLRANGE=full
  /READNAMES=on
  /ASSUMEDSTRWIDTH=32767.
EXECUTE.
DATASET NAME DataSet1 WINDOW=FRONT.
RELIABILITY
  /VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8Q Q9 Q10 Q11 Q12 Q13 Q14
             Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26
             Q27 Q28 29 30 Q31 Q32
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

```
[DataSet1]
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded[a]	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.734	32

Reliability for Attitude towards Mathematics

```
RELIABILITY
  /VARIABLES=Q1_A Q2_A Q3_A Q4_A Q5_A Q6_A
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded[a]	0	.0
	Total	35	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.751	6