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Practice and Perception of Secondary Schools Physics Teachers Towards Continuous Assessment in Osun State Nigeria: Pedagogical and Curriculum Implications

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Abstract

The demand for science teachers to cover the curriculum contents as a result of few periods allotted to teach and the involvement in practical activities is enormous. Besides, the paucity of science teachers especially in Physics might be a constraint to practice of continuous assessment which is germane to curriculum implementation. Therefore, the study investigated the practice of continuous assessment among physics teachers in senior secondary school in Osun State Nigeria. It also assessed the opinions of Physics teachers concerned about the practice of continuous assessment; and further examined speculated factors that can likely affect the implementation of continuous assessment. These were carried out with a view to encapsulating pedagogical and curriculum implications. The study adopted descriptive survey research. The population comprised physics teachers in government senior secondary school in Osun State, Nigeria. Purposive sampling technique was used to select 31 Physics teachers from 16 randomly selected schools in the State. An Instrumentation titled "Evaluation of Teachers Implementation of Continuous Assessment'' (ETICA) of four sections was used to collect data for the study. The instrument was subjected to content validity by two expert judgments. The reliability of the instrument was established using Cronbach alpha for section B and C and found reliable at 0.75 and 0.81 while Section D was determined through Kuder -Richardson (KR-20) and found to be 0.72. Data collected were analyzed using mean, standard deviation and percentages to answer the research questions. The results of the study showed that assessment of psychomotor and affective domains was not attended to during continuous assessment practice, although the teachers had positive opinions towards implementation of continuous assessment. The results of the findings further speculated factors that can likely affect the implementation of continuous assessment as perceived by the Physics teachers. Finally, Recommendations were made to improve the implementation of continuous assessment.

Keywords: Practice, Perception, Physics Teachers, Continuous Assessment, Pedagogical Implication and Curriculum Implication

Introduction

Assessment in schools has called the attention of educationists, stakeholders and policy makers in contemporary times. The active role in which assessment plays in the curriculum implementation makes it central to teaching and learning processes at all levels of education. Assessment is an educational tool to evaluate students in a systematic procedure. Teaching would be pointless without evaluating the quality of instructions input by the teachers and the learning outcomes. Therefore, assessments are needful in elementary, primary and secondary schools to structure and ascertain the intention of education goals. The importance of assessments cannot be overlooked even in higher institutions of learning. It will be difficult to measure varying inputs and the

outputs during the course of learning at all stages of education without assessments. No matter how detailed a teacher plans and implements instruction, one cannot be sure that students learn optimally. It is through the assessment that a qualified teacher will be able to determine the learning outcomes. In sciences, the justification for assessment is essential to inform the classroom teachers on their pedagogical skills and the curriculum contents delivery. Assessment means appraisal (Webster Dictionary 2017). Science involves process skills and procedural knowledge which if not assessed will not be of benefit to the students. This is of the fact that students must know technical terms and concepts of science at different stages of learning, these interrelated concepts prompt for assessment at all times.

Science learning is tremendously changing from dogmatism and memorization to acquisition of process skills and critical thinking; accordingly, the learning of Physics addresses creativity, experimentation, problem solving, and critical thinking that draw attention to assessment activities on regular basis. Assessment of students' achievement is changing, largely because students face a world that demands new knowledge and abilities (Bond, Herman, & Arter, 1994). Assessment will assist in achievement of educational objectives thereby motivate and encourage students during and after learning.

With the relevance of assessment to all teaching subjects, classroom teachers are saddled with responsibility of making it workable using relevant pedagogical skills in the course of delivering curriculum contents. In the global context, the classroom pedagogy used by teachers is seen as an essential variable for improving learning outcomes at all stages of education and is critical in any reform to improve education quality (UNESCO, 2005). Pedagogy involves articulation of skills and knowledge to deliver the curriculum contents during instructions delivery. As such, the teaching skills and the activities demonstrated by teachers to enhance learners' knowledge and skills can be referred to as pedagogy. Therefore, every teacher needs pedagogical skills to bring together strategies of teaching and organization of classroom experiences to diverse learners. This draws attention of pedagogical knowledge. Alexander (2008) defines pedagogy as:

> *the act of teaching together with its attendant discourse of educational theories, values, evidence and justifications. It is what one needs to know, and the skills one needs to command, in order to make and justify the many different kinds of decision of which teaching is constituted.*

In consonance with this, teachers make good decisions on students learning outcomes based on pedagogical skills used in teaching and assessment of students. In Physics like other sciences assessment should be done regularly, constantly, progressively and at varying logical and sequential intervals to make it continuous assessment. The objectives of all curricula are structured to channel quality education. The general objectives in Nigeria Physics curriculum are to:

(i) provide basic literacy in physics for functional living in the society;

(ii) acquire basic concepts and principles of physics as a preparation for further studies;
(iii) acquire essential scientific skills and attitudes as a preparation for technology application of physics; and
(iv) stimulate and enhance creativity.

The above stated objectives cannot come to limelight without technical know-how of pedagogical skills of the teachers to unravel the curriculum contents. This makes curriculum central to achieving educational goals. Marsh (1997) posits curriculum as "an interrelated set of plans and experiences which a student completes under the guidance of the school" (p.5). "Under the guidance of the school" is assessment and evaluation suggestive in the concept of the curriculum as defined by Marsh. That is, a strong connection between assessment and curriculum is implied. Assessment is one of the tools employed by teachers to attain desirable goal in education. Curriculum can be seen as a means of achieving specific educational goals and objectives or as a plan, or a sort of blueprint for systematically implementing educational activities to enhance quality education. Educational activities are teachers' activities, students' activities and the learning outcomes. There is therefore need to assess the implementation of those educational activities to enhance quality education. Some researchers view quality education as the relationship between school inputs, such as quantitative surveys of textbooks and other physical school resources and students' achievement (Barrett, 2007). Alternatively, other studies see quality education as encompassing the more complex pedagogical issues in teaching and learning that affects students' achievement (Alexander 2007; Barrett, 2007). From those views, students' achievement is one of the major products to justify quality education. Nigerian Senior School Physics curriculum was structured to stimulate creativity, develop process skills and correct attitudes in students through the process of experimentation, questioning, discussion and problem solving. All these cannot be achieved without assessing the students systematically and consistently. Assessment is a means of evaluating teachers' pedagogical skills of the teachers at one end and students' learning and behaviour at the other end. A resourceful assessment calls for continuous process to harmonize pedagogical processes and curriculum implementation on students' learning.

The contents of Physics curriculum for Nigeria schools specified evaluating measures which guides teachers on continuous assessment through different forms. In evaluating the course on the curriculum, we recommend an assessment that takes cognizance of the three domains of educational objectives with assessment instruments that include multiple choice items, structured short answer questions, and essay questions (Nigerian Educational Research and Development Council, N.E.R.D.C., 2008). This emphasizes the manner and methods of assessing the Physics students on the contents learnt from the curriculum. This implies that as part of instructional practice, Physics teachers are expected to assess cognitive, affective and psychomotor abilities of the students using different methods and procedures. These prepare the means of achieving educational goals in Physics, thus prompt the attention of teachers to evaluate on regular homework of the students, students' interactions in the class and during practical activities. Detail implementation of the curriculum demands the necessary feedback to Physics teachers

on students' mastery of mathematical languages, interpretation of findings, application of scientific laws and principles and attitude to learning.

There are possibilities that untrained and unwilling Physics teachers might lack pedagogical skills to appropriate and coordinate at right time continuous assessments through structured tests of multiple choice and essay questions, assessing individual and group home work for the students, carrying out practical activities as a measure of achievement, measuring academic progress of the students and getting feedback on three domains of learning. Given the important role continuous assessment play in the teaching and learning processes, a teacher needs to be confident in the choice of assessment selected at any point in time during education process (Chukwu, Omede, & Chikamadu, 2017). The confidence of a teacher comes from his pedagogical ability to teach and assess the learners.

However, there are more to implementation of any assessment in schools, in Osun State of Nigeria, the paucity of Physics in many schools, the use of untrained teachers to teach the subject, lack of and obsolete laboratory facilities are possible reasons that seem as impediment to the practice of continuous assessment. The use of untrained teachers, new graduate from tertiary institutions who came for one year of National Youth Service corps (NYSC) seconded to teach Physics in schools could be underlying factor to implementation of CA. According to Ogunleye and Omolayo (2016) most of the teachers in the Nigerian secondary schools lack adequate skills to develop and validate teacher made tests for use in CA. This could be as a result of no clear understanding on the practice of continuous assessment. Chukwu, Omede, and Chikamadu (2017) in their study on perception of teachers and students on continuous assessment found out that teachers do not have a clear understanding of the objective of continuous assessment let alone its implementation and that most teachers assessed cognitive domain very well and minimally assessed affective and psychomotor domains.

Unfortunately, what is observed is that many of Physics teachers have no format for continuous assessment and also they perceive the implementations as an extra work and burdens. Such teachers have their orientations mainly on conducting terminal examinations. No doubt the performance of Physics in the State has not been satisfactory over the years. Closely allied to this are prevalent conditions surrounding teaching and learning in most schools in Osun State. It is obvious that what affects disseminating of instructions to learners can closely determine the learning outcomes as well disrupt implementation of continuous assessment. In consonance with this, Government is not employing more teachers to schools to commensurate with the retired ones over the years thereby increasing the work load and demand of service teachers. This can make implementing of continuous assessment a big task for few teachers in schools. Furthermore, conduction of continuous assessment requires money, availability of test materials, record books, infrastructures which without them, the aim of continuous assessment is defeated (Ayua, 2012). It is on this background that researcher carried out this study on practice and perception of secondary schools physics teachers towards continuous assessment in Osun State Nigeria: pedagogical and curriculum implications

Review of Literature

The Concept of Continuous Assessment

Assessment is a normal phenomenon in every human endeavour. Without assessment, progress will be difficult to be measured. Assessment in education is vital to instruction delivery and to implementing the curriculum in details. It mediates between the curriculum implementation and the learning outcomes and also between the pedagogical skills and the learning outcomes. To this end, assessment bridges the gap between teaching and learning.

When the assessment is an on-going phenomenon, it is referred to as Continuous Assessment (CA). Continuous Assessment as an instructional process began in Nigeria in 1977 with the idea that it would enable education to be more involving in the overall assessment of learners and allow for diverse instructional means (Adebowale & Alao, 2008). It was expected to obviate the one single assessment that is conducted at the end of each session that occasioned for examination malpractices because students wanted to pass at all cost. West African Examination Council (1989) noted that the single final examination, which is summative, had become threatening and anxiety provoking with teachers teaching almost exclusively for examination. O'Connor and McTaggart (2017) comment that the introduction of various forms of national standards and standardised assessment tests have had harmful effects on inter-related changes to the nature of teaching, the delimiting of students' learning, the diminishing prioritisation of contextual and deep knowledge and, the narrowing of the curricula contents. This describes the limitation of summative assessment. Oyekan (2016) refers to continuous assessment as the use of different modes of evaluation for the purpose of guiding, improving and ensuring meaningful learning with the overall aim to enhance brilliant performance of students within and outside the school environment. Osokoya (1987) submits that continuous assessment can be viewed as a method of finding out what the students have gained from learning activities in terms of knowledge, thinking and reasoning, character development and industry.

Continuous assessment is defined as a mechanism whereby the final grading of students in the cognitive, affective and psychomotor domains of behaviour systematically takes account of all their performance during a given period of schooling (Osunde & Ughamadu, 2004). Such assessment involves the use of various means of evaluation for the purpose of guiding and improving the learning and performance of the students. Kapanbwe (2010) describes continuous assessment as an on-going classroom-based process that uses a variety of assessment tools to measure learners' performance. Continuous assessment is an integral part of instruction, considered as a mechanism whereby the final grading of learners on the cognitive, affective, and psychomotor domains of learning is made (Falayalo & Juliet as cited in Abiy, 2013). (2016) affirms that every educational institution, irrespective of its level, has been using CA as a key to determine students' learning achievement and identify their learning difficulties for special supports, to improve the teachers' pedagogical practices, and to improve quality of education in general. Teachers in Nigeria use continuous assessment to access curricula goals at all levels of Education. In teaching and learning of Physics in senior secondary schools, continuous assessment assumes different dimensions such as giving of homework to students, assessing of students during problem solving, recalling and application of concepts; skills are assessed during practical class for psychomotor abilities, giving students group work or assignment

such that they interact together to share and build on knowledge. Projects are also given to students either individually or collectively on regular basis. The CA carried different denotation such as feedback (Hattie & Timperley, 2007; Shute, 2008), self-regulated learning, which includes self-assessment and subsequent actions to attain learning goals (Dignath & Büttner, 2008; Ross, 2006), and peer-assisted learning including peer-assessment and subsequent feedback (Rohrbeck, Ginsburg-Block, Fantuzzo, & Miller, 2003; Van Zundert, Sluijsmans, & Van Merriënboer, 2010), and reviews on teachers' adjustment of instruction based on collected evidence of students' learning (National Mathematics Advisory Panel, 2008; Yeh, 2009)

Nigeria education system is not isolated from the global educational policy, and CA has been instituted into all levels of her educational systems as obtainable in other countries of the world. This is as a result of unending benefits of it to students and the ripen dividend to the society. According to Ajuar (2008), proper implementation of CA will assist the teachers to take the following measures:

(i) to improve teaching methods;
(ii) provide a useful objective for diagnosis of students learning difficulties;
(iii) provide a basis for more effective guidance of the students; and
(iv) provide the teachers with knowledge of how to achieve the stated objectives.

However, the benefits of CA cannot be achieved without teachers implementing the objectives of the curriculum. Emeke, as cited in Bandele and Ayodele (2015) highlights the objectives of continuous assessment to include:

(i) regular assessing of students and proper recording of scores from such assessments;
(ii) meticulous record keeping of every facet of students' progress while in school;
(iii) testing of the three major domains: cognitive, affective and psychomotor domains of students;
(iv) giving of feedback to teachers so as to enable them to appraise the methods of instruction;
(v) identification of difficult topics during teaching and the re-teaching of such difficult topics;
(vi) provision of guidance and counselling to help students in their learning as well as career development and adjustment;
(vii) identification of the personality of each student including the temperament, interest, attitude and so on;
(viii) the use of a variety of evaluation techniques; and
(ix) using all the scores in all the tests (cognitive, affective and psychomotor) for the final grading and placement of each student.

Each of the objectives above has implications on pedagogy and curriculum implementations including the practice of continuous assessment in secondary schools Physics.

Statement of the Problem

The strength of continuous assessment to enhance students' achievement has been remarked by educationists in different countries of the world, and in Nigeria, researches abound. The major evidence in support of continuous assessment in schools is that students who are assessed continuously obtain better results than those of equal ability,

assessed through a single examination (Nneji, Fatade, Awofala & Awofala, 2012; Mwebaza, 2010). This is because continuous assessment allows for more opportunities to test a wide range of abilities over a longer period of time and under different conditions than through a single examination (Eimann, 2002). The wide range of abilities to be tested is specified in Physics curriculum on continuous basis.

Although studies have been conducted on the influence of continuous assessment to achieve academic goals in some subjects, there is a need to examine the practice in Physics domain, therefore the study was conducted.

Purpose of the Study

the broad objective of this study is to examine the practice and perception of secondary schools Physics teachers towards continuous assessment in Osun State Nigeria: pedagogical and curriculum implications.

Research Questions

To address the problem of the study, the following research questions were raised:

(i) Do Physics teachers implement continuous assessment during their pedagogical instructions?
(ii) What are the opinions of Physics teachers on the practice of continuous assessment?
(iii) What are the speculated factors that can likely affect the practice of continuous assessment?

Methods

Research Design

The study adopted descriptive survey research design. The design is found appropriate for the purpose of gathering, describing and analysing the information from representative sample of Physics teachers under investigation.

Participants

The target population for the study comprised Physics teachers in government senior secondary schools in Osun State, Nigeria. Sample of 31 Physics teachers was purposively selected for the study using multistage sampling technique. The sample was considered adequate because of paucity of Physics teachers in the state. Two senatorial districts (Osun central and Osun East) were randomly selected from the three senatorial districts in the state. Four Local Government Areas (LGAs) were selected from each of the two senatorial districts using simple random sampling technique making a total of eight LGAs. Two schools were randomly selected from each of the LGAs making a total of 16. The Physics teachers were purposively selected from each of the schools based on the year of experience and that they were permanent teachers employed by the state government.

Instrumentation

Evaluation of Teachers' Implementation of Continuous Assessment'' (ETICA) was a designed instrument by the researcher and was used to collect data for the study. Section A of ETICA elicited information on the demographic variables of the Physics teachers.

Section B of ETICA sought for information on the implementation of continuous assessment on a 10-item questionnaire, with responses options of “every week”, “once in two weeks”, “once in a month”, once in a term”, “not at all’’ rating 4, 3, 2, 1 and 0 respectively. Section C of the questionnaire gathered information on Physics teachers’ opinions on the practice of continuous assessment on a 10-item questionnaire of a 4-point rating scale of “strongly agree, agree, disagree and strongly disagree. Section D of the instrument consisted of a 10-item questionnaire on factors affecting implementation of CA in secondary schools on responses of “Yes “and “No”. The instrument was subjected to content validity by two experts each from Science and Technology Education and Measurement and Evaluation from Obafemi Awolowo University, Ile-Ife, Nigeria. The two experts restructured some items in the questionnaires and mode of responses of section B of ETICA were changed to “every week”, “once in two weeks”, “once in a month”, once in a term”, “not at all’’. For the reliability of ETICA, a pilot study was carried out. The questionnaire was administered on eight Physics teachers outside the study areas. The data collected from the pilot study were statistically analyzed using Cronbach alpha to calculate the reliability coefficient for sections B and C with the aid of SPSS version 20 and found to be 0.75 and 0.81 respectively while section D reliability was determined by Kuder -Richardson (KR-20) and found to be 0.72.

Method of Data Analysis

Data collected were analysed using descriptive statistics of Mean, Standard Deviation frequency counts and percentage with the aid of Computer Statistical Package (SPSS Version 20). Therefore, the mean value of 2.5 was chosen as baseline to make decision.

Results

Research Question One: Do Physics teachers implement continuous assessment during their pedagogical instructions?

Table 1: Mean rating of Physics teachers on the implementation of continuous assessment

S/N	ITEMS	N	Mean	Standard Deviation	Remark
1.	Feedback from the students after each class of teaching.	31	3.39	0.99	Implemented
2.	Homework to check the students’ learning progress.	31	3.65	0.66	Implemented
3.	Students are grouped to examine their interactions.	31	2.06	1.59	Not Implemented
4.	Feedback of Continuous Assessment to the students on their academic progress.	31	3.03	1.22	Implemented
5.	Evaluation of students during the process of instruction.	31	3.03	1.47	Implemented
6.	Feedback from peer group discussions or assignments are discussed to the entire class	31	0.48	0.72	Not Implemented
7.	Evaluation of the practical skills of the students	31	0.23	0.50	Not Implemented
8.	Multiple choice questions used in assessing the students.	31	2.13	1.38	Not Implemented

9.	Essay questions used in assessing the students.	31	2.97	1.30	Implemented
10.	Students are made to be aware of their strength and weakness.	31	0.65	0.66	Not Implemented
	Grand Mean		2.16	0.39	Not Implemented

Table 1 above shows that Physics teachers implemented continuous assessment on items 1, 2, 4, 5 and 9 with mean values of 3.39, 3.65, 3.03, 3.03, and 2.97 respectively. The Table also shows that Physics teachers did not implement continuous assessment on items 3, 6, 7, 8 and 10 with mean values of 2.06, 0.48, 0.23, 2.13 and 0.65 respectively. The grand mean value showed teachers on the average did not implement continuous assessment during their pedagogical instructions.

Research Question Two: What are the opinions of Physics teachers on the practice of continuous assessment?

Table 2: Mean rating of opinion of Physics teachers on the practice of continuous assessment

S/N	ITEMS	N	Mean	Standard Deviation	Remark
1.	Continuous Assessment is not a necessary tool to be used in teaching science.	31	3.10	1.18	Disagreed
2.	Frequent use of Continuous Assessment wastes Students time.	31	3.23	0.84	Disagreed
3.	Continuous Assessment is tiresome.	31	3.26	0.96	Disagreed
4.	Continuous Assessment is not relevant to students.	31	3.52	0.68	Disagreed
5.	Students do not like being assessed continuously.	31	1.74	1.03	Agreed
6.	Voluminous of contents in sciences prevent implementation of Continuous Assessment.	31	2.48	1.15	Agreed
7.	It is impossible to implement Continuous Assessment in a large class.	31	2.90	1.01	Disagreed
8.	Continuous Assessment wastes resources and time.	31	3.45	0.81	Disagreed
9.	Continuous Assessment is impracticable because much of the conditions for it cannot be fulfilled.	31	2.68	1.14	Disagreed

10.	It will be difficult for Continuous Assessment to match up with lesson objectives.	31	3.10	0.91	Disagreed

Table 2 above shows the opinions of Physics teachers on the practice of continuous assessment. There were disagreements of opinions on items 1, 2, 3, 4, 7, 8, 9 and 10 with mean responses of each above 2.50 indicating positive opinions on the practice of continuous assessment. However, the teachers agreed to the opinions on items 5 and 6 of mean responses below 2.50 indicating negative opinions to the practice of continuous assessment.

Research Question Three: What are the speculated factors that can likely affect the practice of continuous assessment?

Table 3: Percentages rating on responses of speculated factors that can likely affect the practice of continuous assessment

S/N	ITEMS	AGREE		DISAGREE	
	Speculated factors affecting the practice of CA:	N	%	N	%
1.	Lack of enough time	27	87.1	4	12.9
2.	Drive to cover the contents of the syllabus	21	67.7	10	32.3
3.	Large class	14	45.2	17	54.8
4.	Lack of infrastructures like chairs, chalkboards, stationary materials etc.	25	80.6	6	19.4
5.	Teachers' workloads	25	80.6	6	19.4
6.	Lack of teachers' training	26	83.9	5	16.1
7.	No clear manuals and guidelines	18	58.1	13	41.9
8.	Lack of fund	22	71.0	9	29.0
9.	Computational problems	22	71.0	9	29.0
10.	Lack of records	18	58.1	13	41.9

Table 3 above shows the responses on speculated factors that can likely affect implementation of continuous assessment in secondary schools. The speculated factors were lack of enough time to implement continuous assessment given by 27 of the teachers (87.1%), another response given by 21 of the Physics teachers (67.7%) was the drive to cover the contents of the syllabus. Other responses include: 14 of the Physics teachers (45.2%) agreed on large class, 25 of the Physics teachers (80.6%) agreed on lack of infrastructures like chairs, chalkboards and stationary materials, 25 of the Physics teachers (80.6%) agreed on teachers' workloads, 26 of the Physics teachers (83.9%) agreed on lack of teachers' training, 18 of the Physics teachers (58.1%) agreed on lack of clear manuals and guidelines, 22 of the Physics teachers (71.0%) agreed on lack of fund as a barrier, 22 of the Physics teachers (71.0%) of the physics teachers agreed on computational problems, 18 of the Physics teachers (58.1%) agreed on lack of records.

Discussion

The findings of this study to research question one showed that Physics teachers did not group the students to assess their interactions. This is against one of the philosophy and

goals of education in Nigeria which provides that interaction of persons and ideas are all aspects of education. An indication that Physics is not evaluated as student-activity oriented, a signal restricting creativity, problem solving and discovery. The findings further showed there was a gap between the teachers and the students; teachers were not getting feedback from students' interactions. The findings further showed practical skills of the students were not assessed an indication of non-compliance to the objectives of Physics Curriculum in Nigeria. These might be the reasons many students held the notion that Physics is a difficult subject.

The non-implementation of interaction among the students and evaluation of the practical skills factored that affective activities were not implemented in the continuous assessment. It is an indication that the teachers will find it difficult to guide the students. Furthermore, practical skills that should enhance the psychomotor skills and multiple-choice questions were not implemented in the continuous assessment which implies that the continuous assessment was not comprehensive enough. On the average, the continuous assessment was not an ongoing process during the pedagogical instructions as indicated with the mean value of 2.16. The findings of the study are in agreement with findings of Oyekan (2000) that assessment of non-cognitive qualities in the psychomotor and affective domains is often not given priority attention to in classroom evaluation of students' learning outcomes by the teachers. The findings showed that the four basic characteristics of continuous assessment highlighted by experts (Ughamadu, Onwuegbu & Osunde, 1991; Yoloye, 2009) to include systematic, comprehensive, cumulative and guidance oriented were not taken care of. The findings of this study buttressed the findings of Champman and Snyder (2000); Kapanbwe, (2010) that most teachers and continuous assessment implementers treat continuous assessment as continuous testing and not a Continuous Assessment (CA) that ought to be on-going on weekly, fortnightly or after a topic is taught.

The findings of this study on answer to research question two showed that the opinions of Physics teachers towards the implementation of continuous assessment were considerably positive and welcoming. This is to show that they were aware of the importance of CA in teaching and learning. The study disagreed with the argument of Ogunneye (1992) that teachers in our schools are ignorant of the meaning and purpose of continuous assessment because they have the opinion that it wastes time. The implication of this is that the teachers' positive opinion did not influence the implementation of CA in teaching and learning. The teachers' opinions alone are not sufficient to ensure that they are flexible to ensure pedagogical instructions that accommodate continuous assessment on daily basis. This mght be inability of teachers to organise, manage and spend quality time to effectively utilize and monitor CA due to some factors.

The findings of this study on answer to research question three detailed some speculated factors that can likely affect the implementation of continuous assessment such as lack of enough time, eagerness to cover course contents in the syllabus, lack of infrastructures, teachers' workloads, lack of teachers' training on the use of continuous assessment, lack of fund, lack of clear manuals and guidelines on how to implement

continuous assessment, and lack of records for of impute Continuous Assessment. These findings are in support of the work of researchers such as: Ojeje (2015) that teaching materials and resources to aid continuous assessment were not adequately provided in schools, Kapanbwe (2010) notes that the problems of continuous assessment in schools are unbearable due to teachers' workload. Faleye and Adefisoye (2016) in their study pointed out that records are poorly kept in many schools which makes it difficult to transfer the scores of students from term to term and from session to session as required by the cumulative nature of continuous assessment, as well as the policy of government. Their studies showed that the problem of record keeping may be attributed to the poor state of either the development or maintenance of physical structures in the school, (whereby there are no lockable doors and windows) which makes it difficult to find a secure place where students' assessment records could be kept.

Conclusions and Implications

This study showed that Physics teachers focused on cognitive developments. These include assessment after each class of teaching, homework to check the students' learning status, feedback of continuous assessment to the students on their academic progress and evaluation of students during the process of instructions. The Physics teachers took no cognizance of affective developments such as grouping students to examine their interactions and getting feedback from peer group discussions. The study further showed that psychomotor developments as regard to practical skills of the students are not implemented. That is, the assessments of students were not systematic and comprehensive in implementation. Although the opinions of the Physics teachers were positive towards the use of continuous assessment, this study showed likely factors can deter the implementation of continuous assessment as perceived by the teachers. These include lack of enough time, unnecessary rush to cover syllabus, lack of school infrastructures like chairs, chalkboards, stationary materials, etc., teachers' workloads, lack of teachers' training, lack of clear manuals and guidelines, paucity of fund, computational problem and lack of records.

Based on the findings from this study, the following further researches could be carried out:

(i) The study could be done in other science subjects in the same state in Nigeria to see the trend of implementation of Continuous Assessment.
(ii) A replication of this study could be done in other geopolitical zones in Nigeria. Such studies will show both the trends and teachers' opinions to implementation of Continuous Assessment.
(iii) A research work to evaluate availability of instructional material and facilities in secondary school will justify factors hindering Continuous Assessment.

Recommendations

From the findings and conclusions of the study, the following recommendations are made:

(i) Students should be encouraged on the importance of continuous assessments since they do not like to be assessed.

(ii) Ministries of Education in the Federal and State levels should monitor teachers on the implementation continuous assessments so that they will not hide under voluminous of science contents preventing implementation of Continuous Assessment.

(iii) Government and stakeholders should supply laboratory equipment and provide necessary materials that can enhance the practice of continuous assessments.

(iv) Findings of this study should be made available to teachers so that they will be able to differentiate between continuous assessment and continuous testing for their pedagogical skills to be enhanced.

(v) Motivation of teachers as regards to their welfare should be enhanced by the government; this would boost their interest towards proficiency in the usage of continuous assessment in the delivery of curriculum contents.

Limitation to the Study

The use of 31 Physics teachers for the study in Osun State may affect the generalization of the results to other Physics teachers in other State of Nigeria. This is because other States of the Nation might have more Physics teacher as what is obtainable in the State of Study.

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