Improving Assessment and Evaluation Skills of Public School Teachers in Jigawa State, Nigeria

Abdul-Wahab IBRAHIM (PhD)
Department of Education, Faculty of Education, Sule Lamido University, P.M.B. 048, Kafin-Hausa, Jigawa State, Nigeria

Abstract
The purpose of this study was to improve the assessment and evaluation skills of teachers in public primary and secondary schools in Jigawa state, Nigeria. These were with a view of improving the quality of assessment and evaluation skills of teachers in public employment in the state. The study employed a mixed method approach of both survey and quasi-experimental designs. The target population of this study comprised teachers in all public primary and secondary schools in the state. The sample comprised of 115 participants randomly selected from public primary and secondary schools. Three self-developed instruments were used in the study. Frequency counts, percentile, mean ($\bar{x}$) scores, standard deviations, independent t-test, Analysis of Covariance (ANCOVA), and Fisher's t-test were used to analyse the data. The results revealed that there was low level of compliance to and implementation of the objectives of Continuous Assessment in the state. That objectives of Continuous Assessment have been partly achieved in the state-owned public schools. Also, there existed a significant effect of the treatment on the teachers' skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in public schools. There is a need to train and retrain all public school teachers in the state on the concept and philosophy of Continuous Assessment. Not only this, but also there should be enough teachers and facilities to man Continuous Assessment in public schools in the state.
Keywords: Assessment, evaluation, Continuous Assessment, implementation, and public school.

1. Introduction
Performance in schools is increasingly judged on the basis of effective learning outcomes. The effectiveness of evaluation and assessment relies to a great extent on ensuring that both those who design and undertake evaluation activities as well as those who use their results possess the proper skills and competencies. This is crucial to provide the necessary legitimacy to those responsible for evaluation and assessment. Thus, the introduction of Continuous Assessment in our school system is regarded as one of the most significant innovations of the National Policy on Education. It has been used as a testing modality in many school systems adopted in many developing countries. It is the correct assessment strategy for the educational evaluation of students' achievement in teaching-learning situations in the Nigerian school system. It is also used for the evaluation of the educational system itself (Ibrahim, 2009).

Prior to 1979, standardized tests were used to evaluate performance in Nigerian schools. Faced with declining test scores by Nigerian students when compared to others around the world, state governments and the federal government have sought ways to measure the performance of schools and bring a measurable accountability to the educational process. Thus, governments at states and federal levels have adopted Continuous Assessment for evaluating knowledge and skills on the assumption that testing is an effective way to measure outcomes of education (Ibrahim, 2009; Faleye, 2011).

One prominent aspect of the Continuous Assessment has been the "No Child Left Behind" slogan that requires schools to meet certain performance standards annually, for their students as a group and also for individual students and subgroups. Assessment of educational programme is normally undertaken to determine whether the programme is likely to succeed or how good the programme is. But unless the content of assessment (what schools assess) and the format of assessment (how schools assess) match what is taught and how it is taught, the results are meaningless, if not potentially harmful. The same is true if assessment tools are not of high quality. There is also potential for harm when decisions affecting students' futures are being made based on results of assessments made with tools that are not appropriate for the purpose (Ibrahim, 2009; Afolabi, 2012; Ibrahim, 2017).

According to Ibrahim (2010), the primary purpose of assessment is to improve student learning. The assessment process reveals what a student understands, knows and can do. Therefore, assessment is used both in an educational and psychological setting by teachers, psychologists, and counsellors to accomplish a wide range of objectives. Specifically, Ojerinde (2015) observed that the objectives of Continuous Assessment include: (i) regular testing of the students and the proper recording of scores from such tests; (ii) meticulous record keeping of every facet of the students' life while in school; (iii) testing of the three domains of learning: cognitive, affective and psychomotor domains of students; (iv) the identification of students' difficulties and the re-teaching of such topics; (v) giving feedback to teachers so as to enable them assess their own performance; (vi) identification of the personality of each student including the temperament, interest, attitude etc; (vii) provision

of guidance and counselling to help students in their learning as well as career development and adjustment; the use of a variety of evaluation techniques; using all the scores in all the tests (cognitive, affective and psychomotor) for the final grading and placement of each student; and setting up of Continuous Assessment committees in schools (National Policy on Education, 2014; Emeke, 2012).

The expectations and objectives of Continuous Assessment can only be achieved if it is effectively implemented and conscientiously practiced by those concerned. It is on the basis of this that the study sought to know if the objectives of Continuous Assessment have been achieved in Jigawa state's schools. This is because no education system can rise above the quality of its teachers. The quality of teachers in any given educational business is sine-qua-non. Thus, teacher's quality is significantly and positively correlated with students' performance (Ojerinde & Folayajo, 2008). It is therefore, expected that teachers must possess technical competence and professional skills through a well-coordinated teachers capacity building and training intervention or/and education programmes that can meet the various challenges relating to efficient learning environment. Suffice to say that teachers at various levels in both primary and secondary schools especially in Jigawa state are yet to acquire the necessary skills in evaluation techniques in the cognitive, affective and psychomotor domains of learning as this has been hampering their effectiveness on the job in the state as a whole. Teachers' lack of technical know-how of Continuous Assessment, to a great measure, has contributed to the decline in the standards of education culminating in the need to update their competences in assessment and evaluation skills over time; hence this capacity building and training intervention study.

Therefore, the outcome of the study will give true picture of the pupils' ability and facilitate appropriate guidance of the pupils. Also, the outcome will make teachers become innovative and creative on the job as it will help 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. It helps to reduce examination malpractices. In Continuous Assessment system, the teachers, headmasters, Ministry of Education officials, the School Counsellors and the pupils are expected to be co-operatively involved in the implementation. Thus, that Continuous Assessment has implication for every stakeholder in the primary, junior and senior secondary school systems. But in the final analysis, the teacher becomes the person to do much of the implementation. Therefore, the teacher needs to do certain things and needs to have certain skills for effective implementation of the Continuous Assessment.

1.1 Purpose of the Study
The main purpose of this study is to improve the assessment and evaluation skills of teachers in public primary and secondary schools in Jigawa state. In order to achieve this goal, the specific objectives of the study are to:
- Assess the level of compliance to and implementation of the objectives of Continuous Assessment
- Determine whether the objectives of Continuous Assessment have been achieved in Jigawa state public schools.
- Evaluate teachers' skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in public schools.

1.2 Research Questions
With a view to achieving the objectives of this study, this study was guided by the following research questions:
1. What is the level of compliance to and implementation of the objectives of Continuous Assessment in Jigawa states public schools?
2. Are objectives of Continuous Assessment been achieved in Jigawa state public schools?
3. Does Continuous Assessment training assists teachers and school administrators acquire the necessary skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in public schools?

1.3 Baseline Questions
The following baseline questions were asked and answered prior the conduct of training intervention on the hitherto assessment and evaluation techniques being used by the teachers in public schools in the state:
1. What kind of assessment system teachers use to provide direction for improvements of learning or teaching in school?
2. Is there any of your teachers that pass comments telling you what to do to perform better on your scripts/books instead of the conventional scores obtained?
3. Why have teachers find it difficult to give comments that could assist students discover their areas of weaknesses and what they could do for improvement?
4. Could it be that the volume of work which teachers have to do during and after school hours is too much for them?
5. Of what benefits are comments that usually accompany the outcomes of exercises or tests to students'

learning?

1.4 Research Hypothesis
From the objectives of this study, this null hypothesis was postulated to provide further guide to the study.
1. There is no significant effect of the treatment on the teachers' skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in public schools.

2. Methodology
2.1 Research Design
The study is an exploratory research employing a mixed method approach of both survey and quasi-experimental designs for the study. The mixed method approach employed in the study involved the collection and analysis of both quantitative and qualitative data sequentially. This approach has been considered a legitimate and stand-alone research design in many studies (Adebowale, 2014). The approach was adopted based on the recommendation that mixed-methods approach is particularly useful for conducting research in the field of Educational Measurement and Evaluation. Specifically, using both forms of data allow researchers to simultaneously generalize results from a sample to a population and to gain a deeper understanding of the phenomenon of interest (Hanson, Creswell, Clark, Petska & Creswell, 2005). Further, a survey research design allows for the collection of quantifiable data from a sample to explain a particular phenomenon (Ibrahim, 2016). The quasi-experimental design can highlight the diversity of perspectives and discovers underlying attitudes, but Anderson and Arsenault (2008) remind us that the non-randomised pre-test-post-test control group design must have a clear idea of purpose and must be skilfully planned and facilitated. In this case the purpose is to provide more depth and breadth to the data collected in order to develop a broad analytical framework through which the evaluation of teachers' skill in Continuous Assessment especially in public schools could be better understood; and to also extract teachers' disposition to the implementation of Continuous Assessment as organized; their past experiences and viewpoints, their preferences and the problems they confronted hitherto.

Being a quasi-experimental, the design comprised one experimental group, that is, one treatment group and one control group. According to Cohen, Manion and Morrison (2008), the structure of the 2 x 1 quasi-experimental design is as follows:

$$R \quad 0_1 \quad X_0 \quad 0_2 \quad C$$
$$R \quad 0_1 \quad X_1 \quad 0_2 \quad E$$

Where 0_1 = Pre-test; 0_2 = Post-test; X_0 = Treatment for teachers; X_1 =Treatment for school administrators and guidance counsellors; C = Control group; E = Experimental groups (Subject/Vocational Teachers & School Administrators/Guidance Counsellors). The R denotes random assignment into groups. 0_1 and 0_2 are the pre-test and post-test observations. X_0 represents experimental treatment for subject/vocational teachers group, X_1 represents experimental treatment for School Administrators/Guidance Counsellors group, while E and C variables are the experimental and control groups respectively. Also, the reasons for using both form of research designs is to allow the researcher to gain deeper understanding of the phenomenon of interest regarding implementation of Continuous Assessment in public schools and to simultaneously contextualize the information collected during the pre and post assessment of the participants and during the field survey of the data through questionnaire.

2.2 Participants
The target population of this study comprised teachers in all public/government owned primary and secondary schools in Jigawa state, Nigeria. To be eligible for the study, the teacher had to be employed in their present schools between 5 and 10 years, and also willing to take part in the study. There are 27 Local Government Areas (LGAs) that made up what is known as Jigawa State. For easy administration and implementation of education in the state, the state was conceptualised and operated on five zones namely: Dutse, Gumel, Hadejia, Kazaure, and Ringim zones. Hence, there are five educational zones across Jigawa state namely: Dutse, Gumel, Hadejia, Kazaure, and Ringim zones. From each of these zones, a Local Government Area (LGA) was selected using simple random sampling technique. A total of 10 public primary and secondary schools from 5 LGAs were selected to participate in the study through stratified random sampling. Being a quasi-experimental, the design comprised one experimental group, that is, one treatment group and one control group. The 10 schools were considered adequate representation of the state, since the school population from where the sample were drawn is run by the same agency (Ministry of Education), thus some degree of homogeneity is assumed. Furthermore, the schools within the State were stratified along urban-rural dichotomy before simple random sampling was employed to select the participants (subject and vocational teachers). From each of the 10 schools, 10 subject and vocational teachers (5 each from the primary and secondary schools), were selected thus giving a total of 100 teachers in the experiment. Also, involved in the study, were 5 Guidance Counsellors and 10 School Administrators (Headmasters, Deputy Headmasters, Principals and Vice Principals) from the 10 selected primary

and secondary schools. Equal number of participants was not feasible in the study because of disproportionate number of male teachers to female teachers in Jigawa state, hence no gender bias and disparity is intended in the study.

2.3 Research Instruments
Three researcher-constructed instruments were used in the study viz: "Teachers' Continuous Assessment Questionnaire (TCAQ), School Administrators' Questionnaire (SAQ), and Guidance Counsellors' Questionnaire (GCQ)". The design of the instruments relied heavily on information obtained from literature review. The instruments chosen possess the three psychometric properties of validity, reliability and usability (Ibrahim, 2017). Each of the instruments was described as follows:
Teachers' Continuous Assessment Questionnaire (TCAQ): This has 52 items divided into 12 subsections, with each subsection having 4 items except subsection 10 which measures general attitude that has 8 items. A three-point Likert format was adopted for the questionnaire.
School Administrators' Questionnaire (SAQ): This is a 36-item questionnaire and made up of four sections. Section One measures the demographic characteristics of the school administrators. Section Two taps the school administrators' opinion regarding Continuous Assessment. Section Three focuses on a wide range of factors involved in Continuous Assessment. Section Four raises concern on problems facing Continuous Assessment in schools as well as suggestions for improvement. Also, it also enjoys three-point Likert Scale.
Guidance Counsellors' Questionnaire (GCQ): A 30-item questionnaire, which consists of three main sections with each section comprise of 10 items each. Also, it also enjoys three-point Likert Scale.

2.4 Validity of the Instruments
The face and construct validity of the instrument were established using expert judgments. Experts in Guidance and Counselling, Psychology of Education and Measurement and Evaluation were able to review the items in the questionnaire in terms of relevance to the subject-matter, coverage of the content areas, appropriateness of the language usage and clarity of purpose. The experts' judgments were strictly adhered to for adequate face and construct validity. The experts' judgments revealed that the instruments had adequate face and content validity. Thereafter, a pilot study was carried out to determine their psychometric properties of the three instruments.

2.5 Reliability of the Instruments
To establish the reliability of the instruments, a pilot study was conducted using test-retest reliability method. The reliability of the three instruments was conducted on 30 teachers and 10 school administrators and guidance counsellors randomly selected from a state owned sister secondary schools that were not part of the sample schools in the study. The questionnaires were administered at two different times at a three week time interval. The results obtained from the first and second administration of the instruments pre-test and post-test were analysed using Pearson Product Moment Correlation statistical tool on the updated Statistical Package for Social Sciences (SPSS) version 21.0 at 0.05 level of significance. The reliability co-efficient values obtained are: $r = 0.89$; $p<0.05$ for 'Teachers' Continuous Assessment Questionnaire (TCAQ)'; $r = 0.87$; $p<0.05$ for 'School Administrators' Questionnaire (SAQ)'; and $r = 0.76$; $p<0.05$ for 'Guidance Counsellors' Questionnaire (GCQ)' respectively. By so doing, the psychometric properties of the instruments were appropriately determined, hence their reliability and usability for the study over time.

3. Treatment Intervention (Training Manual)
3.1 Procedures
The study was conducted in three phases:
3.1.1 Phase 1: Pre-Treatment Assessment (Baseline Assessment)
This phase has three stages:
First Stage: The researcher performed the screening test for the 115 participants which included 100 teachers, 10 school administrators and 5 counsellors to select those that will be qualified for the main study. The three instruments were administered to obtain pre-test scores of all the participants.
Second Stage: The researcher ranked the scores from the highest to the lowest so as to determine the cut-off point of the scores. Participants whose total score fall within the cut-off score of 165 were further subjected to random sampling so as to determine which of them would participate in the treatment. Those that were randomly selected were contacted through the telephone numbers provided on the questionnaire. This was done one week before the commencement of the treatment.
The Third Stage: Classification into Groups - one treatment group and one control group was created in all five educational zones within the dichotomy of urban-rural schools. The treatment groups were stratified into two main groups: Group I: subject/vocational teachers and Group II: school administrators/guidance counsellors, while Group III consisted of the control. Participants in Groups I and II were derived from the identifying

variables on the questionnaire. Noteworthy, in this study, participants whose total scores on the pre-test were less than cut-off 165 score were selected for the Experimental Group but participated in the Control Group. Hence, a total of 115 participants consisting of 100 teachers, 10 school administrators and 5 guidance counsellors formed the treatment (Experimental) group while those participants whose total scores were less than the 165 cut-off marks on the instruments consisted of the Control Group (Group III).

3.1.2 Phase 2: Treatment Phase: Treatment for the groups

The training programme aims at equipping public school teachers including the School Administrators and Guidance Counsellors with tools of Continuous Assessment, Test Development and Item Construction in order to meet the expected learning level of their students. This enables them to select, develop, construct, and edit test items and analyse the results intelligently. The contents of the training include but not limited to:

- Concept of Assessment, Measurement, Testing and Evaluation;
- Contemporary Assessment and Evaluation Techniques;
- Pre Assessment Counselling;
- Relating Assessment to Educational Objectives (Cognitive, Affective and Psychomotor Domains);
- Planning and Construction of Tests (Formats);
- Interpreting and reporting Students' Assessment;
- Post Assessment Counselling; and
- Ethics in Testing and Assessment.

Noteworthy, the training (experiment) last for three (3) months, while post assessment (post-test) evaluation was conducted immediately with a view of identifying adequacy, acceptable and test items to retain, modify, reconstruct or discard.

3.2 Appointment and Training of Research Assistants

The researcher recruited and trained 5 Research Assistants who are Graduate Assistants (Lecturers) at the researcher place of work, Department of Education, Faculty of Education, Sule Lamido University, Kafin Hausa, Jigawa state. These Research Assistants were trained to assist in distributing the training manuals and collecting the questionnaire as well as in arranging the venues for the treatment. They were properly trained for two hours twice a week for a period of two weeks before the commencement of the study. The training included explanations on the nature and purpose of the research as well as the need to maintain confidentiality of information provided by the participants and to avoid undue interference with the participants' decisions during the course of the experiment. The training ended three days before the administration of the instruments so that the Research Assistants maximally make use of what they have been trained for. They actively assisted in the conduct of the study and were well remunerated at the end of the field work which lasted for three (3) months. One week each for the pre-test and post-test and the treatment lasted for seven weeks.

3.3 Procedure for Data Collection

Before the commencement of the study, permission was obtained from the state Ministry of Education, the Local Inspector of Education (LIE) of the LGAs and from the respective school authorities (School Administrators). Informed consent was also obtained from the participating teachers. Data collection was done in two phases. The first phase was before the training (Baseline Data) of the teachers in the area of assessment, while the second phase was after the training (Post- Training Data). The experiment (training programme) utilized the following training methods to deliver the contents: (i) Lectures; (ii) Demonstrations; (ii) Case Study Analyses; (iv) Provocative Discourse; (v) Individual/Group Assignments; (vi) Structured Focus Groups and (vi) Course Embedded Assignments and Activities/Exercises. Afterwards, the research instruments were personally administered to the respondents by the researcher with the aid of the Research Assistants recruited for the purpose of this study. The participants were given assurance of anonymity and confidentiality throughout the period of the research; as the research was carried out for a period of three (3) months.

3.4 Method of Data Analysis

Using updated SPSS version 21.0., data generated with the instruments were coded and subjected to both descriptive and inferential statistics. The mean and standard deviation for the pre-test and post-test assessment measures were computed. Hence, independent t-test and One-way Analysis of Covariance (ANCOVA) statistics were used to test hypotheses respectively. Also, hypotheses were tested at 0.05 level of significance.

4. Results

This section presents analysis of data and interpretation of results. Basically, baseline and post-baseline analyses of the data collected for the study in order to determine what happened in schools as regards assessment of learning activities beforehand and to fashion out the direction for improvements of learning and teaching in

school based on developing teachers in the art of assessment and evaluation skills. Consequently, content analysis was carried out on each of the items for discussion, following the procedure by Holstz (2008). Hence, transcriptions of the data were edited and pieced together theme-by-theme, to ensure accuracy and authenticity of respondents' responses. This procedure helps to transmit a first-hand account of issues as discussed by participants in the study. Accordingly, the thematic analyses of the responses are as presented as follows:

4.1 Baseline Assessment Analysis

4.1.1 Question 1: What kind of assessment system teachers use to provide direction for improvements of learning or teaching in school?

4.1.2 Answer: Students response have shown that comments like: *very good, good, poor, fair, satisfactory* and so on, were most common in students' notes and report cards/sheets.

4.1.3 Question 2: Is there any of your teachers that pass comments telling you what to do to perform better on your scripts/books instead of the conventional scores obtained?

4.1.4 Answer: Students' responses to this question were: (i) Our teacher writes comments like good, bad or poor on our scripts. Nothing more; (ii) Mostly excellent, good, fair or poor; (iii) At times, no comments at all; (iv) It could be verbal like asking for those with very high scores; and (v) Asking others to clap for them and things like that.

4.1.5 Question 3: Why have teachers find it difficult to give comments that could assist students discover their areas of weaknesses and what they could do for improvement?

4.1.6 Answer: Teachers' responses to this question were: (i) Inability of teachers to have positive attitude towards Continuous Assessment has great effect student improvement; (ii) Students are not often tested as they should because of time constraint; (iii) Quite often, all the test scores are not recorded by many teachers because of the difficulties in analysing and interpretation; and (iv) The process of Continuous Assessment is too cumbersome, hence most teachers dislike it.

4.1.7 Question 4: Could it be that the volume of work which teachers have to do during and after school hours is too much for them?

4.1.8 Answer: Teachers' responses to this question were: (i) True, it is difficult for teachers to cope with the amount of work that Continuous Assessment entails; and (ii) A problem affecting implementation of Continuous Assessment is the non-payment of allowance for the extra labour which Continuous Assessment entails

4.1.9 Question 5: Of what benefits are comments that usually accompany the outcomes of exercises or tests to students' learning?

4.1.10 Answer: Teachers' responses to this question were: (i) Teachers have to drop the conventional award of marks on school works to the passing of comments that will show students what she/he needed to do to improve her/his understanding; and (ii) One of the major ways by which the weak and able students in the class could be assisted is by adjusting the assessment culture to suit their remediation need.

4.2 Post- Baseline Assessment Analysis

4.2.1 Research Question 1: What is the level of compliance to and implementation of the objectives of Continuous Assessment in Jigawa states public schools? The results of the analysis are presented in Table 1.

Table 1: Level of compliance and practice of continuous assessment in Jigawa state public schools

Aspects of Continuous Assessment	School Type	N	Mean ($\bar{x}$) Scores	SD	t-cal	p	Remarks
Regularity of testing	Primary	50	7.39	1.84	-0.43	>	Not significant
	Secondary	50	7.50	1.77			
Record keeping and storage	Primary	50	8.63	1.86	2.66*	<	*Significant
	Secondary	50	8.03	1.90			
Test construction in all domains	Primary	50	8.18	1.95	-0.13	>	Not significant
	Secondary	50	8.36	1.91			
Re-teaching of difficult topics	Primary	50	8.96	1.92	0.34	>	Not significant
	Secondary	50	8.82	2.05			
Feedback to teachers	Primary	50	8.98	2.52	-1.10	>	Not significant
	Secondary	50	9.29	2.12			
Assessment of personality	Primary	50	8.87	2.52	-0.55	>	Not significant
	Secondary	50	9.05	2.12			
Coverage of syllabus	Primary	50	9.04	2.22	-0.41	>	Not significant
	Secondary	50	8.91	2.22			

*Significant; p<0.05;   Not Significant, p>0.05

From Table 1, it can be seen that the mean sores of primary school teachers were higher than the mean

scores of secondary school teachers in the aspects of record keeping and storage ($\bar{x}$ = 8.63; $\bar{x}$ = 8.03); re-teaching of difficult topics ($\bar{x}$ = 8.96; $\bar{x}$ = 8.82) and coverage of syllabus ($\bar{x}$ = 9.04; $\bar{x}$ = 8.91). The higher the mean score of primary school teachers in the aspect of record keeping and storage was significant over the secondary school teachers, when t-test was applied. This result indicates that primary school teachers kept and stored Continuous Assessment records more than the secondary school teachers did.

In the other two aspects of re-teaching of difficult topics, and coverage of syllabus mentioned above, mean scores showed no statistically significant difference. This implies neither primary school teachers nor secondary school teachers re-teach difficulty topics and cover the schemes of work for the terms or syllabi. Also, primary school teachers had a higher mean score ($\bar{x}$ = 7.50) than secondary school teachers ($\bar{x}$ = 7.39) in the aspect of regularity of testing, but the t-test when applied showed no significant difference. Further, when aspects of test construction in all domains, feedback to teachers, and assessment of personality were considered, it was revealed that the primary school teachers consistently had higher mean scores than the secondary school teachers. These higher mean scores were however not statistically significant at 0.05 level of significance.

As mentioned earlier, a mean score of 9 and above serves as an indication of proper practice of Continuous Assessment in the schools in any of the aspects of Continuous Assessment considered, while a mean score of below 9 is an indication of non-proper practice of Continuous Assessment in Jigawa state public schools. From the cut-off level, Table 1 reveals that both primary and secondary school teachers did not properly practice the aspects of (i) Regularity of testing; (ii) Record keeping and storage; (iii) Test construction in all domains; and (iv) Re-teaching of difficult topics. In all aspects, the mean scores were below 9 cut-off score. However, secondary school teachers with mean scores of 9.29 and 9.05 practiced properly the aspects of feedback to teachers and assessment of personality, as well as the aspect of coverage of syllabuses where the mean score was 9.04 in the above mentioned two aspects of the guidelines on continuous assessment, the primary school teachers had mean scores of below 9. In addition, Table 1 shows that primary school teachers properly carried out the practice of coverage of syllabus. Their mean score was 9.04, while the secondary school teachers had a mean score of 8.91.

4.2.2 Research Question 2: Are objectives of Continuous Assessment been achieved in Jigawa state public schools? The results of the analysis are presented in Table 2.

Table 2: Whether objectives of continuous assessment have been achieved in Jigawa state public schools

Continuous Assessment Records	Whether objectives of Continuous Assessment achieved				Total
	Yes	%	No	%	
Weekly report	47	47.5	52	52.50	100 (100%)
Progress report summaries or yearly summary of progress	80	80.5	20	15.50	100 (100%)
Affective behaviour inventory	56	56.04	44	43.96	100 (100%)
Psychomotor behaviour inventory	60	60.87	40	39.13	100 (100%)
Cummulative records book/folder	100	100	0	0.00	100 (100%)
Transcript format for graduation or transfer	-	-	-	-	100 (100%)

It can be seen on Table 2, that less than half the number of the teachers in the sample, 47.50% kept the Weekly Report Record, while 52.50% indicated that they did not use the record. The Progress Report Summaries enjoyed a fairly high popularity among the teachers as 85% of them are found to use this record to report students' scores in continuous assessment. Fifty six point four per cent (56.04%) and 60.87% of the teachers in the sample of this study kept records of scores in the affective and psychomotor inventories/records respectively.

One hundred per cent (100%) of the teachers in the sample used the Cumulative Records Book/Folder. All the teachers did not respond to the last item in the Table 2. On questioning later (another visit to the schools), the teachers explained that the Principals'/Headmasters' Offices or the school Guidance Counsellors and not themselves keep the Transcript Format for Graduation or Transfer. From the findings, it is deducible that to a large extent, objectives of Continuous Assessment have been partly achieved in Jigawa state public schools. Also, to determine the veracity of the above inference based on the findings in this study, the data collected were subjected to further analysis on the frequent use of assessment tools by teachers in Jigawa state public schools. The result of the analysis is presented in Table 3.

Table 3: Frequency of use of assessment tools by teachers in Jigawa state public schools

Assessment Tools	Frequency of Use of Assessment Tools				Total
	Often Used	%	Rarely Used	%	
Projects	45	45.00	55	55.00	100 (100%)
Tests/Examinations	100	100.00	-	-	100 (100%)
Assignments	80	80.00	20	20.00	100 (100%)
Observation Techniques	52	52.50	48	47.50	100 (100%)
Rating Scale	43	43.60	57	56.40	100 (100%)
Checklists	38	38.00	62	62.00	100 (100%)
Questionnaires	34	34.00	66	66.00	100 (100%)
Socio-metric Technique	35	35.00	65	65.00	100 (100%)

It can be observed from Table 3, that only two assessment tools (Tests/Examinations and Assignment) enjoy popularity of being used by teachers in the study. It should be noted that the assessment instruments that came with the introduction of Continuous Assessment are not being effectively used. Conclusively, the results reported on Tables 1-3 are all indicative of the fact that Continuous Assessment is not being effectively implemented in Jigawa state public schools.

4.3 Research Hypothesis: This states that there is no significant effect of the treatment on the teachers' skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in public schools.

Table 4: Causal effect of training in enhancing teachers skills in evaluation techniques of cognitive, affective and psychomotor domains of learning in Jigawa state public schools

Sources of Variance	Mean Sum of Squares	Degrees of Freedom	Mean of Squares	F-ratio
Main Effect	895.84	3	298.61	4.18*
Covariate (Pre-test)	220.66	1	220.66	3.09
Experimental Condition	634.18	2	317.09	4.44*
Within Group	6646.02	93	71.46	
Total	8396.7	99		

*Significant, df = 2/93; p<0.05

Table 4 shows a higher F-calculated value of 4.4 than F-critical value of 3.09given 2 and 93 degrees of freedom at 0.05 level of significance. This result is significant. Consequently, this implies that the skills acquired by teachers during training of Continuous Assessment enhance their capacity in the evaluation techniques of cognitive, affective and psychomotor domains of learning over time.

Further analysis of data, using Fisher's Protected t-test technique which enable pair-wise comparison of group means ($\bar{x}$) in Table 5 shows that that teacher participants exposed to treatment significantly manifested higher effect of assessment/evaluation skills than those school administrators/guidance counsellors participants exposed to treatment (t = 4.16, df = 98; p< 0.05). Also, school administrators/guidance counsellors participants exposed to treatment significantly reported low perceived effect of assessment/evaluation skills trait than the teachers group (t = 2.77, df = 13; p< 0.05).

Table 5: Fisher's protected t-test on difference in the effect of assessment and evaluation skills due to experimental condition

Groups	Teachers n = 100	Administrators/Counsellors n = 15
Teachers	42.63	2.77
Administrators/Counsellors	4.16	40.94

Significant, p<0.05

By and large, this has further assist both the teachers and the school administrators to acquire a sound knowledge of constructing, administering, interpreting and reporting various evaluation instruments and Continuous Assessment scores. Hence, teachers have gained knowledge on the techniques, administration, scoring and reporting of School Based Assessment (SBA).

5. Discussion

The purpose of this study was to improve the assessment and evaluation skills of teachers in public primary and secondary schools in Jigawa state. The findings revealed that there was low level of compliance to and implementation of the objectives of Continuous Assessment in schools. Also, objectives of Continuous Assessment have been partly achieved in Jigawa state public schools. Further, there was a significant effect of the treatment on the teachers' skills in evaluation techniques of cognitive, affective and psychomotor domains of

learning in public schools. This implies that the skills acquired by teachers during training of Continuous Assessment enhance their capacity in the evaluation techniques of cognitive, affective and psychomotor domains of learning over time.

The findings are in consonant with Soromessa (2015); Ibrahim (2017); Emeke (2012); Faleye (2011); Ojerinde & Falayajo (2008). These scholars and researchers in their studies respectively reported that the quality of assessment techniques employed determines largely the quality of student learning. This seems to be likely since assessment by itself is considered as an integral part of the instructional process. Not only this, it may also be true because assessment usually starts with learning and ends along with it. In spite of this, at many points during the instructional process, teachers need to make several decisions about how well their students are learning and how effective their instruction has been, where these assessment decisions require adequate, reliable and accurate data. From this standpoint, frequent assessment that is linked to well-planned goals is believed to encourage learners to pace themselves and keep up with their studies. Generally, effective assessment practices involve four components, namely, designing assessments, preparing students, administering assessments, and analyzing the results. What a critical analysis of the above points makes clear is that only be, selecting or developing instruments and methods that are simple to use, require little extra time or effort, and still provide the necessary data for a specific learning outcome.

These results are not surprising, apart from bringing out the fact that Continuous Assessment is not being effectively implemented in Jigawa state public schools, have pointed to the need to retool and train all teachers in both primary and secondary schools throughout Jigawa state. There is a need to train and retrain all public school teachers in the state on the concept and philosophy of Continuous Assessment in our educational system. The demands of effective implementation are enormous. This has to be looked into; as there should be enough teachers and facilities to man Continuous Assessment. For instance, a teacher who has, say, 80 students to face in a classroom, and has to handle 4 or 5 of such classes every week, can definitely not make much out of regular testing, re-teaching of difficult topics, assessing pupil's personality, to mention only a few. He probably might even be prepared to sap his energy if he feels that at the end he is going to be adequately and promptly rewarded. The situation where the same teachers work uncommitted during the regular school period, and are conscientious teachers when they are employed as home lesson tutors or continuing education center teachers, may be pointing to the fact that teachers need be given job satisfaction. The job satisfaction will motivate and propel them to implement Continuous Assessment effectively (Ibrahim, 2017).

Needing attention is also the situation where Continuous Assessment is not demanded in the Junior Senior Secondary School Certificate Examination (JSSCE) and Senior Secondary School Certificate Examination (SSCE). The teachers are saved the rigours of the demands of Continuous Assessment, and the students can save face. Psychologically, re-orientating packages which can include jingles, posters, stickers, and a host of others, need be developed and sponsored by the Ministry of Education in the state. We cannot afford to have the teacher psychologically indisposed. He is the most important single factor in the achievement of our educational goals - Continuous Assessment inclusive. The teachers can directly and indirectly psyche up the students into positively viewing the gains of Continuous Assessment, for the students too are very important in making Jigawa state realize her dream in educational advancement which is the bedrock for scientific and technological breakthrough. Classroom assessments have been and would continue to be a part of students' learning and teachers' role. The public and indeed the education community would continue to strive to improve on their outcomes. To this extent greater commitment on the part of teachers as part of its implementation would be focused on. It won't just be enough for teachers to claim that they are proficient in assessment programme related issues, continual teacher development programmes need to be emphasized (Ibrahim, 2017).

Teachers on their part should attempt to generate a pool of test items to ease problem of implementation of classroom assessment. We cannot rest on our oars, examination boards should focus on moderation of Continuous Assessment scores to remove factors that adulterate them. In this way, schools and indeed teachers would be encouraged to implement classroom assessment that would be above board. To ensure that there is quality teaching and learning which would make students self-reliant for the good of themselves and the nation, more emphasis should be placed on Continuous Assessment with practice as the focus in the National Policy on Education (NPE), throughout the state.

Thus, after more than three decades, there is still lack of understanding of Continuous Assessment and thus, the process of Continuous Assessment is not functioning well in schools. The practice is still judgmental and records not well secured, which give room for threat factors in examinations. Continuous Assessment in practice is expected to embody the global changes that affect the very nature of the classroom process, bringing it away from education as only information recall and toward the full development of learners' potential. Therefore, public primary and secondary schools in line with the requirements of government policy should ensure that students are assessed throughout the academic session so as to determine their level of understanding of the subjects being taught. Continuous Assessment has several uses including the fact that it facilitates practical knowledge.

6. Conclusion

The findings of this study are that: (i) Objectives of Continuous Assessment have been partly achieved in Jigawa state public schools; (ii) Primary school teachers kept and stored Continuous Assessment records more than the secondary school teachers did; (iii) Neither primary school teachers nor secondary school teachers re-teach difficulty topics and cover the schemes of work for the terms or syllabi; (iv) That the assessment instruments that came with the introduction of Continuous Assessment are not being effectively utilized; (iv) That the skills acquired by teachers during training of Continuous Assessment enhance their capacity in the evaluation techniques of cognitive, affective and psychomotor domains of learning over time; and, (v) By and large, this has further assist both the teachers and the school administrators to acquire a sound knowledge of constructing, administering, interpreting and reporting various evaluation instruments and Continuous Assessment scores.

7. Recommendations

The following are specifically recommended as follows:
- Continuous Assessment should be well and objectively planned to evaluate students' performance on a series of assessment tasks.
- In addition, it should involve more time and also provide opportunity for feedback and a comprehensive assessment of the objectives to be achieved and competences to be assessed.
- There is a need to train and retrain all public school teachers in the state on the concept and philosophy of Continuous Assessment in our educational system.

8. Acknowledgements

References

Adebowale, O. (2014). Disposition of students to online counselling: The Obafemi Awolowo University, Nigerian experience. *International Journal of Education and Development using Information and Communication Technology*, 10(3), 49-74.

Afolabi, E. R. I. (2012). Continuous assessment. In E.R.I. Afolabi & O.O. Dibu-Ojerinde (Eds.), *Educational test and measurement* (pp.211-222). Ile-Ife: Obafemi Awolowo University Press.

Anderson, G., & Arsenault, N. (1998). *Fundamentals of educational research*. London: Falmer Press.

Cohen, L., Manion, L., Morrison, K. (2001). *Research methods in education*. London: Routledge Falmer.

Emeke, A. (2012). An examination of the practice of Continuous Assessment in Nigerian schools: Oyo state as a case study. *The West African Journal of Educational and Vocational Measurement*, 1(1), 29-53.

Faleye B. A. (2011). Predictive validity of the Osun State Junior Secondary Certificate Examinations.

Electron. *Journal of Research in Educational Psychology*, 5(3), 131-144.

Hanson, W. E., Creswell, J. W., Clark, V. L. P., Petska K. S. & Creswell, J. D. 2005. Mixed Methods Research Designs in Counselling Psychology. *Journal of Counselling Psychology*, 52(2), 224–235.

Holdtz, O. K. (2008). Content analysis. In G. Lindzey and E. Aronson (Eds.). *Research methods*. Readings, MA: Addison-Wesley.

Ibrahim, A. (2017). Improving assessment and evaluation skills of public school teachers in Jigawa state. A research report submitted to the University Research Committee, Sule Lamido University, Kafin Hausa, Jigawa State, Nigeria.

Ibrahim, A. (2016). *Assessing the quality of assessment differences at maintaining standard in public examinations in Nigeria.* Being a paper presented at the 42nd International Association for Educational Assessment (IAEA) conference, hosted by Umalusi, Cape Town, South Africa.

Ibrahim, A. (2009). *Improving assessment and evaluation skills for school teachers and principals*. World Bank/Lagos Eko Secondary Project. Lagos: Academy Press Plc.

National Policy on Education (NPE), (2014, revised). *Federal Ministry of Education*. Abuja. FME Press.

Ojerinde, D. (2015). The practice of continuous assessment in Africa. India: Kolin Foundation Arandis.

Ojerinde, D., & Falayajo, A. (2008). University students' assessment of the teaching effectiveness of lecturers: Challenges and prospects. In O.C. Nwana (Eds.), *Educational measurement and evaluation* (pp. 221-247).

Abuja: Nigerian Academy of Education Press.

Soromessa, T. (2015). The practice of student assessment: The case of College of Natural Science, Addis Ababa University, Ethiopia. Journal of Education and Practice, 6, (25), 141-149. www.iiste.org

Biography

Dr. Abdul-Wahab IBRAHIM, is a Psychometrician and Full-Time Lecturer at Department of Education, Faculty of Education, Sule Lamido University, Kafin-Hausa, Jigawa State, Nigeria. He attended University of Ilorin, Ilorin, Kwara State, Nigeria, where he obtained B.A. Education and M.Ed. Educational Foundations (Psychology) at the University of Lagos, Lagos, Lagos State, Nigeria, in 1992 and 1997 respectively. Also, he attended Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria, where he obtained M. A. Education and Ph.D. (Tests and Measurement) in 1998 and 2013 respectively. Dr. Ibrahim has acquired research and teaching experience over a decade and contributed research articles in reputable outlets both within and outside Nigeria. He is an active member of the Nigerian Association of Educational Researchers and Evaluators; and International Association for Educational Assessment (IAEA). His research interests are in Tests Theories, Measurement and Educational Statistics, and Research Methodology.