

# AN EXAMINATION OF THE IMPACT OF CONTINUOUS ASSESSMENT ON STUDENTS PERFORMANCE IN ACCOUNTING SUBJECTS

*Osimabale Henry Auru*

*Department of Business Education,  
F.C.T. College of Education,  
Zuba.*

## **Abstract**

*This is an analytical research, designed to study the impact of continuous assessment on students' performance in accounting subjects using data collected at the conclusion of final test in every semester for a period of three years. The sample strata consists of 90 students who offered accounting subjects consistently throughout the duration of the programme from a population of 151 candidates admitted in 2007/2008 session in FCT College of Education Zuba-Abuja. The study tested a null hypothesis at 5% level of significance; it states that continuous assessment does not contribute significantly to the performance of students. The average result of regression for the three years yielded a mean value of 24 and standard deviation of 13, while that of continuous assessment is 26 and 6 respectively. The F value was 79.814 and a critical value of 0.001. On this basis, the hypothesis which states that continuous assessment does not contribute significantly to the performance of students was therefore rejected. It is therefore recommended that teachers and students should take continuous assessment seriously.*

An investigation of students' enrolment in Colleges of Education in Nigeria reveals that students' admission is skewed towards Business Education and it indicates that most students prefer Business Education as a course of study to other courses in the college. The students' enrolment tends to be disproportionate to available facilities; for instance, typewriters, computer laboratories, classrooms and even the lecturers for Business Education. Hence, lecturer to student ratio tends to exceed the standard ratio stated in the minimum standard for Colleges of Education. According to the National Commission for Colleges of Education (2008), staff/student ratio for skilled subjects such as accounting and shorthand should be 1:20 while other subjects like commerce and economics is 1:30. The true staff/students ratio applied in practice tend to double the benchmark set by National Commission for Colleges of Education (NCCE) in the Minimum Standard. There is also a question of whether candidates have the capacity to cope with the demand of the courses in relation to the various learning domains; namely affective, cognitive and psychomotor domains.

The use of continuous assessment has proved to be an effective tool in measuring the performance of students after participating in some learning activities in the class room. For example, these activities take the form of learning of principles and

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creative work. To this end, tests and assignments are given to students for inculcation of study habit among students and as formative evaluation.

This research examines theories on the study of continuous assessment as a standard performance test tool and how it has actually been applied in practice. It establishes differences that exist between continuous assessments which are regularly administered to students and the one shot test administered to mark the end of semester. In addition, this paper reveals the potential benefits of continuous assessment to Nigerian Certificate in Education awarding Institutions.

### **Concept of Continuous Assessment**

Continuous assessment is an instrument for assessing students' learning ability at interval before the end of term/semester examination and it forms an integral part of student's cumulative performance record. Nigerian educational system encourages the use of continuous assessment from primary level through secondary level to tertiary level of education. The improvement of learner's attitude, logical reasoning, evaluative knowledge and skill building during learning activities can only be realised through self correcting cycle on the part of the teacher and students from feedback generated through periodical assessment result generated from the standardised test cases. To this end, continuous assessment as a measurement and evaluation tool continues to receive serious attention among the academia, educational administrators and policy makers, (Coll, Mayordomo and Naranjo 2007).

Continuous assessment (CA) has been defined variously depending on the depth of understanding and role played by the person. As a performance and rating tool, CA has been defined as a mechanism whereby the final grading of learners in the cognitive, affective and psychomotor domains of learning systematically takes account of all their performances during a given period of schooling, (Falayalo 1986 as cited in Alausa 2002). Continuous assessment is a mechanism which is used to facilitate the final grading of students in the cognitive, affective and psychomotor domains in a systematic way by taking into cognisance all their performances during a given period of schooling. Such assessment involves the use of variety of modes of evaluation for the purpose of guiding and improving learning and performances of the student, (Anyanwu 2006). As an educational process, continuous assessment is defined as the process of gathering data and fashioning them into interpretable form for decision-making. The data collection is done with a view to making value judgement about the quality of a person, object, group or event, (Ajuonuma 2006 as cited in Ajuonuma 2007). Finally continuous assessment of candidates is seen as involving a developmental approach to educator preparation in which candidates are expected to progress towards mastery of standards as they practice and gain competence with increasingly complex pedagogical and professional tasks, (Professional Educational Unit of University of Kentucky Fall 2006).

Continuous Assessment is one of the most widely interpreted achievement test measures in the school system as depicted by the myriad and diverse definitions. Teachers in using continuous assessment, combine different types of tests such as

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assignments (individual and group assignments), structured tests, quizzes and projects etc as a measure of achievement and for the purpose of grading. Using these test instruments have proved quite challenging to teachers. Some test instruments are used at the wrong time or mismatched with activity, resulting in frustration for the students and the generation of test results that lacks evaluation potentials. In line with this argument, Ajuonuma (2007), found out in her research work that many lecturers don't construct and use appropriate instrument and don't test the validity and reliability of test instrument prior to it being used. Given the important role continuous assessment play in the teaching learning processes, a teacher needs to be confident in the choice of instrument selected for assessment purpose. Coll, Rochera, Mayordomo and Naranjo (2007), explained in their work that assessment form an inherent element in the process of teaching and learning as instrument at the disposal of this process. They justified their position by citing the works of William (2000), Coll, Martin and Onrubia (2001), Hargreaves, Earl and Schmidt (2002), Dochy (2004) and Norton (2004) as follow:

- ✓ The facts that situation and activities used for identifying and assessing what students have learned constitute the nexus between the teaching process laid out by the teacher and the knowledge construction process performed by students, and
- ✓ The fact that assessment activities must be coherent with other elements which makes up the teaching and learning process especially with objectives and with activities presented throughout this process.

The above explains why it is easy for a teacher to take for granted that the test instrument is reliable which may not be true. Therefore, it is erroneous for any teacher to conclude that the test instrument used is totally reliable. All teachers need be in agreement on the fundamental pedagogical claim of continuous assessment as helping teachers follow up students work process, make decisions that can improve their teaching practice and make adjustments to their educational assistance as a function of the progress, difficulties or relapses which students experience (formative assessment) and helping students make decisions which improves their learning activities (developmental assessment), (Anyanniyi undated, Kruger 2004, Coll, Rochera, Mayordomo and Naranjo 2007, Ishaya 2009). Continuous assessment as frequently applied in the Nigerian educational system once applied as an objective test to students, the result, right or wrong is hardly revisited to correct and help the students adjust correctly in the various domain of learning. Teachers take for granted that the students should naturally correct their mistakes without the teacher's assistance. Unfortunately, these mistakes and errors reoccur in the final summative examination. The following challenges to the proper use of continuous assessment are note worthy.

- ✓ Teachers believe that fairness can only be guaranteed where all the students takes the same test, leaving out individualised test for below-the grade-level learners, (Shepard 2000),
- ✓ Where the summative evaluation of students comprise both internal and external assessment, the chances are that the internal assessment component will create a comparability problem, except if measures such as the transformation of raw

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scores of all schools, setting up moderation bod(ies) as a way of standardising test parameters (Sofolahan as cited in Ishaya 2009),

- ✓ Poor skill in test construction, administration attitudes to continuous assessment approaches and record keeping, (Levis 1997 as cited in Alausa 2002),
- ✓ Continuous assessment test don't measures learners affective performance and implication for placement, intelligence and learning achievement (Levis 1997 as cited in Alausa 2002)

### **Statement of the Problem**

The purpose of continuous assessment is to assist in improving learning through administering of assignments and tests as the learning experiences increase before the end of term/semester examination is taken. As good as the purpose for which CA was initiated, some teachers/students complain of the drudgery of so many variant of structured and unstructured test and the lecturers see the conduct of so many tests as extra work and burden. As a result, the main purpose of continuous assessment is gradually being lost.

### **Research Question**

The one question this research intends to answer is as follows: Does continuous assessment has any positive impact on students overall performance in accounting subjects?

### **Research Hypothesis**

The null hypothesis will be used to test the research hypothesis which has been designed for this study. The hypothesis is stated thus:

- Continuous assessment does not contribute significantly to the performance of students

### **Research Method**

The research is designed to analyse past NCE students result for three years. Intake of 2007/2008 were selected for this purpose involving a total of 90 candidates who offered accounting option of a total of 151 candidates admitted into business education department, FCT College of Education Zuba-Abuja.

Microsoft Excel Regression model was used to analyse the data with performance in the examination being the dependent variable and continuous assessment being the independent variable. The null hypothesis was assumed and tested at 95% confidence level. Reliability of the research data was assured through the use of moderated results i.e. form A. The following accounting subjects were analysed consistently on time series basis for three years.

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Level	Subject Code	Title	Semester	Sample Strata
100	BED 111	Principles of accounting I	First	90
100	BED 121	Principles of Accounting II	Second	90
200	BED 211	Financial accounting I	First	90
200	BED 221	Financial Accounting II	Second	90
300	BEA 311	Advance financial Accounting	First	90
300	BEA 321	Cost and management accounting	Second	90

**Presentation of Result****2007/2008 Section: First Semester, First Year Summary Statistics**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	0.000	60.000	30.589	15.262
CA	90	0	90	0.000	34.000	29.389	4.58

**Analysis of Variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	250.361	250.361	1.076	0.303
Error	88	20481.4289	232.744		
Corrected Total	89	20731.789			

Camptued against model  $Y = \text{Mean}(Y)$

**Model Parameters (Variable EXAM):**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	19.822	10.505	1.887	0.062	-1.054	40.698
CA	0.366	0.353	1.037	0.303	-0.336	1.068

**Equation of the Model (Variable EXAM):**

$$\text{EXAM} = 19.822211632963 + 0.36635196712035 * \text{CA}$$

From the result above, the mean for the continuous assessment (CA) is 29 with a standard deviation of 5, compared to that of examination (Exam) which is 31 and 15 respectively. It is observed that Exam result has a wider standard deviation. The test of

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hypothesis yielded an F-value of 1.076 and Pr-value of 0.303 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

### **Presentation of Result**

#### **2007/2008 Section: Second Semester, First Year Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	0.000	50.000	18.389	9.825
CA	90	0	90	0.000	40.000	26.667	6.792

#### **Analysis of Variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	4000.026	4000.026	76.666	<0.0001
Error	88	4591.363	52.175		
Corrected Total	89	8591.389			

Computed against model  $Y = \text{Mean}(Y)$

#### **Model Parameters (Variable EXAM);**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	-77.931	3.101	-2.558	0.012	-14.094	-1.7769
CA	0.987	0.113	8.756	<0.0001	0.763	1.211

Equation of the model (Variable EXAM):

$$\text{EXAM} = -7.93140120149375 + 0.987010878389349 * \text{CA}$$

From the result above, the mean for the continuous assessment (CA) is 27 with a standard deviation of 7, compared to that of examination (Exam) which is 18 and 10 respectively. It is observed that Exam result has a wider standard deviation despite having a lower mean value. The test of hypothesis yielded an F-value of 76.666 and Pr-value of 0.0001 at 0.05 level of significance. This indicates that a relationship exists between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

### **Presentation of Result**

#### **2008/2009 Section: First Semester, Second Year Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	12.000	52.000	32.444	8.418
CA	90	0	90	9.000	31.000	22.911	4.244

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**Analysis of Variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	1168.189	1168.189	20.008	<0.0001
Error	88	5138.033	58.38		
Corrected Total	89	6306.222			

Computed against model Y = Mean (Y)

**Model Parameters (Variable EXAM):**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	12.888	4.446	2.899	0.005	4.053	21.723
CA	0.854	0.191	4.473	<0.0001	0.474	1.233

Equation of the model (Variable EXAM):

$$EXAM = 12.8876891944337 + 0.853592615179908 * CA$$

From the result above, the mean for the continuous assessment (CA) is 23 with a standard deviation of 4, compared to that of examination (Exam) which is 32 and 8 respectively. It is observed that Exam result has a wider standard deviation. The test of hypothesis yielded an F-value of 20.008 and Pr-value of 0.0001 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

**Presentation of Result**

**2008/2009 Section: Second Semester, Second Year Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	0.000	51.000	20.533	13.209
CA	90	0	90	0.000	37.000	26.589	4.815

**Analysis of variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	7158.816	7158.816	75.270	<0.0001
Error	88	8369.584	95.109		
Corrected Total	89	15528.400			

Computed against model Y = Mean (Y)

**Model Parameters (Variable EXAM):**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	12.888	5.800	-4.998	<0.0001	-40.513	-17.462
CA	1.862	0.215	8.676	<0.0001	1.436	2.289

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Equation of the model (Variable EXAM):

$$EXAM = 28.9875256405425 + 1.86246439935179 * CA$$

From the result above, the mean for the continuous assessment (CA) is 27 with a standard deviation of 5, compared to that of examination (Exam) which is 21 and 13 respectively. It is observed that Exam result has a wider standard deviation compared to that of CA which has a higher mean value. The test of hypothesis yielded an F-value of 75.270 and Pr-value of 0.0001 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

**Presentation of Result**

**2009/2010 Section: First Semester, Third Year Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	0.000	52.000	17.856	11.620
CA	90	0	90	0.000	30.000	23.733	5.236

**Analysis of variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	817.860	817.860	6.426	0.013
Error	88	11199.263	127.264		
Corrected Total	89	12017.122			

Computed against model Y = Mean (Y)

**Model parameters (Variable EXAM):**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	4.114	5.550	0.741	0.741	-6.915	15.143
CA	0.579	0.215	8.676	2.535	0.125	1.033

Equation of the model:

$$EXAM = 4.11390756225974 + 0.5790020221894 * CA$$

From the result above, the mean for the continuous assessment (CA) is 24 with a standard deviation of 6, compared to that of examination (Exam) which is 18 and 12 respectively. It is observed that Exam result has a wider standard deviation despite having a lower mean value compared to CA. The test of hypothesis yielded an F-value of 6.426 and Pr-value of 0.013 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

**Presentation of Result**

**2009/2010 Section: Second Semester, Third Year Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	90	0	90	0.000	49.000	26.311	11.620
CA	90	0	90	0.000	35.000	24.044	6.395

**Analysis of Variance (Variable EXAM):**

Source	DF	Sum of squares	Mean Squares	F	Pr>F
Model	1	3119.727	3119.727	34.561	<0.0001
Error	88	7943.562	90.268		
Corrected Total	89	11063.289			

Computed against model Y = Mean (Y)

**Model Parameters (Variable EXAM):**

Source	Value	Standard Error	T	Pr> t	Lower bound(95%)	Upper bound (95%)
Intercept	4.051	3.917	1.034	0.304	-3.733	11.834
CA	0.926	0.157	5.879	<0.0001	0.613	1.239

Equation of the model:

$$EXAM = 4.11390756225974 + 0.5790020221894 * CA$$

From the result above, the mean for the continuous assessment (CA) is 24 with a standard deviation of 6, compared to that of examination (Exam) which is 26 and 11 respectively. The test of hypothesis yielded an F-value of 34.561 and Pr-value of 0.0001 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

**Analysis of Average Performance Programme Duration Summary Statistics:**

Variable	Observations	Obs. With Missing data	Obs. Without missing data	Minimum	Maximum	Mean	Std. deviation
EXAM	540	0	540	0.000	60.000	24.354	13.085
CA	540	0	540	0.000	40.000	25.556	5.840

**Analysis of Variance**

Source	DF	Sum of Squares	Mean Squares	F	Pr>F
Model	1	11922.700	11922.700	79.814	<0.0001
Error	538	80366.742	149.381		
Corrected Total	539	92289.443			

Computed against model Y = Mean (Y)

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### **Model Parameters**

Source	Value	Standard Error	T	Pr>/t/	Lower bound(95%)	Upper bound (95%)
Intercept	3.772	2.363	1.596	0.111	-0.870	8.414
CA	0.805	0.090	8.934	<0.0001	0.628	0.982

Equation of the model:

$$\text{EXAM} = 3.77186678917418 + 0.805376227090286 * \text{CA}$$

The average result over the three years duration of the NCE Programme as shown above, yield a mean for continuous assessment (CA) of 26 with a standard deviation of 6, compared to that of examination (Exam) which is 24 and 13 respectively. It is observed that Exam reported a wider standard deviation despite having a lower mean value compared to CA. The test of hypothesis yielded an F-value of 79.814 and Pr-value of 0.0001 at 0.05 level of significance. This indicates that a relationship exist between CA and Exam, thus, CA does affect students' final performance, hence, the null hypothesis was rejected.

### **Discussion of Results**

The above result shows the importance and impact of continuous assessment on students' performance. The result shows that students who did well in continuous assessment were likely to do well in the final summative test (examination). Those who also did well in the summative test also performed well in the continuous assessment. This result goes contrary to the works of Black and William (1998) as cited in Pido (No date), who discovered evidence of low correlation between internal test scores and external examinations. Despite this low correlation, they how regarded continuous assessment as a very important instrument in the promotion of effective teaching and learning and capable of raising the standard of students' performance. One of the objectives of continuous assessment is to enable the teacher monitor the progress of students, obtain feedback about the effect of method and adopt strategies that will help in achieving desired goals and provide educational help, (Alausa 2002, Ehiamentor 2006, Coll, Mayordomo and Naranjo 2007, Elui 2008). Where continuous assessment is properly used by the teacher in monitoring the learning behaviour of students, the teacher will be in a better position to improve on teaching skills, methods and choice of exercises to give students. The wide variation in correlation in internal test and external examination reported by Black and William will decrease over time. To this end, continuous assessment has been found useful in the teaching of financial accounting and also found to facilitate improved grading of students.

The result of the analysis for continuous assessment and end of semester examination shows that the standard deviation from the mean tends to be higher for examination when compared to that of continuous assessment. The implication is that the performance in continuous assessment is closer to the mean value than that of examination. This also explains why the hypothesis result for each semester and that

based on the three year period reveals a consistent value indicating that continuous assessment does affects students' performance in the final summative test in financial accounting.

### **Conclusion**

While the study of continuous assessment may not be new, its impact on students' performances in class and promotion examination goes a long way to set a course for the future of students. Continuous assessment should therefore be taken seriously at the curriculum design level and implementation in the classroom be carefully handled as the future of students depend on its proper application.

### **Recommendation**

It has been found from the foregoing analysis and test of hypothesis that continuous assessment plays a very important role in students' performances. Therefore, teachers should ensure that continuous assessment tools are well designed and applied at the right time to maximise the chance of students doing well in it and in the final summative test.

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