

# Continuous Assessment Feedback and Students' Performances in Semester Examinations in a College of Education

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**Abstract** The study sought to compare the end of semester examination performance of NCE student-teachers in Alvan Ikoku Federal College of Education, Owerri whose continuous assessment (CA) feedback were given and those whose continuous assessment feedback were not given and also ascertain the proportion of lecturers who give CA feedback to their students. A quasi-experimental study involving two random groups, treatment post-test design was adopted. The two groups involved in the study are group A with CA feedback (CAWF) and group B without CA feedback (CAWOF). A systematic sample of 42 participants was drawn from a population of 210 Biology/Chemistry student teachers who took Measurement and Evaluation as an education course using their CA scores. The sample was split into two equal halves of 21 each to form group A (CAWF) and group B (CAWOF) respectively using random sampling techniques by balloting. The instruments used for data collection were researchers-made items as well as face to face interview. Three research questions and three hypotheses were postulated. Frequency tables were used to present data which were used to answer each of the research questions. Independent samples t-tests were used to test hypotheses 1 and 2, while binomial test was used to test hypothesis 3. Findings showed a significant difference between the mean performances of CAWF group (70.2) and the CAWOF group (53.8). However, the end of semester total examination scores does not significantly differ according to gender. The proportion of lecturers who give CA feedback to students was 0.28. Among other recommendations is that lecturers should be trained in implementing CA strategies (especially the area of giving feedback) as it has direct effect on students performance in end of semester examination.

**Keywords:** *continuous assessment, feedback, students' performance, semester examination*

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## 1. Introduction

The new curriculum implementation established by the National Commission for Colleges of Education (NCCE) [1] in Nigeria requires the reformation of teaching methods which must now be based not only on teaching, but also learning. This model places students at the center of the learning process referred to as "student centered approach" where students are active learners rather than passive. Assessment also is a keystone of the system. The NCCE emphasizes that the assessment must be designed to reflect the kind of learning that it intends to measure, so that learning of practical skills is not measured by a theoretical test, and that lecturers should also ensure that the student teachers get feedback after every assessment in order to give the student teachers the opportunity for improvement in their learning.

Assessment according to [2] is a process of gathering and documenting information (usually in measurable terms) about the achievement, abilities and personality

variables of an individual. The process of convergence towards the NCCE new curriculum entails certain methodological changes whose practical application can be challenging in colleges of education and whose implication for quality teaching must be of paramount importance. In this regard, learning assessments are one of the issues attracting most interests in the field of teaching and should be one of the most studied and addressed by teachers and experts [3]. There are three distinct types of assessment identified by scholars depending on when and why they are carried out; they include:

- Prognostic or initial assessment,
- Formative or continuous assessment,
- Summative or final assessment.

This study focuses on continuous assessment which according to [4], is a mechanism whereby the final grading of a student in the cognitive, affective and psychomotor domains of behaviour takes account in a systematic way of all his performances during a given period of time during schooling. On the other hand, a strategy is a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem.

Continuous assessments are used to provide feedback to improve both student learning and teaching quality and must be carried out during the learning process. The principle rationale behind the continuous assessment (CA) is to enhance the quality of education and by so doing; students do not wait for the end of semester or term to exert study effort. In this respect, one can say that CA is more important than examination as it keeps student's learning as an on-going process and helps the retrieval of knowledge. CA is supposed to relieve the pressure of examination as it accounts for certain percentages in students' overall performance. The weight of CA in colleges of Education as stipulated by the new curriculum is 40% (assignment and test) which could be in form of daily class work, course related projects and papers, and practical work. The outstanding goal of CA is to improve performance and achieve successful outcomes for both students and teachers but this goal cannot be effectively achieved in the absence of feedback.

Feedback is conceptualized as information provided by an agent (e.g. teachers, peers, books, parents, self, experiences) regarding aspect of one's performance or understanding [5]. Continuous assessment feedback according to [6] is defined as a process of giving information concerning CA that tells the students whether or not they are doing the right thing. Learning in the classroom requires feedback because both the mastery of content and more importantly the mastery of how to think require trial and error learning. Feedback is an essential part of effective learning which helps the students understand the subject being studied and give them clear guidance on how to improve their learning.

Ballon, Ballon and Blank [7] observed that academic feedback is more strongly and consistently related to achievement than any other teaching behavior, this relationship is consistent regardless of grade, socio-economic status, race or school setting. Feedback can improve a student's confidence, self awareness and enthusiasm for learning. Effective feedback of CA can aid in excellent performance in examination and may support student retention, enhance learning and improve assessment performance. Hattie and Timperley [5] in their study suggested that though feedback is one of the most powerful influences on learning and achievement and this impact can be either positive or negative. Thompson and Richardson [8] admits that CA feedback needs to provide information especially relating to the task or process of learning that fills a gap between what is understood and what is aimed to be understood which may be done in a number of different ways. These may be through affective processes such as increased effort, motivation, or engagement. Alternatively, the gap may be reduced through a number of different cognitive processes, including restructuring understanding, confirming to students that they are correct or incorrect, indicating that more information is available or needed, pointing to directions students could pursue, and/or indicating alternative strategies to understand particular information. Winne and Butler [9] claimed that CA feedback is information with which a learner can confirm, add to, overwrite, tune or restructure information in memory, whether that information is cognitive, affective, psychomotor, belief about self and task, as well as strategies (p.5740).

Zimmerman [10] agreed that feedback has no effect in a vacuum; to be powerful in its effect, there must be a learning context to which feedback is addressed. It is but part of the teaching process and is that which happens second, after a student has responded to initial instruction, when information is provided regarding some aspect(s) of the students' task performance. It is most powerful when it addresses faulty interpretations, not a total lack of understanding. Timperley and Parr [11] observed that teachers can assist by clarifying goals, enhancing commitment or increase efforts to reaching students through feedback. Van-Dijk and Kluger [12] argued that how feedback contributes to these processes depends largely on the focus of feedback and the level to which it is directed. George [13] in his own study addresses five most effective ways to use CA feedback in educational setting which includes:

- Be as specific as possible
- The sooner the better
- Address the learner's advancement towards a goal
- Present feedback carefully
- Involve learners in the process.

Gani and Attah [14], in their study discovered that most teachers do not use CA feedback to correct student's deficiencies and problems identified through CA results are not referred to school counselors.

Emphasizing the need for continuous assessment feedback in teacher education programme, [1] has this to say.

In line with the desire of the NCCE to foster quality learning among student-teachers, assessment which measures how well learners have attained the learning outcomes (i.e. the teachers' standards) is considered pivotal in the new teacher education programmes. Consequently, accreditation and monitoring exercises of the NCCE will be geared towards evaluating the extent to which assessment is used to enhance the quality of college graduates as exemplified by the teachers' standards. The new curricula suggests that teacher educators need to know and use assessment procedures for learning and not just to gauge students-teachers' mastery of content or skills.

## 2. Literature Review

One of the most challenging aspects for colleges of education that exclusively use the new NCCE curriculum is continuous assessment. Delgado [3] suggested that one way to make CA system more effective is to give feedback to students which enable the students to internalize the assessment criteria, find alternative solutions to their failures, become more involved in the learning process, get more clear guidance on how to improve their learning and acquire the habit of critical thinking in order to prepare themselves for further examination.

Research has shown that continuous assessment has an impact on both the student's results and their methodologies of learning [16]. Dennis [17] stresses the need for assessment in teaching and learning process because through assessment feedback could be provided to both students and teachers. Continuous assessment

could motivate student to work very hard in examination especially when students' performance is known before the examination. Motivation is important in learning as opines by [18] that motivational orientation is an important factor influencing academic achievement. Hermitt, [19] said students need to be motivated to learn; one way of motivating students' learning is by giving them feedback on their performance in continuous assessment before examination. This will allow them to make any necessary adjustment in their weak areas as earlier observed by [20].

Aliyu and Ngadda [21] studied the relationship between formative evaluation scores and summative evaluation scores using College of Education, Gashua as a case study. The study further reveals that there is a strong positive correlation between formative evaluation and summative evaluation of the subjects considered, the results further confirms the assertion that formative evaluation scores are good predictors of end of semester examination grades. Danjuma [22], in his study examined the extent of reliability of Continuous Assessment as a predictor of students' performance in end of semester examinations. The results revealed a significant relationship when the student scores from Continuous Assessment were correlated with their examination marks.

Osuala [23] indicated that teachers are yet to form favourable attitudes towards the practice of CA, especially providing feedback to the learners. Some lecturers give CA just to fulfill all righteousness neglecting the CA feedback that should help students know whether they did well or not in order to take immediate correction. Some of these lecturers may or may not know the importance of CA feedback as it affects both teachers and learners. Based on this, it is important to investigate continuous assessment feedback with a view of offering the analysis of such feedback on student performance in exam and without such feedback in the same exam.

Generally the study aimed at establishing or estimating CA feedback and student performances in semester examination in A.I.F.C.E. Owerri. Specifically, the study compared; Student's continuous assessment feedback and performances in semester examination; Student CA without feedback and performances in semester examination and ascertained the proportion of lecturers in A.I.F.C.E that give CA feedback to students.

Three research questions were formulated to guide this study, they include: What is the mean performance score of students given CA feedback and those not given CA feedback by their lecturers? Is there a significant difference in end of semester examination scores between male and female students in the group with CA feedback? What proportion of lecturers in A.I.F.C.E. Owerri gives CA feedback to their students? The researchers also postulated three null hypotheses which were tested at 0.05 alpha levels to guide the study. **H<sub>01</sub>**. There is no significant difference end of semester examination scores between students given CA feedback and those not given CA feedback ( $p < 0.05$ ). **H<sub>02</sub>**. There is no significant difference in the end of semester examination scores between male and female students that took part in the study. **H<sub>03</sub>**. The proportion of A.I.F.C.E lecturers who give CA feedback to students is not significantly greater than 0.50 ( $p < 0.05$ ).

### 3. Method

This study is a quasi-experiment focusing on comparing students CA scores with feedback (CAWF) and students CA scores without feedback (CAWOF) on the performance of students in end of semester examination. The examination used is a researchers-made examination in Measurement and Evaluation. It involves the use of random groups, independent variables, test that has two values, CAWF= CA with Feedback and CAWOF= CA without Feedback; and dependent variable; students performance in end of semester exam.

$$Rg X_1 O$$

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$$Rg X_2 O$$

Where Rg = random group; X<sub>1</sub> = CAWF; X<sub>2</sub> = CAWOF; O = Post-test (end of semester examination in Measurement and Evaluation). The study was carried out in Alvan Ikoku Federal College of Education Owerri, Imo State. The population comprises about 210 second year NCE students in Biology/Chemistry department who were to study measurement and evaluation as one of their education courses. The whole population was taught, given assignment and test, marked and the total score which was 20 marks for assignment and 20 marks for test recorded as CA total scores. From this record, 42 students that performed below average were systematically selected starting from the least score to form the study sample and these amounts to 20% of the population. The researchers split the sampled students into two equal halves using balloting. One half was given CA feedback (CAWF) which include returning their marked scripts and providing corrections where necessary. The other half was not given CA feedback (CAWOF). Also 90 lecturers were purposively selected from the population of 150 lecturers in school of education. The instrument employed for data collection was a researcher made item as well as a checklist for the lecturers.

The examination items were constructed using the same topics for CA items but with some modifications. The researchers constructed 70 multiple choice items for CA and 100 for exam based on text blueprint, the two drafts were presented to experts in Measurement and Evaluation to check for content coverage, language expression and arrangement. From their vetting, CA items were reduced to 30, while exam items were reduced to 70, thus ensuring face and content validity. To ensure the reliability of the instruments, the researchers conducted a trial testing and used the scores of the participants in calculating the internal consistency reliability coefficient employing Kuder Richardson formula 20 (KR20). The reliability coefficients obtained are 0.78 for CA and 0.82 for exam. Student CA scores with and without feedback and their corresponding scores in examination were keyed into the IBM Statistical Package for Social Sciences (SPSS) version 22 for analysis. Means and standard deviations were used to answer research questions 1&2. Research question 3 was answered using data from the lecturers' checklist. Independent samples t-test of means was used to test hypothesis 1 and 2 while binomial test of significance of proportion was used to test hypothesis 3.

## 4. Results

The findings of the study are presented in this section using tables. Out of the 42 students selected for the study, 15 were males while 27 were females.

**Research question 1:** What is the mean performance score of students given CA feedback and those not given CA feedback by their lecturers?

**Table 1. Mean and standard deviation of group with CA feedback and group without CA feedback**

	Groups	N	Mean	Std. Deviation
Total	Group with CA feedback	21	70.1905	5.22129
	Group without CA feedback	21	53.8095	5.77598

From the results, displayed in Table 1, the mean score of the group of students who received CA feedback from their lecturer is 70.2 while that of the group of students who did not receive CA feedback from their lecturer is 53.8. The difference of the mean performance of the two groups in the total end of semester examination is 16.38.

**Hypothesis 1:** There is no statistically significant difference between the mean performance score of students given CA feedback and those not given CA feedback ( $p < 0.05$ ). To test hypothesis 1, an independent t-test for equality of means was conducted.

**Table 2. T-test for equality of means scores of group with CA feedback and the group without CA feedback**

S/n	Group	N	df	Mean	SD	t	Sig.
1.	Group given CA feedback	21	40	70.2	5.22	9.64	.000
2.	Group not given CA feedback	21		53.8	5.77		

\*\* Indicates significant at 0.05 level

Result shown on Table 2 indicates that the students' mean scores in the researcher made CA and exam for group A (CAWF) is 70.2 while that of group B (CAWOF) is 53.8. From this result it is obvious that there is a difference in mean scores of the two groups with a mean difference of 16.38. The difference is statistically significant when subjected to independent samples t-test of equality of means  $t(40) = 9.64$ ,  $p = .000$  (two-tailed). The eta squared statistic is (0.69) which is an indication of a very large effect size according to [23]. Based on this result, the researchers reject the null hypothesis of no significant difference in end of semester examination score between the two groups.

**Research question 2:** what is the difference in end of semester examination scores between male and female students in the two research groups?

**Table 3. Mean and standard deviation of scores of male and female students in the two research groups**

	Gender	N	Mean	Std. Deviation
Total	Male	15	64.0000	10.43346
	Female	27	60.8889	9.63301

The result displayed in Table 3 shows that there is a difference in the end of semester examination mean scores of the male and female students who participated in the study. The males had a mean score of 64.0 while the females had a mean score of 60.89 giving a mean difference of 3.11.

**Research Hypothesis 2:** There is no statistically significant difference in the end of semester examination scores between male and female students in the two research groups. To test hypothesis 2, an independent t-test for equality of means was conducted.

**Table 4. T-test for equality of means scores of male and female participants in the study**

S/n	Group	N	df	Mean	SD	t	Sig.
1.	Males	15	40	64	10.43	.974	.336
2.	Females	27		60.89	9.63		

\*\* Indicates significant at 0.05 level

Result presented in Table 4 shows that there is a difference in end of semester mean scores of male and female students that took part in the study. The difference is however statistically not significant when subjected to independent samples t-test of equality of means  $t(40) = .974$ ,  $p = .336$  (two-tailed). The eta squared statistic is (0.02) which is an indication of a small effect size according to [23]. Based on this result, the researchers fail to reject the null hypothesis of no significant difference in end of semester examination scores as a result of gender.

**Research question 3:** What proportion of lecturers in A.I.F.C.E give CA feedback to students?

**Hypothesis 3:** The proportion of A.I.F.C.E lecturers who give CA feedback to students are not significantly greater than 0.50 ( $p < 0.05$ ).

**Table 5. Binomial test of proportion of lecturers that give CA feedback to students**

	Category	N	Obs. Prop.	Test Prop.	Exact Sig. (2-tailed)
CAFB	Group 1 Lecturers that give CA feedback	25	.28	.50	.000
	Group 2 Do not give CA feedback	65	.72		
	Total	90	1.00		

The result of analysis on Table 5 showed that out of 90 lecturers used for the study, only 25 give CA feedback to students representing 0.28 proportion or 28%. On the other hand, 65 lecturers representing 0.72 proportion or 72% do not give CA feedback. A binomial test indicated that the proportion of lecturers that give CA feedback .28 was significantly lower than the expected .45,  $p = .000$  (2 tailed). The researchers therefore fail to reject the null hypothesis that states that the proportions of lecturers who give CA feedback to students are not significantly greater than 0.50.

### 4.1. Discussion of Findings

In this research, we investigated the influence of CA feedback on the academic achievement of Pre-service

teachers. The results indicated that the usefulness of the CA feedback in facilitating student learning is great. That the study group that was given CA feedback (70.9) performed better than the group not given CA feedback (53.8) is an indication of the importance of giving CA feedback to students. This finding finds support in [14] who maintain that continuous assessment has an impact on both the student's results and their methodologies of learning. The finding is also supported by [18] who opine that giving CA feedback has the potential of motivating students to learn. These findings agree with the work of [7] [5] [6] and [14] who concluded that effective CA feedback aid the students in excellent performance in exam, support retention, enhance learning and improve further assessment performances.

The finding also revealed that no statistically significant differences exist in the means scores of the participants as a result of gender male (64) and female (60.8). The no significant difference in performance between male and female participants in the study group has a favourable implication for the use of CA feedback in teaching and learning. This implies that giving CA feedback can be beneficial to both male and female students alike.

The finding also revealed that the proportion of lecturers in the institution who give CA feedback to students is low .28. This implies that about 72% of the lecturers in the school of education in the college do not give feedback to the students after tests or assignments. This does not augur well for effective teaching and learning as it also gives a wrong model for the pre-service teachers to follow. The importance of the CA feedback in motivating students to perform better has made it an imperative that all lecturers in a teacher education institution such as Alvan must practice it. It will not only enhance students' performance but also provide a model for trainee teachers to adopt in their teaching career.

## 4.2. Conclusion

Continuous assessment can have an effect on the total performance of students at the end of semester exam but the extent of effect depends on the type of strategy used. Feedback is an essential part of effective learning. It enhances learning and improves further assessment performance. From the finding, students who were given CA feedback (CAWF) performed better than students who were not given CA feedback (CAWOF). The little effect of CA on total performance of those who were not given feedback may have resulted from personal/self efforts of those students through intrinsic motivation. In the analysis also, majority of lecturers (0.72 or 72%) do not give CA feedback to students while only few (0.28 or 28%) give CA feedback to students. This implies that if lecturers should develop the skill of giving CA feedback to students, perhaps, student performance in exam will improve and the rate of failure and carryover of courses will drastically reduce.

## 4.3. Recommendation

Since CA feedback has great impact on both student result and their methodology of learning, lecturers and students should be directed towards the tools that are used

in the CA. There should be training and retraining of lecturers in both CA and exam setting and implementation of CA strategies (especially feedback) as they have direct effect on the methodology of learning, assessment and performance of students.

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