

Problems of Continuous Assessment Practice among Physics Education Students in Cross River University of Technology, Calabar, Nigeria

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Abstract— This study was conducted to ascertain the problems of Continuous Assessment (CA) practice among Physics Education students in Cross River University of Technology, Calabar, Nigeria. The study comprised of three research questions. Descriptive survey research was adopted for the study; sixty-three Physics Education students were purposively used for the study. No sampling was done, since the population size is small and manageable. Instruments used are Problems of Physics Continuous Assessment Questionnaire (PPCAQ) and Attitude towards Physics Questionnaire (APQ). 200, 300 and 400 levels Physics Education Students were used for the study. A reliability coefficient of 0.74 was obtained using Pearson Product Moment Correlation Coefficient. Data was analyzed using standard deviation, simple percentage count and Thurstone scale for measuring students' attitude towards CA. Results obtained shows that, Physics Education students are different in their attitude towards CA, problems affecting CA practice among them are; students' pressure in studying for CA, insufficient materials, less subject area of content coverage, too brief, not regularly administered. Results also shows among others that, most students do not look forward to CA, CA is boring to some while majority are happy to score high marks in CA. It is recommended among others that, lecturers monitor students' progress during CA and give them feedback so as to motivate them.

Keywords— Physics, Continuous Assessment, Physics Education, Physics Education students.

I. INTRODUCTION

Continuous assessments (CA) are appraisal given to students to determine the outcome of their learning activities. They show how well students have learned and their learning difficulties, though it might differ from student to student. Apart from its benefits to the student, continuous assessments also help a teacher to have feedback on what he or she has taught and on how to improve or get more resource materials when imparting knowledge to the students in the future. In other words, it helps to promote learning and understanding among students. Continuous assessment items among others include; attendance to lectures, correct responses to questions during lectures, neatness (dressing and note keeping in some case), assignments, seminar presentations, written and practical tests, taking complete notes given by teachers, as well as comportment in lectures and any other innovations the lecturer might come up with. CA marks carries 30%, while the examination carries 70% of students' total score. At times a lecturer decides his/ her own CA scores due to their personal reasons. The Federal Republic of Nigeria (FRN), on National Policy on Education (NPE) [1], reported that the movement from one academic class to another shall be based on continuous assessment and that evaluation shall be liberalized by their being based on whole or in part on continuous assessment of

the progress of the student. Idowu and Esere [2] stated that the three learning domains of cognitive, affective and psychomotor should be assessed simultaneously and the product can be used to guide the growth of the individual student in academics. Similarly, Ubong and Wokocha [3], contend that continuous assessment facilitates practical knowledge among several uses. Assessment helps tutors to find out what the students has learned and help them to evaluate the student's performance systematically. It also takes the shape of specific tasks that are given to students based on what was taught, enabling the teacher to make judgment [4]. Continuous assessment which is an ongoing process is based on observations of what students are doing; help tutors to evaluate the learner's performance [5]. The NPE [6], explain that assessment shall include the broad areas of assessment for learning. The NPE also listed the following as general goals of assessment:

- a. Accurately measure the abilities of students.
- b. Enhance the global competitiveness of products of the Nigeria educational system.
- c. Improve the credibility of examination conducted in Nigeria.
- d. Eliminate the intractable problems associated with the traditional Paper Pencil Test (PPT)
- e. Improve learning.

According to NPE [6], to achieve the set goals above, the under listed points should be encouraged;

- i) Assessment bodies involved in conduct of large scale public examinations to move to a current and more efficient way of electronic testing.
- ii) Public and private providers of education shall be encouraged to:
 - a. Improve the computer literacy of tutors and students.
 - b. Construct and equip e-testing centre for computer based tests in their institutions.
- iii) 3) All levels of education in Nigeria shall be encouraged to change to Computer Based Test (CBT) in assessment.

Continuous assessment was introduced in schools because of the problems associated with the then single assessment known as examination, which only focuses on cognitive behavior of students alone [7]. The work of Osadebe on the practice of continuous assessment further showed that the extent to which continuous assessment is practiced with emphasis on the cognitive, affective and psychomotor domain of students' behavior was low. They, suggested that continuous assessment and effective monitoring of continuous assessment practice should be practiced by instructors. Unlike the formal views, physics assessment is not only based on theory but on practical as well, thus making the cognitive, affective and psychomotor learning activities very important as a continuous assessment instrument. When students are being assessed, their performance is being assessed as well.

Lynch [8] noted that the purpose of assessment, apart from reinforcing teaching and learning, is also used together with the relevant information about students' performance, progress or to determine students' interest in order to make judgment on the progress of their learning. Students' academic performance determines the success or failure of any academic institution, and parents have high expectation from their children based on their academic performance [9]. They defined academic performance as the knowledge attained and marks assigned by tutors, while in educational context [9] referred to academic performance as the educational goal to be achieved by students, tutors or institutions over a certain period. This, they explained is measured by students' continuous assessment or examination. According to Iqbal, Samaiullah & Anjum [10], CA has positive effect on students' learning and achievement and also motivates them to actively participate in learning process since they are provided with constructive feedback. They further explained that CA

can be judged by making observation and collecting information periodically from specific tasks given to students during their learning process. Rezigalla et al [11] found out that students prefer the use of CA instead of the single final examination because it is used to enhance and sustain a qualitative learning in them. They then suggested a carefully planned CA tools. CA is viewed as ascertaining what a student gains from school in terms of knowledge, character development, all performances in tests, assignments, projects and other educational activities given during a period of term, year or covering the entire educational level [12]. This as explained by Gazi [12] could be systematic, comprehensive, and cumulative and guidance orientation; systematic because it is planned, graded to suit the age and experience of the students and is given at suitable interval during the year, it also embraces the cognitive, affective and psychomotor domain. Cumulative characteristics means all the information about the individual student has to be gathered together before a decision can be made. While, guidance oriented as suggested by Gazi means the information gathered about the students can be used for their educational, vocational or personal-social decision.

The issue of continuous assessment practice in any educational system is very delicate, being the fact that it does not only influence the students learning, but also an instrument for student success or failure in their academics settings. It is one of the instruments the tutor uses in judging the students. Hence, the needs to determine the problems of continuous assessment practice among Physics Education students in Cross River University of Technology, Calabar.

1.2 Research Questions

To give backing to this research work, these questions were asked;

1. To what extend does CA practice influence Physics Education students?
2. What are the factors hindering the successful implementation of CA practice?

What are the students' attitudes towards CA practice?

II. METHODOLOGY

A descriptive survey research design was used to determine the problems of CA practice among Physics Education students in Cross River University Technology, Calabar. Students are the respondents of the questionnaire. The study involves 200, 300 and 400 levels students for 2021/2022 academic session,

numbering 30, 17 and 16 students respectively. Population of the study is 63 Physics Education students. A purposive study was used involving all the students since the number is small and manageable. The instrument was validated by experts in test and measurement, and a reliability of 0.74 was obtained after a test-retest of the instrument was carried out using Pearson Product Moment Correlation Coefficient. The instruments used were Problems of Physics Continuous Assessment Questionnaire (PPCAQ) and Attitude towards Physics Questionnaire (APQ) and are made of 10 items each. The instrument for analyzing the data were standard deviation, Analysis of Variance, simple percentage count for section one where the options were Yes or No. Thurstone scale was used for measuring students' attitude towards CA, where the respondents were asked to indicate Agreed or Disagreed to each of the items on section two of the questionnaire.

Table 1: Mean and Standard deviation of the three study variables (200, 300, and 400 levels) of Physics Education students to CA practice

Study Variables of Physics Education students	N	Mean	Standard deviation
200 level	30	14.53	3.82
300 level	17	18.59	2.51
400 level	16	17.88	2.64
	63		

Results from Table 1 shows that all the three groups have positive attitude towards CA. 300 Physics Education students have the highest mean of 18.59 with standard deviation of 2.51, followed by 400 level Physics Education students with mean of 17.88 with standard deviation of 2.64 and then 200 level Physics

2.1 Descriptive Analysis

In order to answer the research questions, a descriptive statistical analysis was done using means and standard deviation.

III. RESULTS

The results of the study were obtained from the research questions and were presented in tables 1 – 4.

3.1 Research question 1

To what extent does CA practice influence Physics Education students? The result was analyzed using a descriptive statistic of mean and standard deviation of scores on different levels of study years of Physics Education students. That is, 200, 300, and 400 levels Physics Education students. The results are given in Table 1.

Education students with mean of 14.53 and standard deviation of 3.82. To determine whether there is significant difference in the mean CA of the different groups of Physics Education students, this was done in Table 2.

Table 2: Analysis of Variance test of the three respondents for the three levels of students

Source of Variance	Sum of squares	Df	Mean Square	F-ratio	Critical-value
Between groups	220.4	2	110.2	8.7	3.15
Within groups	757.3	60			
Total	977.7	62	12.60	3	

Results from Table 2 shows the summary of Analysis of Variance of the respondents (200, 300 and 400 levels Physics Education students). From the Table, the calculated F-ratio is greater than the critical F (3.15), indicating that the groups are significantly different.

3.2 Research question 2

What are the factors hindering the successful implementation of CA practice among Physics Education students? The results were analyzed using simple percentage scores of Yes or No on Table 3.

Results from Table 3 show that 50 (79.37%) of the respondents indicated that they have pressure in studying for CA 13 (20.63%) did not. 40 (63.49%) believed that the materials for CA are insufficient while 23 (36.51%) have negative view. For less subject area of content coverage 56 (88.89%) gave a positive response and the remaining 7 (11.11%) gave a negative response. 35 (55.54%) of the respondents are of the opinion that CA questions are too brief, while 28 (44.44%) declined. 31 (49.21%) are of the support that CA questions are difficult while 32 (50.79%) do not support this fact, this result is in line with the findings of Owan, and Bassey, [13] which shows that many students are always prepare to take a test and are not afraid of difficult questions. 19

(30.16%) believed that CA marks are not important while 44(69.84%) indicated that CA marks are important. In the area of anxiety, 27 (42.86%) are of the opinion that CA causes anxiety to them, while 36 (57.14%) do not believe so. 33 (52.38%) contend that CA is not administered regularly to them, while 30

(47.62%) thought otherwise. 33 (52.38%) believed that CA causes absenteeism in class while 30 (47.62%) gave a negative response. 10 (15.87%) of the respondents are of the notion that CA scores do not influence their final scores while 53 (84.13%) do not support them.

Table 3: Simple percentage scores of structured problems affecting Physics Education students in CA practice:

Items no.	Identified problems for CA	Yes (%)	No (%)	Total (100%)
1	Students pressure of studying for CA	50 (79.37)	13 (20.63)	63
2	Insufficient study materials for CA	40 (63.49)	23 (36.51)	63
3	Less subject area of content coverage	56 (88.89)	7 (11.11)	63
4	Too brief questions for CA	35 (55.56)	28 (44.44)	63
5	Difficult questions for CA	31 (49.21)	32 (50.79)	63
6	Not seen as important	19 (30.16)	44 (69.84)	63
7	CA causes anxiety	27 (42.86)	36 (57.14)	63
8	CA not regularly administered	33 (52.38)	30 (47.62)	63
9	CA causes absenteeism in class	33 (52.38)	30 (47.62)	63
10	CA does not influence students final scores	10 (15.87)	53 (84.13)	63

3.3 Research question 3

What are Physics Education students’ attitudes toward CA practice? The results were analyzed using

Thurstone scale of attitude. The responses from the respondents were to indicate whether they agreed or disagreed. The results are given in Table 4.

Table 4: Thurstone scale of attitude of Physics Education students towards CA practice:

Item No.	Students’ attitude towards CA practice	Agree %	Disagree %	Total (100%)
1	I do not look forward to CA	33 (52.38%)	30 (47.62%)	63
2	CA causes anxiety when I think about it	29 (46.03%)	34 (53.97%)	63
3	CA is important for my final grades	39 (61.90%)	24 (38.10%)	63
4	It is a waste of time preparing for my CA	22 (34.92%)	41 (65.08%)	63
5	I feel happy when I score good grades in my CA	36 (57.14%)	27 (42.86%)	63
6	CA is boring	56 (88.89%)	7 (11.11%)	63
7	CA motivates me to read harder	60 (95.2%)	3 (4.8%)	63
8	I can do better in CA	25 (39.68%)	38 (60.32%)	63
9	I hate preparing for CA	35 (55.56%)	28 (44.44%)	63
10	CA brings out the student in me	40 (63.49%)	23 (36.51%)	63

Results from Table 4 shows that 33(52.38%) of Physics Education students do not look forward to doing CA while 30 (47.62%) of the students disagreed with them. 29 (46.03%) of the respondents agreed that CA causes anxiety in them when they think about it while 34 (53.97%) disagreed with them. 39 (61.90%) agreed that CA is important for their final grades as compared to 24 (38.10%) who disagreed. 22 (34.92%) agreed that preparing for CA is a waste of their time contrary to 41 (65.08%) who disagreed with them. 36 (57.14%) of the respondents agreed that they are happy when they score good grades in CA while 27 (42.86%) do not agree with them. 56 (88.98%) respondents agreed that CA is boring contrary to 7 (11.11%) who disagreed with them. 60 (95.2%) respondents agreed that they are motivated to

read harder because of CA while 3 (4.8%) disagreed with them. 25 (39.68%) of the students agreed that they can do better in CA while those who disagreed with them are 38(60.32%). Those who agreed that they hate preparing for CA are 35 (55.56%) while those who disagreed are 28(44.44%). Finally, 40 (63.49%) of the respondents agreed that CA brings out the student in them while 23 (36.51%) disagreed with them.

IV. DISCUSSION

The results from research question one, indicated that the different levels (200, 300 and 400) of Physics Education students are significantly influenced differently in their CA practice. The findings from

research question two indicates that Physics Education students are faced with problems such as; pressure of study for CA, CA material not being sufficient, less subject area content coverage, CA questions too brief, CA not regularly administered to them as well as the fact CA causes absenteeism in class. These problems listed and researched into are challenges and difficulties faced by the students that affect their having good grades in CA. The findings is in consonance with the research works of Osadebe [7] which shows the extent to which university lecturers practice CA with emphasis on the cognitive, affective and psychomotor domains of students' behavior which was low and further explained that there should be effective monitoring and evaluation for the improvement on the practice of CA. Rezigalla, et al [11] noted that the divergent responses of students during CA can be explained by lack of students experience and familiarity. Most problems faced by students are as a result of fear of the unknown, that is why it is necessary that the lecturers should make sure students get feedbacks on any assessment, so that the students can be aware of their performance, and take responsibilities of the progress of their learning activities.

The results on research question three on the attitude of Physics Education students indicated that majority of the students do not look forward to CA, this might be as a result of their attitude and orientation. This finding is in collaboration with the works of Berhe and Embiza [14] which revealed that instructors and students have poor knowledge and negative attitude towards CA and recommended that CA results be used as a means of identifying their progress and give support for the students. The findings of this study also shows that; students agreed that they can score higher marks in CA, larger number of the students finds CA boring, students hate preparing for CA, students believed that CA will bring out the students in them. The attitude students exhibit when preparing and during CA says a lot about the outcome of the assessment.

V. CONCLUSION

Based on the findings of this research work, it was concluded that CA practice is very important to student, since it helps to promote understanding of subject content and built their confidence due to its progressive nature. It is evidence that CA practice among students requires hard work since it involves students' preparation. The results of the findings showed that there are problems hindering the success and effectiveness of CA among students. Study also

indicates that attitudes exhibited by students towards CA determine their success or failure.

VII. RECOMMENDATIONS

1. Physics Education students should be made aware of the importance of CA, so that they can give it their best and prepare adequately for them.
2. Lecturers should monitor students during CA and give them feedback so as to motivate them in their study and built their attitude positively.
3. Physics Education CA should be set in such a way so as to cover all learning domains and make it less boring and create diversity for the students.

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