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## THE CORRELATION BETWEEN CONTINUOUS ASSESSMENT AND EXAMINATION SCORES OF PUBLIC ADMINISTRATION STUDENTS OF THE UNIVERSITY OF ABUJA, NIGERIA

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### Abstract

*The idea of combining Continuous Assessment and examination to replace the single end of year examination as a means of determining the overall performance of students in the Nigerian University System has since become a norm and applied across all the Universities either as 30 or 40% of the final score. The objective of this study was to determine whether or not there is any positive correlation between the Continuous Assessment and examination scores of public administration students of the University of Abuja. In doing so, all examinations and continuous assessment scores of public administration students involved in the study were collected. Also, three hypotheses were formulated and tested using Pearson's Product Moment Correlation Coefficient. The results revealed three courses were significant at the .05 levels. While the null hypothesis in respect of four courses was retained depicting a negative correlation. The results further revealed a weak positive correlation in respect of three other courses. The mean percentage scores are generally lower than 50% during the first year. As per the second year, six courses out of seven were found to be significant at .05 level. The result also indicates that the mean percentage in Continuous Assessment is higher than that of the examination. Five courses were also weak positive. Also, during the third year, six courses are significant at the .05 level, while only PUB 212 recorded a high positive correlation. The third-year result is generally fairer than those of the first and second years, while the mean percentages for both Continuous Assessment and examinations are generally poor, with a score of less than 40%.*

**Key words:** Continuous assessment, Examination scores, Public administration.

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### Introduction

Assessment or evaluation is the component that completes the circle of the curriculum development and innovation process (Ikegbunam 1996). Therefore, the practice of Continuous Assessment (CA) as a formative kind of assessment is intended to provide information about students' overall achievements in all areas of the domain. It seeks to allow students to determine their scholastic achievements under a relaxed atmosphere without undue stress, while at the same time seeking to improve students' study habits (Offorma 1989). The introduction of Continuous Assessment, therefore, is to interrogate student's performance in all areas of the domain, using such scores as a supplement to the overall scores of students' performance. This is why it is important to also determine the likely correlation between students' scores in Continuous assessment and those of examination, to determine whether or not high scorers in Continuous Assessment are also high scorers in the examination. This is given the reservations expressed by some scholars, that if Continuous Assessment scores correlate positively with examination scores, then combining the two systems become an unnecessary burden on the part of the lecturers. Hence, in this study, efforts were made to determine whether or not there is a positive correlation between Continuous Assessment and examination scores of public administration students in this study, answers to the following research question were made:

1. Are students' continuous assessment scores related to their examination scores?
2. Can we use student's continuous assessment to predict possible successes or failures in their examination?
3. Is it worthwhile to continue to combine student's continuous assessment scores and their examination score to determine their overall achievements?

## **Background**

The National Policy on Education (2014) provided for the need for an accurate measure of student's abilities as a necessary tool for enhancing the global competitiveness of the products of the Nigerian educational system. The introduction of continuous assessment, therefore, seeks to improve the credibility of examinations conducted in Nigeria by eliminating "the intractable problems associated with traditional paper and pencil test" (pp. 69),

Similarly, Ezewu and Okoye (1982) blamed the falling standards of education in Nigeria on the end of year "single" examination, which according to Iyewarum (1979), brought some negative results, including the high rate of decline in the rate of students passing the examination and poor handling of examination. Ipaye (1982) asserted that the introduction of Continuous Assessment side by side with final year examination will surely facilitate assessment in cognitive, affective and psychomotor domains of students. Hence, students' behaviours, attitudes, interests, socialization process and other non-behaviour that will help in decision making about students would be known.

In this regard, the National Universities Commissions approved minimum standards (1989) provided for a continuous assessment of students to be carried out alongside regular end of year/semester examinations. The standards state that: Continuous Assessment should be a significant component of the assessment of a student's performance in a course and should "constitute 30 to 40% of the final grade awarded".

However, since the introduction of Continuous Assessment in Nigeria, many lecturers and other stakeholders in the education sector has continued to ask whether there is any relationship between students Continuous Assessment and their end of semester examination results. Are high scorers in Continuous Assessment also high scorers in the examination? Can we use students' Continuous Assessment to predict their performance in an examination?

To provide answers to these questions, many researchers have provided insight into such relationships. In their study, Fan Akpan et al (2014) concluded that continuous assessment scores affect final examination scores. Also, in their study of the correlation between Continuous Assessment and student's performance in physics, Aina *et al* (2013) found a perfect correlation at .73. The study further obtained a perfect correlation between Continuous Assessment scores and final grade electromagnetism, which stood at .948. High scores in Continuous Assessment, the results revealed that about 66.3% passed Continuous Assessment, while only about 2.2% of the students passed the examination.

In a similar study, Ado *et al* (2015) correlated students Continuous Assessment and examination results of students. The results revealed that there is a significant positive correlation between Continuous Assessment scores and examination scores of undergraduate students EDU 201, similar relationships were obtained in their study in respect of EDU 202 and 203. Similar conclusions were made by Okwu *et al* (2012). Anikweze (2010) and Dennis (1988). In related research, Gidado (2020) examined the correlation between biology student's continuous assessment scores and their examination scores. The results revealed a positive correlation with  $P \leq 0.05$ . the study concluded that lecturers were generally fair in their assessment of students and encourages the combination of two assessment methods in determining students' achievements.

## Methodology

In this study, the variation method of correlation theory was used to the level of correlation between student's continuous assessment scores and their examinations. In the method, it is expected that continuous assessment is directly proportional to the student's examination. This means that as the former gets bigger, so does the latter. This concept can be translated as  $x/y = K$  for constant K. History courses were readily available to the researcher.

A total of 3,491 students were used for the study. This includes 1068 during the first academic session, 1196 for the second session, and 1227 students were involved during the third session. This population includes male and female students in 100 to three hundred levels of study.

The study used the hat-draw technique without replacement in sampling the department of Public Administration from the faculty of management sciences, while the purposive sampling technique was used in drawing the various Public Administration courses that were used for the study.

The study further made use of the Purposive-sampling technique as was used requires that only students/samples whose marks were readily available at the time of data collection. Hence only those courses whose continuous assessment and examination scores were available at the time of data collection were used in this study. The sample of the study is provided in Table 1 below.

**Table 1: Distribution of Students by Levels and by Gender for Public Administration First to Third Year**

Course	Academic Year	Total Students	100 Levels		200 Levels		300 Levels		400 Levels	
			M	F	M	F	M	F	M	F
PUB Admin	1 <sup>st</sup>	1068	622	208	72	58	82	26	-	-
	2 <sup>nd</sup>	1196	594	330	-	-	188	84	-	-
	3 <sup>rd</sup>	1227	-	-	482	340	279	126	-	-

Table 1 above is a summary of students' distribution Public Administration used in this study. The analysis showed that there were more male students than females in all the courses analysed. It further revealed that there were no participants at the 400 level in Public Administration. Also, no students' records were obtained for inclusion

at the 200 and 100 levels for the Public Administration in the second academic session and third academic session respectively.

### **Results**

A total of three hypotheses were formulated and tested in this study. The hypotheses seek to determine the existence or not of correlation between continuous assessment and examination scores of public administration students, using Pearson's product-moment correlation coefficient. The results are as presented below.

Hypotheses One: There is no significant relationship between the performance of students in Continuous Assessments and examinations in Public Administration courses during the first academic year.

**Table 2: Correlation of Students Continuous Assessment (CA) and Examination Scores in Public Administration First Year (100-300 level)**

Course	N	CA/ Exam	Mean	Mean %	SD	R	Sign
ACC 101	90	CA 30	8.57	28.57	5.51	.818	.000
Principles of Accounting I	90	Exam 70	19.12	27.31	9.06		
ECN 101	96	CA 30	8.64	28.8	1.55	.012	.904
Principles of Economics I	96	Exam 70	34.22	48.89	6.38		
SOC 101	97	CA 30	11.76	39.2	3.48	-.141	.168
Introduction to Sociology I	97	Exam 70	24.88	35.54	5.78		
ECN 102	65	CA 30	17.65	58.83	2.76	.065	.614
Principles of Economics II	65	Exam 70	32.08	45.83	3.14		
BUS 102	87	CA 30	14.00	46.67	.000	+	-
Principles of Business Administration II	87	Exam 70	41.17	58.81	10.11	-	
ACC 212	65	CA 30	10.98	36.6	50.59	-.134	.295
Introduction to Accounting II	65	Exam 70	24.54	35.06	10.29		
ACC 315	54	CA 30	13.85	46.17	1.77	.086	.000
Cost Accounting	54	Exam 70	27.26	38.94	9.00		

*+ r cannot be computed because one variable is a constant.*

In table 2 above, an analysis of the correlation between continuous assessment and examination scores of Public Administration students during the first year was carried out. A total of seven courses were analysed. The result revealed that only ACC 101 (Principles of Accounting I) ECN 102 Principle of Economics II) and ACC 315 (Cost Accounting) were found to be significant at the .05 level. Therefore, the null hypothesis in respect of these three courses was rejected and an alternative was adopted. However, the null hypothesis in respect of four other courses, ECN 101, SOC 101, BUS 102 and ACC 212 was retained. The result revealed a negatively significant correlation for SOC 101 and ACC 212, while the r can be computed for

BUS 102 because of a constant variable. From the analysis, also, the result indicates that three out of the seven courses: ACC 315 Cost Accounting, ECN 102 Principles of Economics II and ECN 101 Principles of Economics have a "weak" positive correlation. Also observed in this result are two negative (weak) correlations in respect of ACC 212 Introduction to Accounting I and SOC 101 Introduction to Sociology. Only ACC 101 Principles of Accounting was highly positive. The generally low correlation and negatives observed are a source of concern. Another disturbing issue observed from the analysis on this table is the fact that the correlation coefficient (r) in respect of BUS 102 Introduction to Business Administration II cannot be computed because one variable was found to be constant. It was discovered that all the students who offered the course score a figure of 14. This shows the arbitrariness of the lecturer.

The analysis in table 1.2 above further revealed that the mean percentage scores are generally lower than 50% except in two courses of BUS 102 examination and ECN 102 Continuous Assessment. Also observed from this analysis is the fact that the means score is generally low and below average. On the whole, the table reveals a general assessment problem and low-level performance in almost all the courses analysed. This is a source of concern.

Hypotheses Two: There is no significant relationship between the performance of students in Continuous Assessments and examinations in Public Administration courses during the second academic year.

**Table 3: Correlation of Students Continuous Assessment (CA) and Examination Scores in Public Administration Second Year (100-300 level).**

Course	N	CA/ Exam	Mean	Mean %	SD	R	Sign
PUB 101	91	CA 30	24.06	80.2	7.08	.752	.000
Introduction to Public Administration I	91	Exam 70	25.39	36.27	9.25		
BUS 101	77	CA 30	17.82	59.4	2.47	.258	.011
Introduction to Business Administration	77	Exam 70	29.20	41.71	7.23		
PUB 102	90	CA 30	15.41	51.37	5.34	.046	.466
Introduction to Public Administration II	90	Exam 70	31.97	45.67	8.70		
ACC 102	90	CA 30	10.36	34.53	2.04	.770	.000
Principles of Accounting II	90	Exam 70	22.24	31.77	11.64		
PUB 104	90	CA 30	16.86	56.2	5.18	.408	.000
Mathematics for Public Administration II	90	Exam 70	21.50	30.71	8.60		
PUB 311	70	CA 30	19.54	65.13	5.49	.412	.000
Administrative Thought	70	Exam 70	25.22	36.03	10.05		
PUB 319	63	CA 30	19.92	66.4	2.29	.415	.001
Intergovernmental Relations	63	Exam 70	34.17	48.81	5.34		

The correlations in Table 3 above relates to the second academic year. The analysis on this table shows that six courses out of seven analysed were significant at the .05 level. Only PUB 102 was not significant at the 5% level. Therefore, the null hypothesis was rejected in respect of PUB 101, BUS 101, ACC 102, PUB 104, PUB 311 and PUB 319. However, the null hypothesis was retained for PUB 102 (Introduction to Public Administration II).

The result further revealed that continuous assessment means percentage is higher than examination means in six different courses; while lower performance in Continuous Assessment was noticed in respect of ACC 102 Principle of Accounting II. The mean percentage of examination scores has generally fallen below 50% in all the seven courses correlated. The range of score show high positive correlation in two courses: PUB 101 Introduction to Public Administration I and ACC 102 Principles of Accounting II; and the remaining five courses were positive but low correlations. The high and low correlation observed does not seem to be healthy as it tends to portray an extreme performance between continuous assessments and examination. But the non-negative correlation is a good development.

Hypotheses Three: There is no significant relationship between the performance of students in Continuous Assessments and examinations in Public Administration courses during the third academic year.

**Table 4: Correlation of Students Continuous Assessment and Examination Scores in Public Administration Third Year (100-300 level)**

Course	N	CA/ Exam	Mean	Mean %	SD	R	Sign
PUB 202	88	CA 30	24.33	81.1	2.69	.534	.000
Statistics for Public Administration II	88	Exam 70	29.31	42.00	11.18		
BUS 212	76	CA 30	11.77	39.2	2.26	-.234	.045
Principles of Management II	76	Exam 70	36.62	53.3	8.44		
PUB 212	73	CA 30	24.06	80.2	7.08	.752	.000
Educational Administration	73	Exam 70	25.39	36.3	9.25		
PUB 214	82	CA 30	13.20	44.00	2.41	.459	.000
Introduction to International Relations	82	Exam 70	32.28	46.1	11.66		
PUB 216	80	CA 30	16.49	55.00	6.55	.538	.000
Elements of Government	80	Exam 70	17.5	25.00	6.77		
PUB 301	75	CA 30	14.32	47.7	1.88	.013	.912
Office Management	75	Exam 70	33.05	47.2	8.13		
PUB 313	76	CA 30	14.77	49.2	3.87	.264	.020
Administrative Law	76	Exam 70	27.66	39.5	5.03		
PUB 321	48	CA 30	13.10	43.7	.71	.314	
Entrepreneurial Development	48	Exam 70	35.49	50.7	5.81		.028

From table 4 above, the result indicated that six out of the eight analysed are significant at the .05 level. While PUB 301 (Office Management) and BUS 212 (Principle of Management II) were not significant at the .05% level. In fact BUS 212 revealed an insignificant negative correlation. Therefore, the null hypothesis in respect of six courses (PUB 202, PUB 212, PUB 214, PUB 216 PUB 313 and PUB 321) were rejected and the alternative was adopted.

It was further observed from the table that only PUB 212 Educational Administration recorded a high positive correlation. On the other hand, PUB 202 Statistics for Public Administration II, PUB 216 Elements of Government, and PUB 214 Introduction to International Relations revealed a generally moderate correlation. However, the result in respect of PUB 321 revealed a moderate correlation, even though the r-value stood at .314. The only negative correlation observed was in respect of PUB 212 Principles of Management II. Other courses: PUB 313 Administrative Law and PUB 301 Office Management revealed low but positive correlations. The results on this table are fair, relative to those on table2 and 3 above.

However, one disturbing observation from these results is the fact that the mean percentages for both continuous assessments and examination across the courses analysed are generally poor. None of these courses has reached a pass mark of 40%.

### **Discussion of Findings**

The results in Table 2 above show a correlation analysis carried out in respect of Public Administration courses for a period of three years. A total of twenty-two courses were analysed in all. From the results in Tables 2, 3 and 4, it can be observed that three out of the seven courses analysed during the first year were significant at the .05 level, while four other courses comprising of ECN 101, BUS 102 and ACC 211 revealed a negative but insignificant correlation at .05 level. This result is a source of concern because the majority of courses revealed an inherent problem either in scoring or arbitrariness on the part of the lecturers. It also disagreed with Abe's (1996) findings. The analysis in respect to the second year also revealed that six out of the seven correlated were significant at the .05 level. It is only PUB 102 (Introduction to Public Administration II) that was not significant at the .05 level. However, for the eight courses analysed during the third year, six of them revealed a significant correlation at the .05 level, while two courses (BUS 212 Principles of Management II) and PUB 301 (Office Management) were not significant at the .05 level. It should be noted that BUS 212 (Principles of Management II) revealed a negative correlation.

Furthermore, it was observed that only four courses revealed a negative correlation for the same years. The remaining eighteen courses, however, show that there were four high correlations, four moderate correlations and ten low positive correlations. However, one phenomenon that could be observed from this result is the inability to compute the "r" in respect of BUS 102 because one variable was found to be a constant.

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## **Conclusion**

The problems associated with the end of year single final examination in which students are assessed at once has given birth to the Continuous Assessment practices in Nigerian Universities. But the Continuous Assessment system has not been operating without some observed difficulties. In this study, an effort was made to correlate students Continuous Assessment with their examination scores to determine whether it is reasonable to continue to use the two concurrently. From the results, it was concluded that lecturers cannot to a certain extent use students Continuous Assessment score to predict their performance in examinations. It was also concluded that the need to combine Continuous Assessment and examination in our assessment of students is justified as it allows lectures to examine students in a variety of topics and all areas of the domain. The below 40% mean score observed in both Continuous Assessment and examination in this study call for concern. Proper questioning techniques and external moderation of questions cannot be out of place, to ensure quality and desired output. Hence, the quality of both Continuous Assessment and examination in the Department of Public Administration must be improved upon. The correlation coefficient obtained is mostly at the region of high positive and moderate, with few negative relationships. High positive denotes that Continuous Assessment scores are almost the same as examination scores. This is good in predicting successes and failures, while the negative correlation observed in some courses is a source of concern and need to be checked. Overall, it is suggested that similar determination be made in other departments and sister Universities.



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