

Relationship Between Students' Performance in Continuous Assessments and UCE Examinations in Mathematics

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Abstract - The study established the relationship between student's performance in continuous assessment tests and UCE examinations in Mathematics. The study used the post ex- facto research design which was correlative in nature. Secondary data was used to determine the relationship between students' performance in continuous assessment for term 1 and term 2 and UCE for the 460 sampled students. The study found out that continuous assessment had a significant relationship with UCE performance with $r = 0.769$ ($p = 0.000$) and $r = 0.749$ ($p = 0.000$) in Gayaza Academy Mixed Day and Boarding School and Tender Talents Magnet School respectively. The same relationship was observed in Gayaza Mixed Secondary School with $r = 0.793$ ($p = 0.000$). Continuous assessment tests in the three surveyed schools had a significant relationship with UCE performance. This meant that students' performance in continuous assessment did not change much with the final performance in UCE in mathematics.

Key words – Students' performance, continuous assessments, and examinations.

Introduction

Educational assessment provides the necessary feedback required in order to maximize the outcomes of educational efforts. The assessment of learners' learning provides objective evidences necessary in the decision-making process in education. As correctly pointed out by Cone and Foster (1991), good measurement resulting in accurate data is the foundation of sound decision making. There is little doubt among educational practitioners about the special value of assessment as a basic condition for effective learning. The major problems of assessment of learners have been in the approaches or methods.

Bloom (1971) states that evaluation is the systematic collection of evidence to determine whether in fact certain changes have taken place in the learners as well

as determine the amount or degree of change in individual students. The evaluation system of one short comprehensive end of the course examination disposes the students to a habit of delaying learning until towards examination period. This delayed learning habit makes any student to be taken unaware or not quite prepared for the comprehensive examination because at their disposal is not enough to cover the volume of work required for the examination. In previous papers presented at the East African Education Expeditions Annual Conferences 26th March 2004, concerns have been expressed about the low correlation between continuous assessment and national examination scores. Bunza (1999) reports that studies in Nigeria revealed that continuous assessment scores in the teacher-made tests negatively correlated with Nigeria Certificate of Education Examinations for grade two teachers. Merwe (1999) also reports that in Namibia at primary level where continuous assessment is introduced, marks for teacher-made tests poorly correlated with external standardized terminal examinations marks. Ross in Lewis (1997) also reports that highest scoring students had low correlation while lowest scoring student had high correlation between the external examination and internal test scores. Pido (2004a) correlates the continuous assessment scores and the final examinations scores for twenty-two courses in the technical education examined by UNEB. He reports low correlation and at times even negative correlation.

Despite the low correlation, continuous assessment is regarded as a very important instrument in the promotion of effective teaching and learning. It is an essential component of classroom activities and its development could raise the standard of students' performance (Black & William, 1998). Blooms, Hastings and Madaus (1971) point out that continuous assessment may help to pace the student learning, motivate the student to study, reveal specific areas of learning difficulties and provide feedback to the students and teachers. Continuous assessment is perceived as a process that offers comprehensive assessment of the student learning in terms of assessing wide coverage of the syllabus taught,

using a variety of assessment techniques and taking into account student performance over a period in a variety of situations (Bajah, 1990).

A two-year (2000-2001) study was conducted by Pido to investigate issues related to continuous assessment and student performance in Mathematics in the Uganda Certificate of Education (UCE). The purpose of the study was to assess whether regular administration of continuous assessment tests to students over a long period during the course of their study may improve their performances in Mathematics in UCE examination. Thus, the study seeks to find out the relationship between continuous assessment scores in Mathematics and Uganda Certificate Education performance in Mathematics, in senior four classes in selected schools in Gayaza Township, Wakiso District in Uganda.

Continuous assessment is very important in the promotion of effective teaching and learning. However, if continuous assessment is such a good thing, why do scores derived from it not correlate with external examination scores in Mathematics? Is it that educators are correlating unlike terms or is there some problem with the procedures in the conduct of continuous assessment? The study therefore has investigated the relationship between students' performance in continuous assessment tests and UCE examinations in Mathematics. Studies have been conducted about students' performance in continuous assessments and UCE examinations. Generally; concerns have been expressed about the poor, low or negative correlation between continuous assessments and national examinations scores. Despite the low correlation, continuous assessment is regarded a very important instrument in the promotion of effective teaching and learning. Because of the concerns expressed by the researchers talked about in this book, this forced the researcher into the field to find out whether there is a relationship between students performance in continuous assessment tests and UCE examinations.

Objective of the Study

To establish the relationship between the students' performance in UCE examination and their performance in continuous assessment tests in Mathematics.

Materials and Methods

The study was used secondary data that is the school documents in relation to students' continuous assessment for term 1 and term 2 and UCE for the three selected consecutive years (2009, 2010, and 2011) in the three selected schools. Secondary data was collected in the form of old continuous assessment scores and UCE Mathematics scores using a data collection sheet. The sheet was in form of columns, showing the student's index number, end of terms one and two Mathematics grades and lastly UCE Mathematics grade in the years under study.

Results and Discussion

Relationship between Continuous Assessment Tests and National Examinations Performance

The study aimed at establishing the relationship between the students' performance in UCE examination and their performance in continuous assessment tests in Mathematics. To meet the objective of the study, the researcher assessed the marks scored for each student in S.4 for a period of three years (2009-2011) in national examinations and their continuous assessment tests marks for the same period.

Analyzing the performance of continuous assessment and its relationship with UCE the researcher sought to determine the continuous assessment for 1st and 2nd term for the last three years that is 2009, 2010 and 2011 among the three schools. In Gayaza Academy Mixed Day and Boarding school continuous assessment for 2009, result in table 1 reveals that term 2 had a significant relationship with UCE as indicated with a mean of 5.4167 and 5.4375 for continuous assessment and UCE respectively. This implied that second term which is involved with mock examinations was a good predictor of UCE among the 48 students who sat for UCE that year. On the other hand, 2011 first term had a mean of 5.6346 and UCE had 5.6346. This implied that 1st term continuous assessment had a significant relationship with UCE performance among the 52 Students who sat for that year.

Based on the two year it is clear that continuous assessments are predictor of UCE performance. This means that the Mathematics continuous assessment that were set were up to standard since they would predict the UCE results among the students who sat for those two years consecutively. This was further reinforced with the correlation test of the three years continuous assessment and UCE, in which the r. value was .769 and the p.-value was .000. This meant that continuous assessment were perfect predictor of UCE performance in Gayaza Academy Mixed day and Boarding school. The findings support Brissenden and Slater (1990) that continuous assessment drives students learning. They make students to focus their energies on the best or most expeditious way to pass their tests. Based on this knowledge it is fair to predict the performance of students in national examinations. They act as a diagnostic tool that enables pupils to understand the areas in which they are having difficulty and to concentrate their efforts in those areas.

Furthermore, the researcher surveyed Tender Talents Magnet School. The findings indicated that only 2011, 1st term continuous assessment had a significant relationship with UCE. In 2011 Tender Talents had 53 students who sat for UCE. In first term continuous assessment had a mean of 5.6415, whereas UCE mean was 5.6226. This shows a significant relationship among the two. Thus, it

implies that 1st term continuous assessment was a perfect predictor of UCE.

The results can be further illustrated as shown in the graph (Figure 1)

To further ascertain the relationship among the continuous assessment and UCE for the three years that is 2009, 2010 and 2011 a correlation was run and the result showed an *r*. value of .749 and *p*. value of .000. Since the *p*. value is less than set alpha 0.05 it means that there is a significant relationship between continuous assessments for the three years with UCE performance for that period. In this case, continuous assessment would predict the students' performance for UCE. Although there were some variations, the variations were by chance or were minimal. The findings are contrary to the works of Blooms, Hastings and Madaus (1971) that continuous assessment may help to pace the student learning, motivate the student to study, reveal specific areas of learning difficulties and provide feedback to the students and teachers. This is because the results shows no much difference which implies that teachers never used the assessment to identify the weak areas so as to help students improve their performance. This implied that continuous assessment predicts the performance of students in Mathematics in Tender Talents School. Progressive records helps to make a fair judgment of what the learner is capable of doing and what is difficult to the learner. Hence a progressive assessment mark or assessment profiles mark (Harlem and Crick, 2003).

The 3rd school that was surveyed was Gayaza Mixed S.S. the results for the three years revealed that 2011 both 1st and second term had a significant relationship with UCE and 2nd term 2011 had also a significant relationship. In this case the result for 2010 where 50 sat for UCE, continuous assessment for 1st term had a mean of 5.3600 and for 2nd term had a mean of 5.3800 as compared to UCE mean of 5.3200. Here the continuous assessment was at par with UCE. In 2011, 2nd term had a mean of 5.3673 while UCE had a mean of 5.3469. This implied that the continuous assessment predicted the UCE performance of the 49 students who sat that year.

To ascertain the relationship for the entire three, a correlation was run and the results revealed an *r*.-value of .793 and *p*. value of .000. The *p*. value is less than alpha 0.05 which implies that there is a significant relationship between continuous assessments and UCE performance. The continuous assessments predict the UCE performance over the three years that were surveyed. The findings reflects Taylor (2003) argument that continuous assessment provides information on achievement of particular levels of skills and understanding and knowledge rather than achievement of certain marks or scores, thus continuous assessment enables pupils to monitor their achievement of grade level goals to visualize their progress towards their goals

before it is too late to achieve them. The finding are in agreement with Ng'ang'a (1995) that well established and set tests can predict the student's performance in national examination. This is because the students always have to read and ensure that they perform in continuous assessment. However, this only is based on openness of teachers and the way the teachers carryout their setting. For instance Bunza (1999) noted that continuous assessment in Nigeria correlated negatively with national examinations as teachers tend to be stricter and mean in grades awarding as a means of motivating students to work hard.

The study general revealed that continuous assessment tests predict the performance of students in Mathematics among the selected secondary schools in Gayaza Township. Thus, in the surveyed schools in Gayaza township continuous assessment are a very important instrument in the promotion of effective teaching and learning. They are aimed at raising the standards of students' performance. This means that they paced the students learning, motivated them, revealed specific areas of learning difficulties and provided feedback to the students and teachers. Though the differences among the students continuous assessment was the same, it meant that they never changed more, and that the schools need to do much to improve the performance of Mathematics.

Conclusion

Continuous assessment tests in the three surveyed schools had a significant relationship with UCE performance. This meant that students' performance in continuous assessment did not change much with the final performance in UCE in mathematics.

Recommendations

To improve the performance of the students in UCE, teachers need to set good continuous assessments which can help students become effective self-directed learners. Teachers need to use continuous assessments tests to get feedback, diagnose and remediate areas of learners' weakness to promote good performance in UCE.

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APPENDICES

Table 1: Continuous Assessment Tests and National Examinations Performance ANOVA Results

School	Year	n	Term1 (Mean)	Term 2 (Mean)	UCE (Mean)
Gayaza Academy Mixed Day & Boarding	2009	48	5.6458	5.4167*	5.4375*
	2010	49	5.1633	5.0816	5.2653
	2011	52	5.6346*	5.3654	5.6346*
Tender Talents Magnet School	2009	54	5.7593	5.8889	5.9630
	2010	52	5.4231	5.1923	5.2500
	2011	53	5.6415*	5.9057	5.6226*
Gayaza Mixed S. S	2009	53	5.7736	5.4717	5.8302
	2010	50	5.3600*	5.3800*	5.3200*
	2011	49	5.4898	5.3673*	5.3469*

*Significant relationship

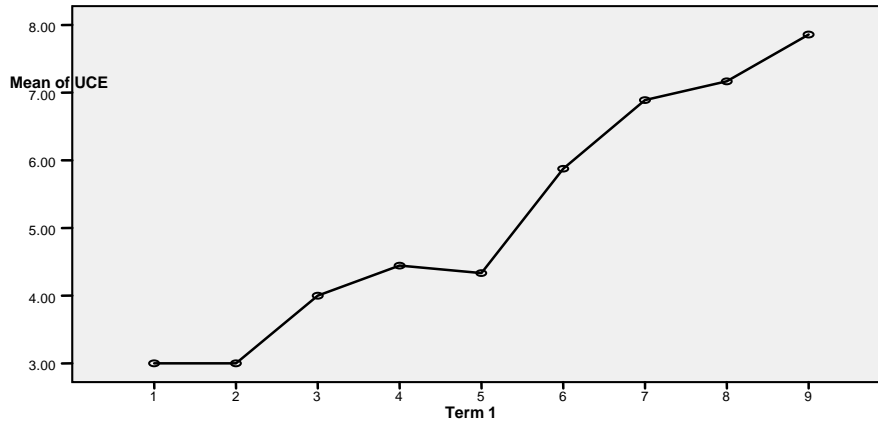


Figure 1: 1st Term Continuous assessment and UCE for 2011