

**EFFECTS OF CLASSROOM ASSESSMENT SCORES ON THE FINAL SCORES
USED IN GRADING STUDENTS AT SENIOR HIGH SCHOOL IN GHANA**

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ABSTRACT

In 1987, the Government of Ghana embarked on educational policy reform programmes. Following this, continuous assessment scores generated by teachers through classroom assessments were incorporated in the final grading of students at a ratio of 60:40 and later 70:30 (External : Continuous Assessment) based on research findings that the latter was accepted as more appropriate. Presently there is proposal from the Ghana Education Service for parity, 50:50 ratio, even though the perceptions of low reliability of continuous assessment scores persisted.

This paper examines the effect of different weightings of continuous assessment scores on the final scores of students. The final scores of candidates in two subjects from twenty senior high schools using the different weightings; 70:30, 60:40, 50:50 of the assessment scores were compared. It is hoped that, the findings would contribute to the search for an appropriate weighting of external assessment to continuous assessment.

Key Words: Continuous Assessment, Classroom Assessment, External Assessment, Teacher, Ratios

INTRODUCTION

Assessment is a word that is used every day in human interaction. When trying to assess the worth of anything, we need information or yardsticks against which to base our judgments on. In education, we need information to determine the extent to which students have benefited from a course of study.

Before the creation of West African Examinations Council in 1952, pre-tertiary institutions in Ghana were taking examinations of British accredited bodies. These were one-shot, theory biased examinations which were often criticized for not fully assessing ability to apply the knowledge and skills acquired. Ball 1889, states that many qualities and educational objectives were not readily assessable by examinations. A student's performance over several years of schooling was determined by one-shot examination under controlled conditions. These conditions may lead to high levels of stress and anxiety in students. Other criticisms leveled against one-shot examinations include the fact that;

- examinations tend to dominate syllabus rather than reflect them;
- learning in the classrooms being restricted to examinable subjects only;
- there was a great element of chance in the examination system;
- examinations were summative in nature and did not provide feedback during the learning process.

Akplu (1989) noted: "We are training students for examinations with enthusiasm but examination results are not translated into food, clothing, housing and water, political and economic development" There has therefore been a search for a fairer and most adequate form of assessment of attainment of students . Concepts like alternative assessment and continuous assessment have been put forth as solutions to the problem. As a part of the 1987 reforms, the Government of Ghana adopted the concept of continuous assessment as part of the assessment system in schools, it required that the final assessment of candidates at the terminal points of basic and secondary

education are based on a combination of the two assessment scores; continuous assessment scores (CASS) generated by teachers through classroom assessments and scores acquired through external examinations conducted by the West African Examinations Council (WAEC).

The practice of continuous assessment has been associated with certain advantages such as;

- It provides a more representative sampling of students' performance across time than the traditional examination system. (Akplu 1986; Andoh, 1996; Tamakloe, Amedahe & Attah);
- It provides a constant stream of information about students' progress;
- It is fairer to students;
- It motivates students to learn as knowledge of results serves as a successful reward;
- It integrates teaching, learning and assessment;

Continuous assessment however has certain disadvantages. These include teacher subjectivity, the existence of different standards in different schools, high implications on time in terms of record keeping.

Nitko (2004) described continuous assessment as an on-going process of gathering and interpreting information about student learning. It is used in making decisions about what to teach and how well students have learned. According to Ojerinde & Falayajo (1984), continuous assessment is an assessment procedure whereby the final grading of a student in any subject takes into account, in a systematic way, the progress of the student throughout the programme of study. Continuous assessment has been described as cumulative, comprehensive, systematic, diagnostic, formative and guidance oriented (Estey, 1992; Tamakloe, Amedahe & Attah, 1996).

STATEMENT OF THE PROBLEM

The rationale behind using teacher-based classroom assessment scores as a component for certifying students among others is that 'one-shot' examinations are unable to fully examine all that a student has acquired after several years of study. The inclusion of CASS in the final grading of candidates was associated with a number of challenges such as the low reliability of scores and validity of teacher assessment (Wuddah, 1982, 1983, Johnson 1997). This has necessitated the moderation of such scores by the WAEC using the statistical moderation procedure.

Implementation of the reform started with external to internal assessment ratio as 60:40 and later a 70:30 ratio was applied*. Now the Curriculum and Research Development Division (CRDD) of the Ghana Education Service has made a proposal for a 50:50 ratio. This study seeks to investigate the effect of the different weightings of CASS on the final grades of students as well as suggest an appropriate weighting.

BACKGROUND

Certification of academic performance in Anglo-phone West African pre-tertiary schools has been the sole prerogative of the West African Examinations Council since its inception in 1952. This it did, by organizing 'one-shot' external examinations and basing the candidate's entire performance on its results. This method of assessment continued till the educational reforms in the 1980s in the member countries of WAEC. In addition to changing the structure, content and objectives of school education, the reform programmes also introduced continuous assessment as an integral part of students' final assessment and certification.

Nigeria was the first to start the implementation of the reform. The first batch of students took their first Junior Secondary School in 1987. The reforms in Ghana started in 1987 and the first batch of Ghana's Basic Education Certificate Examination candidates took their examination in 1990. Sierra Leone and the Gambia have also followed suit. A common feature of all these reform programmes is the introduction of continuous assessment into the assessment system.

A weighting of external scores to CASS of 60:40 was first implemented at the Senior High School level in 1993. The Educational Reforms Review Committee of 1994 noted that CASS was of low reliability. Based on

this observation, a recommendation by Wuddah, (1994), for the weighting of external to CASS of 70:30 ratio was accepted and implemented in 1997.

IMPLEMENTATION OF CASS BY WAEC

The Research Department of the West African Examinations Council have conducted a number of studies on continuous assessment scores and its relationship with the external scores and have come out with the following findings;

- (1) Continuous assessment scores were generally too high. In some instances scores ranged between (85 – 95%). A mark for a particular subject clustered around the mean. In all schools the mean of continuous assessment scores were higher than the mean of external scores (Adeyegbe 1992).
- (2) Some schools with high correlations exhibited differences in standards of performance and therefore a disparity between the two modes of assessment. Differences in the mean performances of students between the continuous assessment scores and external Basic Education Certificate Examination scores were significant (Andor, 1994).
- (3) Non adherence of teachers to the guidelines for generating continuous assessment scores.
- (4) Teacher made scores were low in reliability, (Arthur, 2000).
- (5) Teachers' scores were erratic and unsystematic mainly due to lack of experience in assessment.

Investigations carried out on continuous assessment by the Curriculum and Research Division (CRDD) of the Ghana education service (GES) in 1991 also, revealed the following:

- the assessment instrument was not generally reliable;
- assessment was still restricted to the cognitive domain;
- record keeping by teachers was poor;
- significant differences existed in teachers scoring of tests and marking schemes were not used.

Measures adopted by WAEC and the Ministry to reduce the defects in CASS included moderation of CASS and fixing an appropriate weighting for the inclusion of CASS in the final scores for grading the candidates.

MODERATION OF CASS

Akuffo-Badoo F. (2006) stated that according to the Victoria Curriculum and Assessment Authority (2005), moderation is a process of ensuring that the same standards of assessment are applied to students from every school studying a particular subject.

The purpose of moderation is to introduce a common standard and to bring the assessments of individual assessors which in this case are the teachers into line with the standard. The moderation procedure undertaken in WAEC is the statistical moderation which are scaling and mapping. In both approaches the teachers' rank order is unchanged which implies the acceptance of teachers' rank ordering within schools.

WEIGHTING OF COMPONENT SCORES

Combining scores from these two assessment procedures scores also calls for weighting of the components. Decision on weighting is a policy decision made by the Ministry of Education and passed on to WAEC for implementation. Decision making on this issue is guided first by the importance attached to CASS, and secondly the degree of reliability that can be placed on CASS.

The reputation of an examining board rests upon the credibility of certificates issued in its name. It is therefore the responsibility of the West African Examinations Council to ensure that the final scores used in grading candidates are of high reliability and the assessment instrument of high validity. Present concepts of validity defined it as the appropriateness of the interpretations and uses of the test or assessment results (Messick

1993). Reliability on the other hand refers to the consistency of scores across replications of the measurement procedure (Brennan, 2006).

METHOD

A descriptive research was carried out. The stratified randomized design was used in the selection of the research sample. Using the Ghana Education Service categorization of Senior High Schools booklet, four schools were randomly selected from each of the categories A, B, C, D and P. The categorization was based on facilities available at the school as well as the level of performance of candidates. Categories A, B, C and D are public schools and P is made up of private schools. The final sample size was twenty schools.

POPULATION

The scores of candidates who sat for the May/June 2009 WASSCE constituted the target population. The sampling unit was the categories of schools and six thousand one hundred and twenty five (6,125) candidates from twenty Senior High Schools from the five categories were selected as sample for the study.

DATA COLLECTION

The 100% external examination scores , 100% raw CASS and 100% moderated CASS in two core subjects; English Language and Mathematics for each candidate of the selected schools were obtained from the Computer Services Division. Also acquired was the final scores representing 70% external and 30% moderated CASS used in grading these candidates for the May/June 2009 WASSCE. Twenty three (23) candidates who had incomplete scores were however deleted from the data.

DATA ANALYSIS

Means were computed and used in this analysis as they are the most representative figure for the entire population. In computing the final mean scores for each candidate at the different weightings of the selected schools, the total scores in the external examination and moderated CASS were used. The final mean scores were compared to investigate the standards established in the three sets of scores. A graph depicting the comparability of the final mean scores was plotted. To compare the standard of the two forms of assessments in the two subjects, the means of the 100% scores for both the external examination and 100% raw CASS were computed and graphs plotted.

RESULTS

(a) MEAN SCORES BETWEEN SCHOOL CATEGORIES

Mean scores for English Language and Mathematics for 100% CASS for all candidates in all categories were higher than the mean scores for 100% external assessment. It was also noticed that the external mean scores decreased across the categories that is, category A to P. Candidates in category A schools performed better than those in category B schools.

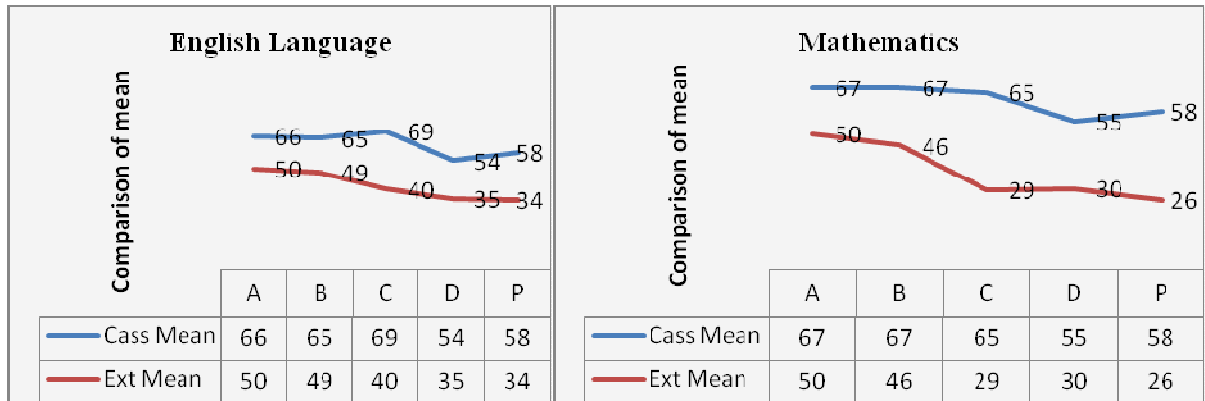


Fig. I: Comparison of mean scores for English Language and Mathematics

(b) MEANS SCORES AT DIFFERENT WEIGHTINGS

The means of the final scores of candidates in different school categories for both subjects at the different weightings were computed and a bar chart plotted (fig. 2)

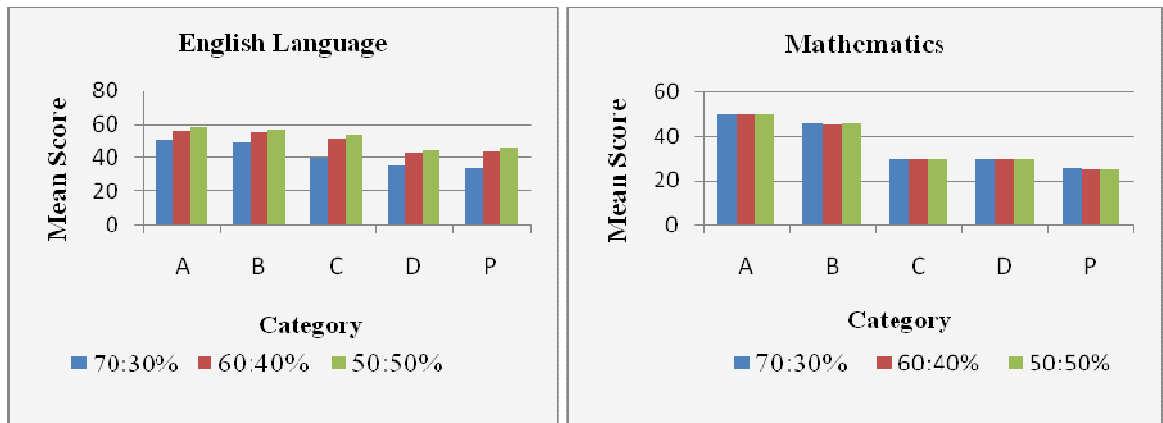


Fig. 2: Mean Scores At Different At Different Weighting

(i) English Language

For all the categories of schools, an increasing trend of mean scores was observed as the weighting of moderated CASS increased. (i.e. 30% - 50%). It was evident that an increase in the weighting of CASS eventually increased the final means scores used in grading thus leading to higher grades for candidates.

(ii) Mathematics

In mathematics however, a different trend was unfolded. Increases in the weighting of CASS (30% - 50%) did not affect the final mean scores. Mean scores remained the same at the different weighting for all categories.

(c) COMPARISON OF THE MEAN SCORES AT 100% EXTERNAL; 70:30; 60:40 AND 50:50

In English Language, the final mean scores of candidates was lowest using the 70:30 weighting. This is the same as the 100% external mean scores. The curves for 60:40 and 50:50 ratios were higher. In Mathematics, the same standard was observed for all the weightings (fig. 3)

| Category | English Language | | | | Mathematics | | | |
|----------|------------------|--------|--------|--------|---------------|--------|--------|--------|
| | 100% External | 70:30% | 60:40% | 50:50% | 100% External | 70:30% | 60:40% | 50:50% |
| A | 50.2 | 50.3 | 56.6 | 58.2 | 49.9 | 50.1 | 50.0 | 50.0 |
| B | 48.5 | 48.6 | 55.2 | 56.9 | 45.6 | 45.8 | 45.7 | 45.7 |
| C | 39.7 | 39.8 | 51.4 | 54.3 | 29.4 | 29.5 | 29.5 | 29.5 |
| D | 35.2 | 35.2 | 42.7 | 44.6 | 29.9 | 30.0 | 29.8 | 29.7 |
| P | 34.3 | 34.2 | 43.9 | 46.2 | 25.6 | 25.7 | 25.4 | 25.3 |

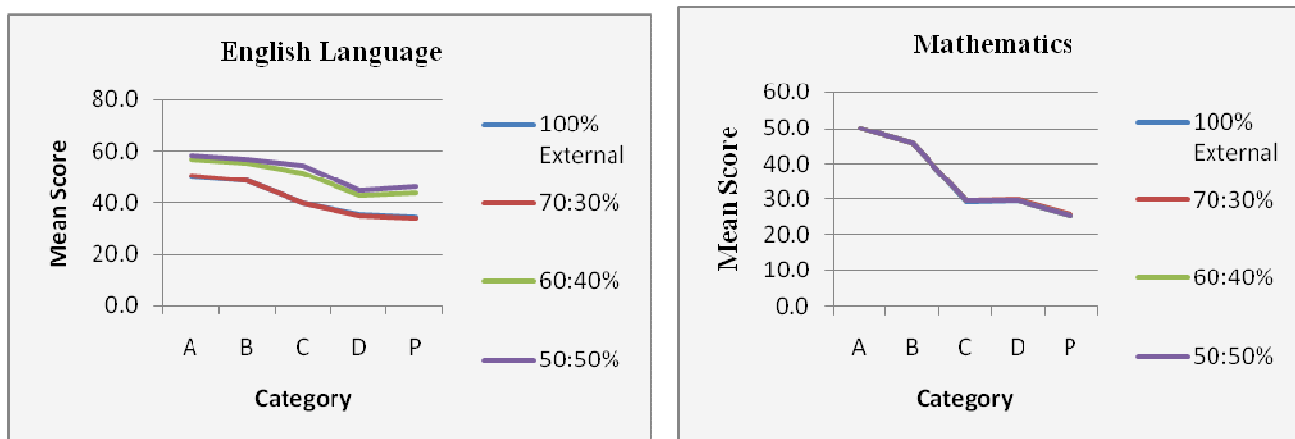


Fig. 3 Means scores at different weightings

SUMMARY OF FINDINGS

- (1) The mean scores of CASS for all candidates were higher than the mean scores of the external assessment for both subjects.
- (2) Increase in the weighting of moderated CASS in English Language resulted in an increase in the final means scores for the candidates in all the school categories.
- (3) Irrespective of the differential weights applied to moderated CASS in Mathematics, the final means scores were the same for candidates in the same school categories.
- (4) The mean scores at the weighting of 70:30% was the same as that for external assessment in English Language followed by that of 60:40 and then 50:50 ratio.

DISCUSSION

The selected sample of six thousand one hundred and twenty five (6,125) candidates from twenty (20) schools, from all the school categories represented the population of Senior High Schools who sat for the May/June 2009 West African Senior School Certificate Examination. Studies carried out by Wuddah (1993) and Baku J.A. (2006) reported that teachers were generally generous in the award of marks to candidates. Factors proposed to have contributed to this behavior include teachers' subjectivity, candidates' performance been tired up to teachers' performance, poor assessment skills and poor record keeping.

High CASS scores have also been attributed to the short time lapse between teaching and assessment in the classroom as well as the differences in the skills being assessed. The CRDD of the Ghana Education Service in 2000 reported that the teachers were not adhering to set procedures in computing CASS for their candidates. To maintain the standard, moderation of CASS should be continued until the quality of the marks improved.

Using the moderated CASS weightings, of 70:30, 60:40 and 50:50, the 70:30 ratios was found to be more appropriate. This is because for both English Language and Mathematics, the mean scores at the 70:30 ratio were almost the same as that of the external assessment. An earlier research carried out on the weightings of CASS that made use of raw CASS (Wuddah 1994), recommended the 70:30 weighting which was accepted and implemented. In English Language, the other weightings of CASS increased the mean scores above that of the external assessment. However, in Mathematics irrespective of changes in weighting of CASS the final mean scores of candidates in each school category remained the same. Akuffo-Badoo F. (2006) reported that significant relationships exist between raw CASS submitted by the schools and moderated CASS by WAEC in all subjects except Mathematics for the average performance category. It was also observed that the moderated CASS for mathematics was closed to the external assessment scores. This was not the case in English Language. Further research would have to be carried out to explain the behavior of mathematics.

RECOMMENDATIONS

Based on the findings of this study the following recommendations are being made:

- For the WASSCE, CASS should continue to be moderated;
- The implementation of CASS at 50:50 ration should be suspended until the quality of CASS scores improves;
- Furthe research should be carried out in more subjects as different subject after moderation behave differently at different weightings.
- In order to achieve the full benefits of continuous assessment policy implementation, there should be training of teachers as well as monitoring and evaluation of the termly classroom assessment plan for continuous assessment.

CONCLUSION

The foregoing findings and discussions indicate that continuous assessment scores are still of low reliability and quality, therefore moderation of continuous assessment should continue. Weighting of continuous assessment scores at 70:30 was found to be most appropriate as it gives a good representation of the students' standard.

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