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Full Length Research Paper

Forecast grades and practical test grades as predictors of BGCSE Agriculture final grade in Botswana senior secondary schools

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Abstract

Botswana Examination Council (BEC) is concerned about the reliability of classroom assessment (practical test grades and forecast grades) which are computed by teachers at school level. The purpose of this study was to find out the extent to which classroom assessment predict 2008 BGCSE agriculture final grade and to determine the influence of gender and location of school on agriculture final grade. Data on 2008 BGCSE agriculture forecast grades, practical test grades and final grade were obtained from Botswana Examination Council (BEC) records. Stratified random sampling was used to randomly sample one school from each of the five educational regions in Botswana. Thereafter, systematic random sampling was used to sample 20% of the candidates from each of the five schools sampled. This constituted a sample of 386 participants which was 20 % of the total population. The following hypotheses were set and tested in the null form: forecast grades significantly predict 2008 BGCSE agriculture final grade, practical test grades significantly predict 2008 BGCSE agriculture final grades, practical test and forecast grades together significantly predict 2008 BGCSE agriculture final grade, gender of students significantly influence prediction of 2008 BGCSE agriculture final grade and school location significantly influence prediction of 2008 BGCSE agriculture final grade. Data were analysed using simple and multiple regressions. The major findings of this study were that forecast grades significantly predict 2008 BGCSE agriculture final grade while practical test grades were poor predictor of 2008 BGCSE agriculture final grade. Gender of students and location of school did not influence the prediction of 2008 BGCSE agriculture final grade.

Keywords: Forecasts Grades, Predictors, Students Performance, Practical Grades, classroom Teachers.

Introduction

Teachers' classroom assessment of practical subjects like agriculture forms an important and integral part of Botswana General Certificate of Secondary Education (BGCSE). The student's final grade in agriculture depends on the teachers, practical test and forecast grades in combination with the final examination grades. But there has been so much controversy concerning the effectiveness, validity and reliability regarding teachers' assessment grades in agriculture in the form of forecast and practical test grades as an excellent predictor of BGCSE final grade in agriculture. The practical aspect deals with students' ability to perform certain skills or activities in relation to their learning outcomes. The practical test and forecast grades are always assessed by the classroom teachers. However, the classroom agriculture teachers inflate these marks compromising the validity and reliability of such grades.

Reforms in the national examinations system are usually anticipated every time an education system implements curriculum changes. This has occurred in

South Africa and South Australia. Mercurio (2007) revealed that in South Australia the Department of Education decided to shift from external examination to different combinations of external and school based assessments after 1984 when the school curriculum was accredited locally. Long (2006) indicated that in South Africa democratization brought about changes that included consolidation of the formerly segregated curriculum and the introduction of school-based assessment to complement the national final examinations. Various questions follow new curriculum and examinations reforms. For example questions about validity, reliability, monitoring of the examinations and moderation of school-based examinations was topical in South Africa.

In the case of Botswana the final examinations are prepared by an external body called Botswana Examination Council (BEC). The examinations are set using the test blueprint which is guided by various vital objectives which are found in each subject's syllabus. Test plans are made yearly based on the blueprint. On the other hand there are school -based tests and examinations. However, BEC doubts the validity and reliability of classroom assessment hence this study intends to determine the extent to which school- based assessment: forecast grades and practical scores in agriculture accurately predict the students, BGCSE agriculture final grade.

Forecast grades are grades that students are likely to get in the BGCSE final examinations. They are produced at school level by classroom teachers using various types of tests set in the classroom. It is to the direction of the subject teacher to use scores from any school- based assessment to forecast student final grade. Thus a variety of teachers made test formats may be used (Masole & Utlwang, 2005).

Thobega and Masole, (2008) conducted a study on predicting students' performance on agricultural science examination from forecast grades. The findings revealed that all the components significantly predicted forecast grades. They noted that in some cases schools did not submit forecast grades, as it was not mandatory. Furthermore, they emphasized that teachers always forecast more candidates to do well probably due to the fact that they are accountable for their students' performance. Teachers would always want to present a positive picture to their supervisors about their students' performance. This saves them to explain why their students have failed. Classroom teachers are always optimistic about their students' performance. The bond they establish with students compels them to some extent to have a positive view on their students' performance. It has been observed that teachers forecast high grades for their students from classroom assessment. However, it has been established that teachers' classroom assessment are poor (Worthier, Borg & White, 1993) characterized by ill-focused questions, predominated by questions that require short answers involving factual knowledge, evolution of responses that involves repetition rather that reflection, lacking procedures designed to develop students' higher order cognitive skills (Black & Wiliam, 1998).

Masole and Utlwang, (2005) carried out a study on The Reliability of Forecast grades in predicting Students' Performance in the final Botswana General Certificate of Secondary Education Examinations. They found out that forecast grades cumulative percentages were higher for grade (D) or better than the corresponding final grade and also found out that the mean mark for agriculture practical done at school level was skewed towards the left, whereas for the theoretical papers set by BEC were around the median. They further indicated that this scenario puts the professionalism of teachers, who were entrusted with the production of classroom -based marks on the spotlight. Whether the assessment was done accordingly or not especially non-moderated component of the practical remains to be investigated.

Masole and Tsheko, (2007) conducted a study on Teachers' perception on the way agriculture practical assessment contributes towards the final grade. It was worrisome that 40% of the teachers reported that they did not select skills to be assessed, instead used their own selection criteria. Only 49% of the teachers standardized marking of agriculture projects before they started marking of practical test. The practical assessment component is designed to assess skills that cannot be examined externally and to recognize student's performance in these aspects. According to Wikipedia, (2009), a study was conducted to find out how much do practical tests in various vocational subjects contribute to the final grade. The findings revealed that practical tests contributed between 10% - 100% of a pupils' final grade, with more practical subjects, such as Agriculture, Design and Technology, often having a heavier coursework element. The rest of a pupil's grade was determined by their performance in the final examinations.

Anyanwa ,(1987) observed that one of the reasons for classroom assessment in the Nigerian education system is to abolish the practice of using one single final examination to determine the achievement of students after learning for given period. Sometimes the examinations may be conducted by an external agency which does not participate in the teaching of students. Thus, the practicals assessment technique is designed to provide an opportunity for teachers to participate actively in evaluating the performance of their students. The researcher further states that practicals assessment is whereby a final grading of a student in the cognitive, affective and psychomotor domains of behavior takes account in a systematic way of all his performance during a given time of schooling; such assessment involves the use of variety of modes of evaluation for the purpose of guiding and improving learning and performance of students.

According to the recommendations of the Second National Commission on Education BGCSE beginning in 1999 in Botswana, all practical subjects should have up to 50% of each student's final grade made up of practicals and the students individual project. The ability of students to perform in practical assessment and their capacity to research, solve problems and develop a project should account in their final assessment. These approaches are tied to Botswana's vision 2016 which sees a new society with the human resources to solve problems, where every student leaving secondary school is empowered to face the world of work (Mock & Walpeup, 2001).

Wong, (2000) conducted a study to find out the relationship between student's prediction of final course

grade made at the start of the course and predictions of final course grade made at the start of the final examination. The findings revealed that student's prediction of final course grade made at the start of the course and predictions of final course grade made at the start of the final examination were both observed to be highly correlated with actually grade received. Moreover, predictions of final course grade made at the start of the final examination were found to be significantly strong at alpha level of 0.5 with actual grades received than were predictions of final course grades made at the start of the course.

The study revealed that students' predictions in a final course grade in an introductory collegiate course were found to be strongly related to the grades actually received. Although students were observed to be overly optimistic regarding their predictions of final course grades, grade expectations became more accurate as students gain experience in the course. The evidence suggests that predictions of final course grades by students are factually based on past knowledge/experience gained while taking the course.

Ojerinde and Oyetola, (2004) investigated about gender difference in cognitive analysis using national certification assessment. The assessment results of senior schools certificate examinations conducted by National Examination Council of Nigeria in the year 2000, 2001, 2002, and 2003 were used to determine the degree of gender difference in the performance of Nigeria students. It was found out that at national level remarkable difference occurred in certain subjects while in some disciplines at geographical zonal level, the differences disappeared. Standard mean difference was used to compute the results. The results provided evidence for the fact that differences exists in the cognitive abilities of sex .The corresponding relationship of the results of each year used in the study proved that they were not a product of chance. The female gender glaringly surpasses the male gender in the languages which agrees with what most researchers in the field believed. The results that males out performed females in geography was also consistent with the past findings that males generally do better than females in tests of spartial ability being able to picture object shapes, positions accurately in the mind's eye.

Scott, (2001) reviewed a study in which Creswell, (1990) investigated centres effects in the BGCSE and how they interacted with gender effects in accounting for differences in students' performance. The researcher analysed entry and results patterns in various subject, such as English, Mathematics, and integrated science from a school for boys and girls. The analysis showed that there was a considerable variation between the continuous assessment component and the external examinations, particularly in mathematics. When the average gender effects were assessed after controlling for centre effects, a clear pattern emerged that showed that girls continuous assessment marks were higher than boys in every care and also girls 'continuous assessment marks were more "bunched" in terms of variance than those of boys.

Muruki and Wachira, (2004) addressed the topic Educational access and gender equity in assessment. The questionnaire was used to collect data from 2003 Kenya Certificate of Secondary Education (KCSE) candidates. The percentages and frequency tables were used to summarise the results. The performance of girls was poorer than that of boys in (KCSE) especially in the key subjects of mathematics, science and vocational subjects. Furthermore the analysis of (KCSE) revealed that with respect to minimum university entry qualification indicate a major gender disparity. The university entry mean grade for (KCSE) examinations is C+ and above. Analysis of 2003 KCSE examination results in the region for mathematics, science and vocational subjects indicates that there were significantly very low number of girls who obtained C+ and above compared to boys generally in all the regions. In some regions it was worrisome because in some subjects no girl obtained a grade c+ and above.

Kpodo (2001) carried out a study which was to gather views of teachers as an important group of stakeholders on problems of public examinations administered in both urban and rural schools. Majority of respondents (53%) believed that external examinations favour urban school based students than rural based students. It was found out that urban schools are often better equipped with resources than rural ones. Because of disparity in resource, the urban schools students perform better in public examinations than rural schools even when the examination questions themselves do not have any obvious intrinsic bias. From the study it was confirmed that weaknesses exist in the external examination such as bias, and presence of irregularities that affect validity and reliability assessment results.

Statement of the Problem

Botswana Examination Council (BEC) is concerned with the reliability and validity of school based assessment scores. The school-based assessment consists of forecast grades and practical tests grades which are usually used to determine the students' final grade. In the case of agriculture BEC has observed that since the introduction of BGCSE examinations, agriculture practical test scores submitted by different schools have been very high on yearly basis. The practical test scores do not discriminate among high, low and average ability students. According to scientific measurement beliefs, a valid test has to sort pupils according to their ability. Masole and Utlwang, (2005) alluded that the mean mark for the practicals tests submitted to BEC by individual schools was drastically skewed towards the left whereas for the theoretical external examination papers set by BEC were around the statistical median. They further said that this scenario puts the professionalism of teachers, who were entrusted with the production of practical tests grades or forecast grades on the spotlight. Therefore the non-moderated component of the practicals remains to be investigated.

The BGCSE students conduct four practical tests, each marked out of 20 points. The tests are conducted on different topics and they are not moderated by anyone appointed by BEC. On the other hand students do research projects which are moderated by BEC and the marks are always satisfactory. The moderators appointed by BEC have not been given the mandate to critique or question the practical tests scores. At the end of the moderation exercise, the moderators take

practical test scores without any alterations even if they doubt their worthiness. The moderated research project scores are adjusted as per the finding of the moderators.

Another concern is the forecast grades; these are grades students are likely to get in the BGCSE final examinations computed by the class-room teachers. According to Masole and Thobega, (2008) these grades are computed differently depending on the school where a teacher is teaching. Some teachers infer those grades from performance in the paper and pencil tests; others produce them from a combination of practical tests and paper and pencil tests. There are no procedures or standards regarding the formulation of forecast grades. The schools use different methods to compute the forecast grades. There is a serious inconsistency in the way schools respond to the demand of forecast grades by BEC. Some schools send forecast grades which are incomplete to BEC, others never submit them. Forecast grades are used by BEC during grade review. The candidates who are found to be two grades or more below the forecast grade are flagged by the examination processing system. Their scripts are further reviewed with the aim to upgrade their scores.

The disparity in candidate's forecast grades and provincial final examination is used to flag candidates who narrowly missed the next higher grade, but in the case of agriculture BEC only reviews Paper II (structured questions and essays) ignoring other components. This obviously disadvantages candidates who are good in the components which are not reviewed (Thobega & Masole, 2008; Bulala, Nenty & Ramatlala, 2014). BEC on the other hand has well stipulated procedures for setting, administering, scoring and grading the candidates. Those are strictly adhered to when setting and grading the external examinations. There is inconsistency in computation and submission of forecast grades to BEC by other schools disadvantages such students because there won't be anything to use as a yardstick to review the students' grades and adjust them appropriately. If the status-core prevails, schools will continue to submit over estimated classroom assessment scores to BEC which are questionable and lead to results that are not valid.

Purpose of the Study

The purpose of the study is to determine the extent to which classroom assessment scores in agriculture predict students' BGCSE final grade. The specific objectives are:

1. To determine the extent to which forecast grades predict BGCSE agriculture final grade
2. To find out whether practical tests grades predict BGCSE agriculture final grade
3. To determine if gender of students influences BGCSE agriculture final grade
4. To determine the relationship between forecast grades, practical test grades, gender, location and BGCSE agriculture final grade.

Research Questions

1. To what extent do forecast grades predict 2008 BGCSE agriculture final grade?
2. To what extent do practicals test grades predict 2008 BGCSE agriculture final grade?
3. Do practical test grades and forecast grades together predict 2008 BGCSE final grade?
4. Does gender of students have any influence on the prediction of 2008 BGCSE agriculture final grade by forecast grades?
5. Does location of students have any influence on the prediction of BGCSE agriculture final grade by forecast grades and by combination of forecast grade and practical test grades?

Research Hypotheses

1. Forecast grade significantly predict 2008 Botswana General Certificate of Secondary Education (BGCSE) students' agriculture final grade
2. Practical test grades significantly predict 2008 BGCSE students' agriculture final grade.
3. Practical test and forecast grades together predict 2008 BGCSE students' agriculture final grade significantly.
4. Gender of students has significantly influence on the prediction of 2008 BGCSE agriculture final grade.

(a) Forecast grades significantly predict 2008 BGCSE agriculture final grade by male students
(b) Forecast grades significantly predict 2008 BGCSE agriculture final grade by female students.

5. School location has significant influence on the prediction of 2008 BGCSE agriculture final grades by forecast and practical test grades

(a) Forecast grades significantly predict 2008 BGCSE agriculture final grade by urban school students.
(b) Practical test and forecast grades together predict 2008 BGCSE agriculture final grade significantly by urban school students.
(c) Forecast grades significantly predict 2008 BGCSE agriculture final grade by rural school students.
(d) Practical test and forecast grades together predict 2008 BGCSE agriculture final grade significantly by rural school students.

Significance of the Study

The Botswana Examination Council will make use of the findings of this study to improve the way practical tests are conducted in senior secondary school. Furthermore, the study will assist in the formulation of the guidelines and criteria for determining the forecast grades. The results and recommendations of this study will provide very important information which will give feedback to teachers of agriculture, policy makers, curriculum designers who intend to develop authentic educational programmes for the learners. Moreover, the findings will

caution the teachers of agriculture to assess the non-moderated component of the practicals amicably.

Limitations

The data for the study was classified as sensitive, therefore to release them took a long time because several senior officers in Botswana Examination Council (BEC) were consulted. Permission had to be sought from BEC if there was need to adjust the data. The data are very confidential as they deal with students' performance. The data were zipped which made it difficult for them to be transformed to other computer programme such as SPSS or excel.

Research Design

The review of several related studies on forecast grades and practical test scores as predictors of final grade revealed that different designs have been used such as descriptive correlation, predictive quantitative and survey analytic. This study will employ cross-sectional survey design mainly quantitative approach and some tint of qualitative descriptive data due to the fact that in quantitative paradigm, reality is objective and singular apart from the researcher. In case of quantitative paradigm, the researcher is independent from what is being researched. Quantitative paradigm is value free and unbiased. The design is static where categories are isolated before study and results are generalized leading to predictions and explanations.

Population of Study

The population of the study was all candidates who completed their BGCSE agriculture final examinations in 2008 in Botswana. Those were all agriculture students from 27 public senior secondary schools which are dispersed throughout the country in five educational regions. The candidates at senior secondary school were used because Botswana Examination Council is very much concerned about validity and reliability of the classroom based-assessment scores which are always over estimated by teachers on yearly basis. Secondly, BEC is the only organization that keeps all BGCSE records. The Botswana Examination Council was requested to provide the researcher with data on 2008 BGCSE agriculture final grade, forecast grades and practical test scores. A total of 1927 agriculture 2008 BGCSE candidates from the South, North, South Central, Central and West educational regions of Botswana were used.

Sampling Technique and Sample

Stratified random sampling was used to randomly sample one school from each of the five educational regions in Botswana. The sampling of one school from each region was to give the researcher a manageable number of sample participants. Stratified random sampling is whereby the participants (BGCSE 2008 candidates) are divided into subgroups (educational regions) called strata. Thereafter, systematic random sampling was used to sample 20% of the candidates from each of the five schools sampled. This constituted a sample of 386 participants which is 20 % of the total population. According to Grinell and Williams, (1990); Levy and Lemeshow, (1999) and Strydom and Devos, (2000) 20% percent sample of the population is sufficient to control error. Therefore 20% of 2008 BGCSE candidates who sat for agriculture examinations was calculated. Table 9 presents the sample size and total number of candidates per a region.

Data Collection

A letter was written to Botswana Examination Council (BEC) to request for BGCSE agriculture examinations results for all candidates who completed form five in 2008. The records of Botswana General Certificate of Secondary Education in agriculture forecast grade, practical test grades and final grades was collected. The data were stored in CD, memory sticks and hard copies for security purposes.

Data Analysis Procedure

After completion of the data preparation process, raw data was analysed using Statistical Package for Social Science (SPSS) version 17.0 to test the hypotheses that were set and to answer the research questions. The package has been selected because it provides a wide range of data patterns and analysis programmes. Moreover, it provides easy way to analyse data and present them in the form of frequency tables and other formats. The data analysis was done for each one of the research hypotheses to answer the research questions.

To determine the relationship between forecast grades, practical test scores, gender and BGCSE agriculture final grade, the Pearson correlation was conducted to determine correlation of all independent variables (forecast grades , practical test scores, gender) and dependent variable (agriculture final grade). This was conducted to justify the inclusion of the independent variables in the multiple regression models because according to Ferguson, (1971) to predict one variable from another the two variables must be significantly correlated.

An alpha level of 0.5 will be used for all significant tests in the study. Multiple regression was used to identify variables that account for the variance in the final grade. The pseudo R^2 was explained depending on the outcome.

Testing the influence of gender and location on the prediction of 2008 BGCSE agriculture final grade, Z-transformation of Beta weights was performed for gender to find out if it was significant. For location of school r values were to determine Z_r values which were later used to calculate the Z-values.

Data Analysis and Interpretation of Results

The study was to find out if practical test grades, forecast grades, school location and gender of students significantly influence the prediction of the Botswana General Certificate of Secondary Education (BGCSE) agriculture final grades for 2008 candidates. The report on the findings derived from the statistical analysis data carried out to test the relevant research hypotheses. Descriptive statistics was used to analyse the data for

the sample population. Pearson correlation was carried out between forecast grades, practical test grades and other variables to determine the extent of association between them. Simple regression and multiple regression analysis were conducted using enter and stepwise models to identify the variables that could be used to predict BGCSE agriculture final grade. All the five research hypotheses were re-stated and tested in the null form at alpha level of 0.05.

Descriptive Statistics and Correlation Tables are shown below:

The mean and standard deviation for practical test grades were 6.2358 and 1.50841 respectively. These were slightly above those for agriculture final grade and forecast grade as shown in the Table 1.

Table 1: Descriptive statistics for predictor variables and dependant variable (n=386)

	Mean	Std Deviation
BGCSE 2008 agriculture final grade	5.4637	1.50841
Agriculture practical test grades	6.2358	1.63846
2008 agriculture forecast grades	5.6062	1.33693

The Pearson correlation was conducted to determine the correlation of all independent variables, forecast grades and practical test grades, and agriculture final grade-dependent variable. Correlation is a statistical tool used to describe the degree to which one variable is linearly related to another. It is represented by a symbol r, and indicates the extent of relationship by a number between 1.00 and -1.00. It allows us to assess or measure the strength of the observed relationship between two or more variables. This was conducted to justify the inclusion of the independent variables in the multiple regression models because according to Ferguson (1971) to predict one variable from another the two variables must be significantly correlated. The result of correlation in Table 2, show that the variables are significantly correlated.

Table 2: Correlation between the dependent and the independent variables

	BGCSE 2008 agriculture final grade	Agriculture practical tests grades	2008 agriculture forecast grades
2008 BGCSE agriculture final grade			
Agriculture practical test grades	0.357**		
2008 agriculture forecast grades	0.676**	0.473**	

**Correlation is significant at the 0.01 level (2-tailed)

The data on Table 3 shows the mean and standard deviations for male students.

Table 3: Descriptive statistics for male students (n = 181)

	Mean	Std. Deviation
2008 BGCSE agriculture Final grades	5.5912	1.44865
Agriculture practical test grades	6.1989	1.60354
2008 agriculture forecast	5.8729	1.247939

The Pearson correlation was conducted to determine the correlation of all independent variables, forecast grades and practical test grades, and agriculture final grade-dependent variable. The result of correlation in Table 4 shows that the variables are significantly correlated.

Table 4: Correlation for male students

	2008 BGCSE Agriculture final grade	Agriculture practical grades	2008 agric forecast grades
2008 BGCSE agriculture Final grade			
Agriculture practical test grades	.372**		
2008 agriculture forecast grades	.644**	.504**	

** Correlation is significant at the 0.01 level (2-tailed)

The data in Table 5 shows the mean and standard deviations for female students. The total number of males in the sample was 205. The Pearson correlation was conducted to determine the correlation of independent variables, forecast grades and practical test grades, and agriculture final grade-dependent variable. The results of correlation in Table 6 show that the variables are significantly correlated.

Table 5: Descriptive statistics for female students (n =205)

	Mean	Std. Deviation
2008 BGCSE agriculture final grade	5.3512	1.3512
Agriculture practical grades	6.2683	1.67192
2008 agriculture forecast grades	5.3707	1.37167

Table 6: Correlation for female students

	2008 BGCSE agriculture final grade	Agriculture practical test grade	2008 agriculture forecast grades
2008 BGCSE agriculture final grades			
Agriculture practical Test grades	.350**		
2008 agriculture Forecast grades	.697**	.472**	

Correlation is significant at the 0.01 level (2-tailed)

The data in Table 7 show the mean and standard deviations for urban school students. The total number of urban school students in the sample was 235

Table 7: Descriptive statistics for urban students (n = 235)

	Mean	Std. Deviation
2008 agriculture final grade	5.7362	1.42271
Agriculture practical test grade	5.7915	1.72560
2008 agriculture forecast grades	5.6468	1.6468

The Pearson correlation was conducted to determine the correlation of all independent variables, forecast grades and practical test grades, and agriculture final grade-dependent variable. The results of correlation in table 8 show that the variables are significantly correlated.

Table 8: Correlation of independent and dependent variables for Urban school students

	Agriculture final grade	Test grade	Forecast grades
2008 BGCSE Agriculture final grade			
Agriculture practical	.536**		
Test grades			
2008 agriculture Forecast grades	.706**	.559**	

** Correlation is significant at the 0.01 level (2-tailed)

The data in Table 9 show the means and standard deviations for rural school students.

Table 9: Descriptive statistics for Rural school students (n =151)

	Mean	Std. Deviation
2008 BGCSE agriculture final grade	5.0397	1.54437
Agriculture practical test grades	6.9272	1.20609
2008 agriculture forecast grades	5.5430	1.32532

The Pearson correlation was conducted to determine the correlation of independent variables, forecast grades and practical test grades, and agriculture final grade-dependent variable. The results of correlation in Table 10 show that the variables are significantly correlated.

Table 10: Descriptive statistics for Rural

2008 BGCSE	2008 BGCSE agriculture final grade	Agriculture practical test grade	2008 agriculture forecast grades
Agriculture final			
Agriculture practical test grades	.374**		
2008 BGCSE agriculture forecast grades	.657**	.442**	

**Correlation is significant at the 0.01 level of significant

Hypothesis 1

Forecast grades do not significantly predict 2008 BGCSE agriculture final grade. When testing the hypothesis, data on forecast grades and 2008 BGCSE agriculture final grade obtained from Botswana examination council records were used in the regression analysis and results were presented in Table 11. This revealed that there is a highly significant regression effect of F (1, 384) = 322.325 and standardized predictive validity index of .676 which is significant at 0.05 alpha level. This gave prediction equations for unstandardized (Formula 1) and standardized (Formula 2) values of variables involved.

BGCSE agriculture final grade = 1.191 +.762 forecast grades* (1)

Or

$Z_{\text{BGCSE agriculture final grade}} = .676^{*} Z_{\text{forecast grades final grade.}}$ (2)

The analysis shows R- square of .455 indicating that about 46% of the variance in the BGCSE agriculture final grade is explained by the variation in the forecast grades.

Hypothesis 2

Practical test grades do not significantly predict 2008 BGCSE agriculture final grade. In testing the hypothesis, data on practical test grades and BGCSE 2008 agriculture final grades obtained from Botswana

Examination Council records were used in the regression analysis Table 12. This revealed that there is a significant regression effect of F (1, 384) = 56.131 and standardized predictive validity index of .357 which is significant at 0.05 alpha level. This gave predictive equations for unstandardised (Formula 3) and standardized (Formula 4) values of the variables involved.

Table 11: Simple regression analysis was conducted to predict 2008 BGCSE agriculture final grade by forecast grades

Source of variance	SS	df	MS	R-square	F	p<
Regression	399.751	1	399.75	0.455	322.32	.001
Residual	476.241	384	1.240			
Total	875.992	385				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.191	.245			4.867	.001
Forecast grades	.762	.042	.676		17.953	.001

2008 BGCSE final grade = 3,414 + .329 practical test grades* (3)

or

$Z_{\text{2008 BGCSE agriculture final grade}} = .353^{*} Z_{\text{practical test grades.}}$ (4)

This analysis further reflects R-square of .125 indicating that about 13% of the variance in the BGCSE agriculture final grade is explained by variation in agriculture practical test.

Hypothesis 3

Practical test grades and forecast grades together do not significantly predict agriculture BGCSE final grade.

Table 12: Simple regression analysis to predict BGCSE agriculture final grade by practical test grades

Source of variance	SS	df	MS	R-square	F	p<
Regression	111.717	1	111.71	0.12	56.13	.001
Residual	764.276	384	1.990			
Total	875.992	385				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	3.414	.283			12.06	.001
practical test grades	.329	.044	.357		7.492	.001

In testing the above hypothesis, enter mode regression analysis was carried out using practical test grades and forecast grades put together to predict agriculture BGCSE final grade. The regression results were presented in Table 13. The results indicate a significant effect of F (2, 202) = 95.897 and standardized predictive validity index of .684 for forecast grades which are significant at 0.05 alpha level. The standardized predictive validity index for practical test grades is .028 and it is insignificant at 0.05 alpha level. These gave the prediction equations for unstandardised (Formula 5) and standardized (Formula 6) values of the variables involved.

2008 BGCSE agriculture final grade = 1.026 + .776 forecast grades + .026* practical test grade* (5)

Or

$Z_{\text{agriculture BGCSE final grade}} = .684^{*}Z_{\text{forecast grades}} + .028^{*}Z_{\text{practical test grades}}$ (6)

The analysis showed R square to be .482 indicating the 48 % of the variance in agriculture BGCSE final grade is explained by the variation in forecast grades and practical test grades

Table 13: Enter Mode Regression Analysis for the prediction of 2008 BGCSE agriculture final grade using forecast grades and practical test grades together

Source of variance	SS	df	MS	R-square	F	p<
Regression	239.971	2	119.98	0.482	95.98	.001
Residual	252.741	202	1.251			
Total	492.712	204				
Source of variance	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.026	.359			2.859	.005
Agriculture practical test	.026	.053	.028		.482	.630
Forecast grades	.776	.065	.684		11.97	.001

Hypothesis 4(a)

Forecast grades do not significantly predict agriculture BGCSE final grade by male students in 2008

In testing the hypothesis, regression analysis was carried out using forecast grades and practical test grades separately to predict agriculture final grade and the results are presented in Table 14. The results show a significant regression effect of F (1, 179) = 127.104 and a standardized predictive validity index of .644 which were significant at 0.05 alpha level. These gave the prediction equations of unstandardised (Formula 7) and standardized (Formula 8) values of the variables involved

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2008 BGCSE agriculture final grade = 1.196 + .748 forecast grades* (7)

or

$Z_{\text{2008 BGCSE agriculture final grade}} = .644 * Z_{\text{forecast grades}}$ (8)

Table 14: Regression Analysis for the prediction of 2008 BGCSE agriculture final grade using forecast and practical test grades for male students

Source of variance	SS	df	MS	R-square	F	p<
Regressio	156.85	1	156.85	0.415	127.10	.001
Residual	220.89	179	1.234			
Total	377.74	180				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.196	.398			3.002	.003
Forecast grades	.748	.066	.644		11.274	.001

The analysis show R-square to be .455 indicating that about 46 % of the variance in the agriculture BGCSE final grade is explained by the variation in the forecast grades by male students.

Hypothesis 4 (b)

Forecast grades do not significantly predict agriculture BGCSE final grades by female students in 2008. In testing the hypothesis, data on agriculture forecast grades and agriculture BGCSE final grades for female students obtained from Botswana Examination Council for 2008 candidates were used in the regression analysis and the results were presented on Table 15. This shows that there is a significant regression effect of F (1, 203) = 192.289 and standardized predictive validity index of .697 which is significant at 0.05 alpha level. This gave the prediction equations for unstandardised (Formula 9) and standardised (Formula 10) values of variables involved.

2008 BGCSE agriculture final grade = 1.107 + .790 forecast grades* (9)

or

$Z_{\text{BGCSE 2008 agriculture final grade}} = .697 * Z_{\text{agriculture forecast grade}}$ (10)

The analysis reveals R-square of .484 indicating about 48% of the variance in the 2008 agriculture final grade is explained by variation in forecast grades for females.

Table 15: Regression Analysis for the prediction of 2008 BGCSE agriculture final grade using forecast and practical test grades for female students

Source of variance	SS	df	MS	R-square	F	p<
Regression	239.68	1	239.68	0.484	192.28	.001
Residual	253.03	203	1.246			
Total	492.71	204				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.107	.316			3.505	.001
Forecast grades	.790	.057	.697		13.867	.001

Hypothesis 5 (a)

Forecast grades do not significantly predict 2008 BGCSE agriculture final grades for urban school students.

In testing the hypothesis, data on 2008 agriculture final grade and 2008 forecast grades for urban schools obtained from Botswana Examination Council were applied in the regression analysis and led to the results presented in Table 16. This shows a significant regression effect of F (1, 233) = 231.071 and standardized predictive validity index of .706 which is significant at 0.05 alpha level. This gave the prediction equations for unstandardized (Formula 9) and standardized (Formula 10) values of the variables involved.

*2008BGCSE agriculture final grade = 1.523 + .746*agriculture forecast grade* (9)

Or

$Z_{\text{2008 BGCSE agriculture final grade}} = .706 * Z_{\text{forecast grades}}$ (10)

The analysis revealed R-square of .496 reflecting that about 50% of the variance in 2008 BGCSE agriculture final grade is explained by variation in forecast grades for urban school student.

Table 16: Regression analysis on prediction of 2008 BGCSE final grade using forecast grades for urban school students

Source of variance	SS	df	MS	R-square	F	p<
Regression	235.85	1	235.83	0.496	231.07	.001
Residual	237.80	233	1.021			
Total	473.65	234				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.523	.285			5.347	.001
Forecast grades	.746	.049	.706		15..201	.001

Hypothesis 5 (b)

Practical test grades and forecast grades together do not significantly predict BGCSE agriculture final grade for urban school students.

In testing the hypothesis, data on 2008 practical test grades, forecast grade and 2008 BGCSE agriculture final grade for urban schools students obtained from Botswana Examination Council were applied in the regression analysis and ended up with the results presented in Table 17. This shows a significant regression effect of F (2, 232) =129.341 and standard predictive validity index of .206, 590 for practical test and forecast grades respectively which are significant at 0.05 alpha level. This gave the prediction equations for unstandardised (Formula 11) and standardized (Formula 12) values of the variables involved.

BGCSE agriculture final grade = 1.227 + .624 forecast grades + .170* practical grades*

(11)

Or

$$Z_{agriculture\ final\ grade} = .590^* Z_{forecast\ grades} + .170^* Z_{practical\ grades} \quad (12)$$

The analysis revealed R-square of .523 reflecting that about 52% of the variation in the 2008 BGCSE agriculture final grade is explained by variation in forecast grades and practical test grades for urban school students.

Table 17: Regression Analysis for the prediction of 2008 BGCSE agriculture final grade by forecast grades and practical test grades for urban school students.

Source of variance	SS	df	MS	R-square	F	p<
Regression	249.699	2	124.849	0.523	129.341	.001
Residual	223.944	232	.965			
Total	473.643	234				
Source of variance	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	1.227	.288			4.261	.001
Practical test grades	.170	.045	.206		3.790	.001
Forecast grades	.624	.058	.590		10.843	.001

Hypothesis 5(c)

Practical test grades and forecast grades together do not significantly predict BGCSE agriculture final grade for rural School student.

In testing the hypothesis, data on 2008 practical test grades, forecast grade and 2008 BGCSE agriculture final grade for urban schools students obtained from Botswana Examination Council were applied in the regression analysis and ended up with the results presented at Table 18. This shows a highly significant regression effect of F (2, 148) =58.242 and standard predictive validity index of .104, .611 for practical test and forecast grades respectively. Practical test grades are insignificant at alpha level of 0.05 while forecast grades are highly significant at 0.05 alpha level. This gave the prediction equations for unstandardised (Formula 12) and standardized (Formula 13) values of the variables involved.

BGCSE agriculture final grade= .172+.133practical grades + .712* forecast grades* (12)

Or

$Z_{\text{agriculture final grade}} = .611 * Z_{\text{forecast grades}} + .104 * Z_{\text{practical test grades}}$. (13)

The analysis revealed R-square of .433 reflecting that about 43% of the variance in the 2008 BGCSE agriculture final grade is explained by variation in forecast grades and practical test grades together for rural school students.

Hypothesis 5(d)

Forecast grades do not significantly predict 2008 BGCSE agriculture final grades for rural school students.

In testing the hypothesis, data on 2008 BGCSE agriculture final grade and forecast grades for rural schools obtained from Botswana Examination Council were applied in the regression analysis and led to the results presented in Table 19. This shows a significant regression effect of F (1, 149) = 113.224 and standardized predictive validity index of .657 which is significant at 0.05 alpha level. This gave the prediction equations for unstandardised (formula 14) and standardized (formula 15) values of the variables involved. The analysis revealed R-square of .428 reflecting that about 43% of the variance in 2008 BGCSE agriculture final grade is explained by variation in forecast grades for rural school student.

Hypothesis 4

Gender has no significant influence on prediction of BGCSE agriculture final grade. When testing data on forecast grades, practical test grades and BGCSE agriculture final grades obtained by males and female students, regression analysis was performed, the results were presented in Table 20 and 6. The Beta weights for males were 0.664 and females 0.697. The results reveal that males and females Beta weights which were transformed to Z-values were not significant because they were less than the critical value (1.96) at alpha level of 0.05. Therefore it was concluded that gender had no influence on prediction of 2008 BGCSE agriculture final grades.

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Table 18: Regression Analysis for the prediction of 2008 BGCSE agriculture final grade by forecast grades and practical grades together for rural school students

Source of variance	SS	df	MS	R-square	F	p<
Regression	157.566	2	78.783	0.433	58.242	.001
Residual	200.196	148	1.353			
Total	357.762	150				
Model	Unstandardised coefficients		Standardized coefficients	t		P<
	B	SE	Beta			
Constant	.172	.580		.297		.767
Practical test grades	.133	.088	.104	1.511		.133
Forecast grades	.712	.080	.611	8.918		.001

2008BGCSE agriculture final grade = .657*agriculture forecast grade (14)

Or

$$Z_{\text{2008 BGCSE agriculture final grade}} = .795 * Z_{\text{forecast grades}} \quad (15)$$

Table 19: Regression Analysis for the prediction of 2008 BGCSE agriculture final grades by forecast for rural school students

Source of variance	SS	df	MS	R-square	F	p<
Regression	154.476	1	154.476	0.428	113.22	.001
Residual	203.286	149	1.364			
Total	357.762	150				
Model	Unstandardised coefficients		Standardized coefficients		t	p<
	B	SE	Beta			
Constant	.795	.410			1.940	.054
Forecast grades	.766	.766	.657		10.641	.001

Table 20: Z-test of gender influence on prediction of 2008 BGCSE agriculture final grades

Year	Male	Female	Z-value
2008 BGCSE agriculture	0.644	0.697	-0.97

Hypothesis 5

Location of school has no significant influence on prediction of BGCSE agriculture final grade. In testing data on forecast grades, practical test grades and BGCSE agriculture final grades obtained by urban school and rural school students, regression analysis was performed, the results were presented in Table 16, 17, 18 and 19. The R- transformed to Zr –values. The Z-value was calculated. When comparing forecast grades and practical test grades together as predictors of 2008 BGCSE agriculture final grade for urban school student and forecast and practical test grades together for rural school students, the Z- value obtained was 1.10. The results show that Z-value was not significant because it was less than the critical value (1.96) at alpha level of 0.05. Therefore it was concluded that forecast and practical test grades together for urban and rural school do not significantly influence prediction of 2008 BGCSE agriculture final grade .Hence location of school has no influence on prediction of 2008 BGCSE agriculture final grade.

When comparing forecast grades for urban school students and forecast grades for rural school students as predictors of 2008 BGCSE agriculture final grade, the Z- value obtained was 0.80. The results show that Z-value was not significant because it was less than the critical value (1.96) at alpha level of 0.05. Therefore it was concluded that forecast grades for urban and forecast grades for rural school do not significantly influence prediction of 2008 BGCSE agriculture final grade .Hence location of school has no influence on prediction of 2008 BGCSE agriculture final grade.

Table 21: Z- test of location influence on prediction of 2008 BGCSE agriculture final grade

Year	Forecast and practical test grades together for urban school students	Forecast grades and practical test grades together for rural school students	Z-value
2008 BGCSE	918	0.802	1.10
Year	Forecast grades for urban school students	Forecast grades for rural school students	Z-value
2008 BGCSE	0.877	0.793	0.80

Discussions and Conclusions

This section covers five subsections as follows: prediction of 2008 BGCSE agriculture final grade by forecast grades, prediction of 2008 BGCSE agriculture final grade by practical test grades, prediction of 2008 BGCSE agriculture final grade by forecast grades put together with practical test grades, the influence of gender on prediction of 2008 BGCSE agriculture final grade and the influence of school location on prediction of agriculture final grade.

Prediction of 2008 BGCSE Agriculture Final Grade by Forecast Grades

Basing on the simple regression analysis performed, it has been confirmed that there was a forty six (46%) percent of variance in 2008 BGCSE agriculture final grade that is explained by variation in forecast grades. Variation in forecast grades probably resulted from the fact that forecast grades are computed differently at various senior secondary schools. Some schools compute them from paper and pencil test only while others add paper and pencil test and practical tests to come up with forecast grades. According to this study forecast grades have proved to be good predictors of BGCSE agriculture final grade because the findings have revealed that students getting good grades in forecast grades are likely to do well in BGCSE agriculture final grade. The findings of this study support Thobega and Masole, (2008) who conducted a study on predicting students' performance on agricultural science examination from forecast grades. Descriptive correlational design was used to determine which of the following components: Component 1 (multiple choice), Component 2 (structured questions and essays) Component 3 (practical tests scores) of the BGCSE agriculture could be used to predict students' forecast grades. Examination scores of 2001 to 2007 were obtained from BEC record. The findings of the study revealed that Components I, 2, and 3 significantly predicted forecast grades, Component 2 shared the largest 31.6% variability with forecast grades scores. The findings were also in consonance with the findings by Masole and Utlwang, (2005) who carried out a study on The Reliability of Forecast grades in predicting Students' Performance in the final Botswana General Certificate of Secondary Education Examinations. Forecast grades and BGCSE results for 2003 candidates were used to establish any relationship between forecast grades and the final grades. They found out that forecast grades cumulative percentages were higher for grade (D) or better than the corresponding final grade and also found out that the mean mark for agriculture practicals done at school level was skewed towards the left whereas for the theoretical papers set by BEC were around the statistical median.

Prediction of 2008 BGCSE Agriculture Final Grade using Practical Test Grades

From the simple regression analysis performed only 13% of the variance in the 2008 BGCSE final grade was explained by variation in practical test grades. This might be due to the inconsistencies that exist in the way practical tests are conducted in different secondary schools. The variance is insignificant. This might have been due to the fact that practical test contribute only 20% of the final grade while theory papers 1 and 2 each contributes 40%. This agrees with Wikipedia, (2009) who investigated about how much practical tests in various vocational subjects contribute to the final grade. The findings revealed that practical tests contributed as low as 10% of a pupils final grade, with more practical subjects, such as agriculture, design and technology, often having a heavier coursework element, the rest of a pupils grade was determined by their performance in the final examinations. The findings were in contradiction with the recommendations by Second National Commission on Education BGCSE beginning in 1999 in Botswana that all practical subjects should have up to 50% of each student's final grade made up of practicals and the students' individual project. The ability of students to perform in practical assessment and their capacity to research, solve problems and develop a project should account in their final assessment. These approaches are tied to Botswana's vision 2016 which sees a new society with the human resources to solve problems, where every student leaving secondary school is empowered to face the world of work (Mock & Walpeup, 2001).

Prediction of 2008 BGCSE Agriculture Final Grade using Forecast Grades and Practical Test Grades Together

Basing on the statistical analysis performed it has been revealed that there was a forty eight percent (48%) of the variance in 2008 BGCSE agriculture final grade explained by practical test and forecast grades put together. The results for forecast were significant at 0.05 alpha level which suggests that students who got higher grades in forecast grades were more likely to get a higher grade in BGCSE agriculture examinations. On the other hand practical test grades were insignificant at 0.05 alpha level. When practical test grades were analysed on their own using simple regression to predict 2008 BGCSE final grade, they revealed a high significance at 0.05 alpha level. This shows that there is a certain variance which is shared between forecast grades and practical test grades. When the two variables are put together, that variance is removed hence the practical test grades become insignificant at 0.05 alpha level.

The findings of the study revealed that there was a significant 46% of variance in 2008 BGCSE that was explained by male students. The findings were in line with Muiruki and Wachira, (2004) addressing the topic educational access and gender equity in assessment. The performance of girls was poorer than that of boys in (KCSE) especially in the key subjects of mathematics, science and vocational subjects. The analysis of 2003 KCSE examination results in the region for mathematics, science and vocational subjects indicated that there were significantly very low number of girls who obtained C+ and above compared to boys generally in all the regions. In some regions it was worrisome because in some subjects no girl obtained a grade c+ and above. The study found out that there was a significant 48% of variance in the 2008 BGCSE final

grade which was explained by female students. The findings support those of Scott, (2001) who analysed entry and results patterns in various subject, such as English, Mathematics, and integrated science from a school for boys and girls. The analysis showed that there was a considerable variation between the continuous assessment component and the external examinations, particularly in mathematics. When the average gender effects were assessed after controlling for centre effects, a clear pattern emerged that showed that girls continuous assessment marks were higher than boys in every care and also girls' continuous assessment marks were more "bunched" in terms of variance than those of boys.

In the past men were considered to be superior to woman in almost every area of achievement only occasionally a woman excelled in some areas. Therefore the belief that males were previously considered more variable and hence more likely to do well in agriculture has to be abandoned. The study revealed a 50% of variance in 2008 BGCSE final grade explained by variation in forecast grades. This may be due to the fact that urban school student usually get adequate resources in terms of libraries, teaching aids and private tutors. These assist them to understand certain concepts better than rural school students. This is supported by Kpodo, (2001) study which was to gather views of teachers as an important group of stakeholders on problems of public examinations administered in both urban and rural schools. It was found out that urban schools are often better equipped with resources than rural ones. Because of disparity in resource, the urban schools students perform better in public examinations than rural schools even when the examination questions themselves do not have any obvious intrinsic bias. From the study it was confirmed that weaknesses exist in the external examination such as bias, and presence of irregularities that affect validity and reliability assessment results.

The findings showed that there was a high and significant 52% of variance in 2008 BGCSE final grades explained by variation in practical test grades and forecast grades put together for urban school students. This revealed that the forecast grades and practical test grades constitute 52% variance in the 2008 BGCSE agriculture final grade. Urban school students constitute a larger variance of 52% in 2008 BGCSE agriculture final grade than rural students with 43% variance. According to the findings, rural schools overall scores were nearly as well as urban schools in a variety of areas though rural schools occasionally have fewer financial resources. Convergence in standardized test score based on a comparison of the performance of rural and urban 17 year olds in reading, mathematics, and science using the National Assessment of Educational Progress was an excellent indicator that rural students have caught up.

The study found out that there was a 43% of variance explained by forecast grades and practical test grades together for rural school students. The forecast grades were significant at 0.05 alpha level while practical test grades were insignificant at 0.05 alpha level for rural school students. This reveals that when practical test grades and forecast grades are put together, the variance that they share is removed hence the practical test become insignificant at 0.05 alpha level for rural school students. This is supported Kpodo, (2001) who found out that urban schools are often better equipped with resources than rural ones. Because of disparity in resource, the urban schools students perform better in public examinations than rural schools. Similar findings were made by Yan, (2006) comparing non-rural countywide school district and mixed rural-urban in terms of academic performance to determine if significance difference exists. A comparison of student academic achievement found out that most of the statistical significant differences were between rural non-countywide and mixed rural-urban school district, which indicated that urban school district had overall significantly higher test scores in most SAT examinations than their rural school counterparts. Effects size is a statistically concept that measures the strength of the relationship between two variables eg forecast grades and practical test grades.

Conclusions

Based on the findings of the study, the researcher concluded that forecast grades are good predictors of 2008 BGCSE agriculture final grade in senior secondary school in Botswana. The findings have revealed that students who got good grades in forecast grades are likely to do well in BGCSE agriculture final examinations. It was found out that 46% of variance in BGCSE agriculture final grade was accounted for by the forecast grades. Practical test grades seemed to be poor predictors of 2008 BGCSE agriculture final grade. This was due to the fact that only 13% of the variance in the 2008 BGCSE agriculture final grade was explained by variation in practical tests grades. When forecast grades and practical test grades for urban school students were analysed together as independent variables, they explained a larger variance of 52% in 2008 BGCSE agriculture final grade but practical test grades became insignificant at 0.05 alpha level which implies that the variance that they share was removed. It was revealed that forecast grades, practical test grades and forecast grades put together significantly predict 2008 BGCSE agriculture final grade for urban and rural school students. The results revealed that males and females Beta weights which were transformed to Z-values were not significant because they were less than the critical value (1.96) at alpha level of 0.05. Therefore it was concluded that gender had no influence on prediction of 2008 BGCSE agriculture final grade.

When comparing forecast grades for urban school students and forecast grades for rural school students as predictors of 2008 BGCSE agriculture final grade, the Z-value obtained was not significant because it was less than the critical value (1.96) at alpha level of 0.05. Therefore it was concluded that forecast grades for urban and forecast grades for rural school do not significantly influence prediction of 2008 BGCSE agriculture final grade. The same results were obtained for comparing forecast grades put together with practical test grades for urban and rural school students. Hence location of school has no influence on prediction of 2008 BGCSE agriculture final grade. Gender was found to have no significant influence on the prediction of 2008 BGCSE agriculture final grade. Forecast grades,

practical test grades and forecast put together significantly predict 2008 BGCSE agriculture final grade among male and female students. However, males' scores were higher than females in 2008 agriculture final grades and on forecast grades but not on practical test grades. Predictability of the 2008 BGCSE final grades from the forecast grades and practical test grades were similar for males and females. Urban school students' scores were better on agriculture final grade than rural school students. Rural school students' scores were better on the practical test grades than urban school students. Urban and rural school students' scores were similar in forecast grades. Predictability of the 2008 BGCSE final grades from the forecast grades and practical test grades were similar for urban and rural school students. Both practical test grades and forecast grades are statistically reliable predictors of BGCSE agriculture final grade but the forecast grades are better and once they are used together with practical test grades as predictors of the final grade, practical tests do not add significantly to the prediction.

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