

The Predictive Validity of Form Two Secondary Education Examination (FTSEE) on Students' Performance in the Certificate of Secondary Education Examination (CSEE) in Biology Subject: A Tanzanian Perspective

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Abstract

This article is based on the study which sought to examine the predictive validity of Form Two Secondary Education Examination (FTSEE) on students' performance in the Certificate of Secondary Education Examination (CSEE) in Biology subject. A sample of 120 students from some selected secondary schools in Morogoro Municipality, Tanzania, was involved. The collected data were analyzed using computer software, Statistical Package for Software System (SPSS), Version 18. In the data analysis, the Pearson's Product-Moment Correlation (r) technique was used in order to determine the strength, direction and significance of the relationships of all the variables included in the study. The findings indicated that there was a strong relationship between the students' performance in the FTSEE and CSEE (i.e. from $r=0.442$, $p<0.01$ to $r=0.726$, $p<0.01$) regardless of sex and type of school. Nevertheless, the relationship was found to be higher for females ($r=0.726$) than males ($r=0.613$). In addition, for the case of the studied Day school, male students in the Day school had a higher correlation coefficient between the two examinations ($r=0.65$) than female students ($r=0.442$). This implies that female students performed slightly better than males in Boarding schools while in the Day school, male students performed better than females. Therefore, on the basis of these findings, it is recommended that the FTSEE should be sustained in order to improve the students' performance in the CSEE in Tanzania.

Keywords: Predictive validity, Examinations, Students' performance, Tanzania.

1. Background to the Study

In Tanzania, secondary education is provided in two levels: ordinary secondary education level (Form 1 to 4) which takes four years and advanced secondary education level (Form 5 to 6) whose duration is two years. At the ordinary secondary school level, a national standardized examination is given at the end of Form 2 and another examination, the Certificate of Secondary Education Examination (CSEE), is given at the end of Form 4. If a student passes the Form 4 examination, they are allowed to proceed to advanced secondary education level. Therefore, the secondary education ends when a student passes the Advanced Certificate of Secondary Education Examination (ACSEE). Depending on the examination results, the student may then be selected to enroll in a university or any other higher learning institution.

The Form Two Secondary Education Examination (FTSEE) in Tanzania is administered at the end of the Form 2 academic year. It is administered and supervised by Zonal Education Inspectorate Offices. After administering the

examination, the National Examinations Council of Tanzania (NECTA) is later given the students' examination results as Continuous Assessment and uses the same in judging student's eligibility to sit for the Certificate of Secondary Education Examinations (TIE, 1995). Historically, the FTSEE was initially introduced in Tanzania by colonialists in 1947 (Gandy, 1978). The purpose of the examination was that of selection as it was used in selecting students to join the few chances available in senior schools (ibid). After independence, the examination was suspended on account that the system of education was continuous from Form 1 to Form 4 (ibid). However, the examination was re-introduced in 1984 for the purpose of improving CSEE results through filtering weak students so that they could repeat and master the curriculum content before sitting for CSEE (MOEC, 1984). Beginning in the 2008 academic year, it was decided by the Ministry of Education and Vocational Training that the FTSEE results should not be used to filter weak students as it was in the previous years. Regardless of whether students passed or failed the FTSEE, they were all allowed to proceed and subsequently sit for the CSEE. This went on until 2011 when it was again decided that students who would fail the FTSEE would not be allowed to join form three.

There are mixed feelings among education stakeholders in Tanzania on whether or not the form two examination is important and needs to be sustained. For instance, a survey made by the authors in some schools in Morogoro, Iringa, and Ruvuma Regions in Tanzania Mainland had revealed that teachers were positive about the examination. They expressed their concerns that the examination should be sustained as it performed the formative evaluation role of students' academic progress. Furthermore, the teachers attributed the students' massive failure in the 2010 CSEE to the declining role of the form two examination. The attribution was likely to be sound as the 2010 CSEE results recorded a drop of 22 per cent in the number of passes compared to the 2009 CSEE results, implying a higher number of failures. In this regard, the current National Examination Council of Tanzania (NECTA) Executive Secretary, Dr Joyce Ndalichako, reported that 177,021 candidates, equal to 50.40% of the 458,114 who sat for the examination passed (The Guardian, 2012). The CSEE results were even worse in 2012 whereby more than 60% of the candidates failed. These were students who joined form three in 2011 without being filtered on the basis of their FTSEE results.

On the other hand, some politicians and officials in the Ministry of Education and Vocational Training have indicated that the examination is cost ineffective and does not have a significant impact on students' subsequent academic achievement. For example, the Chairman of the Public Accounts Committee (PAC) of the National Assembly, John Cheyo, had once raised his concern noting that the government would lose nothing if the examination was dropped for good (The Daily News, 2011).

In the same vein, the current position of the government is that the examination is cost ineffective and a review on their modality ought to be done. This is clearly implied in a statement by the then Principal Secretary in the Ministry of Education and Vocational Training, Professor Hamis Dihenga, who had this to say:

This exam has proved to be too expensive because it is nationalized, but if we have an arrangement where the exam is conducted at school level, it will be less expensive..... We are reviewing the current policy in a bid to come up with a more cost effective manner of handling Form Two examinations, as things stand now we are spending a lot (The Daily News, 2011).

The observation by Professor Dihenga suggests that the Ministry does not intend to drop the examination. What seems to be a problem are the costs involved in the administration of the examination and that a review needs to be done in order to make the examination cost effective. Therefore, the government gives an impression that it acknowledges the significance of the form two examination. This is particularly true as the MOEC (1984) stressed that the FTSEE results help students to make selection for the subjects of priority to learn in form three and help to improve education quality. In addition, Kasuga (2009) noted that the form two examination has several advantages including stimulating students to work hard in their form one and two classes due to fear of dropping out of secondary school education.

This study adapted the self-efficacy model which was developed by Bandura (1977) and later on modified by Bloom (1982). The self-efficacy is the student judgments about the ability to have actions performed in order to achieve specific outcomes (Bandura, 1977). In the teaching and learning context, the specific outcomes are referred to as academic performance (Bloom, 1982). It is theorized that current student achievement is a strong predictor of the student's future performance (Kasuga, 2009; Ndabi, 1987; Sambahyuka, 2000). Self-efficacy is built by current

performance which raises an individual's level of confidence about his/her abilities. According to Bandura (1977) self efficacy stimulates and holds efforts which in turn predict subsequent behaviours.

According to Bloom (1982), when there is a strong sense of efficacy within a student, such sense enables the student to set self goals in order to achieve academic objectives and that students set future goals basing on current performance. It is worth noting that future performance may be affected by several factors happening in between predictive and criterion examinations (Lema, 2004; Pajares, 1996). These are referred to as intervening variables and they include age, sex, location, learning materials, quality of teachers, learning environment and change of learning goals (Bloom, 1982).

In this study, students' performance in FTSEE was taken as the current performance (i.e. the predictor variable) and students' performance in CSEE was regarded as the future performance (i.e. the criterion variable). The intervening variables for this study included type of school attended (i.e. day or boarding) and sex.

2. Statement of the Problem

Literature indicates that the FTSEE aids in predicting student's future performance in CSEE since students' prior examination scores are indicators of the future academic performance (Kasuga, 2009; Ndabi, 1989). For example, Ndabi is of the view that if a student does well in the FTSEE, the same is likely to do well in the CSEE. Nevertheless, there have been conflicting feelings among education stakeholders on whether the form two examination has any value as far as students' performance in the subsequent examinations, including the CSEE, is concerned. In this regard, it was pertinent to conduct a study in order to obtain empirical evidence on the predictive value of FTSEE on CSEE.

3. Purpose of the Study

This study sought to examine the predictive validity of FTSEE on students' performance in the CSEE. Specifically, the study sought to attain three objectives which included:

1. To investigate whether the students' performance in FTSEE predicts their corresponding performance in CSEE in Biology subject.
2. To examine whether the predictive value of FTSEE on CSEE varies with sex.
3. To examine whether the predictive value of FTSEE on CSEE varies with type of school attended.

4. Research Hypotheses

Alongside the stated objectives, the study was also guided by the following research hypotheses:

1. There is no significant relationship between the students' performance in FTSEE and their corresponding performance in CSEE.
2. The predictive value of FTSEE on CSEE does not vary with sex and type of school attended.

5. Significance of the study

This study was timely as it would shed more light to matters regarding the relationships between the students' performance in the FTSEE and performance in CSEE, especially at this time when failure of some students in CSEE in Tanzania is attributed to the students' weaknesses carried over from FTSEE. Furthermore, the findings of this study would help to create awareness on the need to improve teaching and learning at the lower levels of education as a way of addressing poor academic achievements in the subsequent levels of education.

6. Limitation of the Study

A small limitation to this study was that it was not possible to pair all students' FTSEE scores with their corresponding CSEE scores in the selected schools due to the fact that some students who sat for FTSEE had dropped out of school before sitting for their CSEE. However, such cases involved only three (4) students; thus, their absence did not affect the rest of the results for this study.

7. Theoretical Reviews on the Concept of Predictive Validity

Callif (1986) defines predictive validity as the extent to which a score on a scale or test predicts scores on some criterion measure. It is quantified by the correlation coefficient between two sets of paired measurements obtained

for the same target population to indicate the degree of linear relationship between two variables: the predictor variable and criterion variable. For example, a researcher may be interested to find out whether or not the Primary School Leaving Examination (PSLE) scores predict the FTSEE performance. For this case, the predictor variable will be the PSLE scores which will have to be paired with their corresponding criterion variable, the FTSEE scores to determine the extent of relationship.

According to Nunnally (1978) predictive validity becomes an issue when the purpose is to use an instrument to estimate some important form of behavior that is external to the measuring instrument itself. Primarily, predictive validity involves correlating scores on the predictor variable with scores on the criterion variable. For example, the university entry examination score would constitute a predictor variable while the grade-point average obtained after three years of university education would be the criterion variable. McDaniel (1994) points out that predictive validity is established when test scores are shown to predict criterion data collected at a later time. The author gives examples of the Scholastic Aptitude Test (SAT) and the Graduate Record Examination (GRE) as examples of instruments which are used to predict future performance.

The term prediction is generally used to refer to functional relations between an instrument and events occurring before, during, and after the instrument is applied, hence post diction, concurrent validity, and prediction. It is the nature of the problem which dictates when the two sets of measurements have to be obtained. Predictive validity is only determined by the degree of correspondence between the two measures involved. In making decisions related to applied problems in psychology and education, predictive validity is frequently used.

However, predictive validity studies have some drawbacks. Morgan (2001) is of the view that there is a possibility of having fewer participants in the criterion variable than those who were involved in the original instrument. This is especially the case in selection studies where only a few brilliant students get selected (Lema, 2004). As such, there is a possibility of having lower correlation coefficient because the number of those who participate in the study on both the predictor and criterion variables is quite restricted. The other problem is that predictive studies frequently involve cross sectional survey which are expensive in terms of time and resources. However, it was fortunate that this study was not affected by such drawbacks.

In educational context, Njabili (1999), citing Harris (1960) writes that an examination is a series of questions or tasks designed to measure the knowledge or skills of an individual. From their organizational point of view, an examination can be defined as a “method of assessing candidates on the basis either of special tests or on study of the school record or a class teacher’s assessment, or of a combination of these procedures” (Njabili, 1999, p.57: citing Agazzi, 1967). While McLain (2004) views an examination as a special designed task which unfolds individual’s ability on the aspects of the task in operation, Arthur (2005) is of the view that an examination should be taken as a task in operation to show the abilities of both examiner and examinee understandings towards the task. In all these cases, Njabili (1999) concludes that “examinations are bound together by a single purpose, that of measurement” p.57.

Several authors have listed purposes of examinations in different perspectives. Njabili (1999), citing Hartog (1938) identifies seven possible uses of examinations as follows: to arrange candidates in order of proficiency; to test progress towards the attainment of utilizable skills; to test the efficiency of schools; to give a sanction to some course of teaching; to test intelligence; for vocational guidance; and to test culture. The purposes of examinations can also be classified under four headings (Morris 1961, cited in Njabili, 1999). They can be viewed as a device for maintaining standards; as a device for stimulating efforts; as an administrative device; and as a tool for social engineering. It is also acceptable to identify purposes of examinations in terms of the student, the teacher, and the society at large. Pilliner (1998), cited in Njabili (1999) writes that “to the student they are a stimulus and a goal; to the teacher they feedback information about the effectiveness of his teaching and hence serve as feedback mechanism; to the society at large they furnish a guarantee of competence in those examined to perform the tasks demanded of them by the jobs or professions they take up” (Njabili, 1999, p.58). According to Agazzi (1967) cited in Njabili (1999) examinations serve the purpose of providing teachers with information above their pupils, “therefore enabling them to give more and effective help; pupils with an indication of their progress; data for guidance; parents and the public with reliable information on the overall results of the educational system; a sound basis on which to

adjust curricula to meet the needs of a constantly changing society; and to provide data for selection” (Njabili, 1999: p.58).

Kelly (1971) cited in Njabili (1999) views examinations as “measures of achievement which provide criteria for judging standards of performance by students (and hence teachers and schools) and as targets acting as incentives for their efforts; as a selection mechanism; and as a means of evaluating the instrumental social and economic roles of the educational system” (Njabili, 1999: p.58). According to Njabili (1999) examinations serve eight purposes: for motivation, diagnosis, selection, reporting, comparison, evaluation, decision making, and prediction. This study focused on the predictive purpose of examinations. Examinations which are used to predict student’s future performance are referred as Predictive Examinations (Berk, 1982). In predictive examinations, the current level of performance is compared to a well defined behavioral domain expected in future after receiving specific instructions (ibid.). The chance of predictions may be high or lower depending on validity of the predictive examination. Predictive examinations are of great value as they provide pre-requisite information to teacher, students, parents, employee and the society to enable valid decisions.

It is worth noting that a number of scholars have conducted predictive validity studies on educational issues worldwide (Doney, 2006; Emery 2007; Faley & Afolabi, 1998; Geene, 2006; Jenkins, 2004; Njabili, 1997; Obioma & Salau, 2007; Omirin & Ale, 2008; Schwartz et. al., 2009). The major findings for some of these studies include the following:

1. Mock examinations scores are not realistic predictors for performance in the actual examinations (Njabili, 1997).
2. Students’ continuous assessments can be used to predict university final achievements (Emery, 2007).
3. The General Scholastic Aptitude Test (GSAT) may be a good tool for predicting academic success for some students, depending on the year of study, gender, and racial group (Jenkins, 2004)
4. The International English Language Testing System (IELTS) had a good predictive value of students’ future academic performance and success in Business, Science and Engineering disciplines and not in other disciplines (Doney, 2006).
5. English and Mathematics mock examinations can be used to predict the success in academic performance of students in the final examinations (Omirin & Ale, 2008).
6. Placement English Test scores cannot be used to predict students’ overall academic performance (Geene, 2006).
7. Generally, secondary school examinations scores poorly predicted students’ university academic achievement (Obioma & Salau, 2007).

Likewise, there are some predictive validity studies which have been conducted in the context of Tanzania (Lema, 2004; Ndabi, 1987; Sambayukha 2001). The major findings include:

1. The Certificate of Secondary Education Examinations were better predictors on their Advanced Certificate of Secondary Education Examinations (Ndabi, 1987).
2. The Form six examinations had better selection validities for university entry for science students than the matriculation examination and Matriculation Examination was a better predictor for Arts students than science students (Lema, 2004).
3. The CSEE for science subjects were strong predictors of students’ performance in Technical Colleges (Sambayukha, 2001).

From all these studies, it is evident that there is hardly any studies which had been conducted to find the predictive validity of FTSEE performance towards CSEE performance in Biology subject in the context of Tanzanian Secondary schools. Therefore, this study was designed to bridge such a knowledge gap.

8. Research Methodology

This was a quantitative study which employed correlational analysis in which a cross-sectional survey was used in obtaining the trend of students’ performance in FTSEE and CSEE. The FTSEE grades were correlated with the corresponding CSEE grades of the same individuals in Biology subject. The study was conducted in some selected schools within Morogoro Municipality. The target population included all forms two and four students who had sat

for the FTSEE in 2006 and were able to sit for the CSEE in 2008. A sample of 120 students who sat for the FTSEE and CSEE in 2006 and 2008 respectively was drawn from three secondary schools in Morogoro Municipality. The schools and sample size were as shown in Table 1:

8.1. Research instrument

A specially designed score sheet was used to collect the data in which the 2006 FTSEE scores were paired against their corresponding 2008 CSEE scores in Biology subject, according to school (boarding or day), and sex (male or female).

8.2. Data analysis

The data were analyzed using the computerized software, Statistical Package for Software System (SPSS) version 18. Because of the nature of the research objectives, the obtained data were largely quantitative. The data were first entered and coded before the correlation coefficients (r) were computed. Additionally, means and standard deviations were computed to determine the trends of students' performance in both FTSEE and CSEE.

9. Results and Discussion

9.1. The predictive validity of the FTSEE on the CSEE Performance in Biology subject

It should be noted that Biology is one of the compulsory subjects in form 1 and form 2 for all students in all secondary schools in Tanzania. Other compulsory subjects include mathematics, English, physics, chemistry, Kiswahili, history, geography, and civics. Since the purpose of the study was to find out whether the students' performance in FTSEE could be used to predict their subsequent performance in CSEE, Biology subject was chosen because it is among the subjects whose trend of students' performance in FTSEE and CSEE had not been investigated as is the case in other subjects such as mathematics, and Kiswahili (see Kasuga, 2009).

After data collection, it was possible to pair a total of 120 sets of students' scores. Since examination results are confidential, the students' names and registration numbers were omitted in the presentation of these findings. Using the Pearson's Product Moment Correlation Coefficient (r), the FTSEE and CSEE scores were correlated to determine the overall relationship between the two variables. The results were as shown in Table 2:

Table 2 indicates that the correlation coefficient between the FTSEE and CSEE in Biology subject was $r = 0.451$, $p < 0.01$. This is a positive linear relationship which implies that students' performance in FTSEE can be used to predict the subsequent performance in the CSEE. It also means that a significant proportion of students were able to maintain their performance with the same grades from FTSEE to CSEE. In order to determine the significance of the observed coefficient ($r = 0.451$), the value was compared against the critical value in the Pearson's Product-Moment Correlation Coefficient table, which was found to be 0.254. Since the observed value was greater than the critical value, the null hypothesis was rejected and it was concluded that there was a significant positive relationship between the students' performance in FTSEE and CSEE in Biology subject for the selected schools.

These findings partly agree with some of the results of the predictive validity studies conducted in the context of Tanzania and disagree with others as well (Kasuga, 2009; Lema, 2004; Sambayukha, 2001; Ndabi, 1987). For example, the findings of the current study disagree with those of Kasuga (2009) who carried out a study to investigate whether the FTSEE could be used as a predictor of performance in the CSEE for Mathematics and Kiswahili subjects. In this study, the findings revealed that the FTSEE was not a better predictor of performance in the CSEE. On the other hand, Lema (2004) did a study which sought to find out whether the ACSEE had better selection validities for university entry than the matriculation examination. In this study, the researcher found that the ACSEE had better selection validities for university entry for science students than the matriculation examination and matriculation examination was a better predictor for arts students than science students. In addition, Sambayukha (2001) conducted another predictive validity study which investigated whether the CSEE for science subjects could be used to predict students' performance in Technical Colleges. The findings revealed that the CSEE for science subjects was a strong predictor of students' performance in Technical Colleges. Another predictive validity study is that of Ndabi (1987). In this study, the researcher sought to investigate whether the CSEE was a better predictor on

the ACSEE. The researcher concluded that the CSEE performance was a better predictor on the ACSEE performance.

From these studies, it shows that certain examinations may have a strong predictive value on other examinations (Sambayukha, 2001). It also implies that some examinations may have good predictive values to some groups of individuals and not others (Lema, 2004). However, it is also evident from these studies that there are other examinations which may have a weak predictive value (Kasuga, 2009). Notwithstanding all these, it is worth noting that there are a number of factors which affect the examination's validity. According to Linn & Gronlund (1995), five categories of factors which influence validity of an examination include factors in the examination itself, factors due to functioning of tasks and teaching procedure, factors in the examination administration and scoring procedures, factors in responses of students, and nature of the group and the criterion. Thus, while an examination may be valid to one group in a specific situation, it may not be valid to another group in another context.

9.2. The predictive validity of the FTSEE on CSEE performance according to sex

Although some studies have shown that males and females perform differently in different skills in an academic settings (Halpern, 1997; Hoskins, et al. 1997), the issue of sex differences on academic achievement is still controversial (Mead, 2006). In this regard, the researchers sought to investigate whether or not sex could influence the predictive validity of FTSEE on CSEE. Therefore, the performance of both males and females in FTSEE and CSEE was investigated. In order to examine whether the predictive value of FTSEE on CSEE varied with sex and type of school attended, the collected data were analyzed and the results were as presented in Table 3:

As it can be seen from Table 3, a strong positive relationship was observed between the students' performance in FTSEE and CSEE in both sexes. However, in Boarding schools, the relationship was slightly higher for females ($r=0.726$) than males ($r=0.613$). In the case of the Day school, the situation was contrary as the correlation coefficient between the two examinations was higher for males ($r=0.65$) than females ($r=0.442$). These findings suggest that female students performed slightly better than males in Boarding schools while in the Day school, male students performed significantly better than females. Therefore, there was enough evidence to reject the null hypothesis and it was concluded that the predictive value of FTSEE on CSEE varied with regard to sex.

Furthermore, the analysis was also made to find the mean scores for both male and female students in the selected schools. This was done in order to determine the trend of students' performance in both examinations according to sex. The results were as presented in Table 4:

According to Table 4, it is revealed that male students from Mzumbe performed better than female students from Kilakala in both FTSEE and CSEE. The same case was also observed within Kihonda in which males had higher mean scores than females for both examinations. Therefore, in overall, male students performed better than females in both FTSEE and CSEE regardless of the type of school.

9.3. The predictive validity of the FTSEE on CSEE performance according to type of school

It was also envisaged that the type of school attended (Day or Boarding) would influence the predictive validity of FTSEE on CSEE, since each of these types of schools has unique characteristics which influence educational achievements in one way or another. For instance, there is a belief that Boarding school students spend more time on their studies than their counterparts in day schools. On the other hand, the day school students are believed to spend most of their time at home watching TV or doing other things that distract their attention from studies.

As pointed out earlier, schools were classified into two categories: Boarding and Day schools. The correlation coefficients for the two categories of schools were determined to find out whether there were significant variations between them. The results were as shown in Table 5:

As it can be seen from Table 5, there was a strong positive relationship between the FTSEE performance and CSEE performance in both categories of schools. However, the relationship was slightly higher for Boarding schools (0.726 for Kilakala and 0.612 for Mzumbe) than Day school (0.587 for Kihonda). This means that many students maintained the FTSEE performance towards their performance in CSEE in Boarding schools compared to the investigated Day school. In testing the hypothesis advanced for this objective, the observed values $r=0.587$ for Kihonda, $r=0.726$ for Kilakala, and $r=0.613$ for Mzumbe were compared with the critical values of 0.273 for Kihonda and 0.381 for Kilakala and Mzumbe. Since the observed values were greater than the critical values for both cases, the null hypothesis was rejected at 0.05 level of significance in a two-tailed test. Therefore, it was concluded the predictive value of FTSEE on CSEE varied according to the type of school attended as it was higher for Boarding than Day schools.

The observation that the predictive validity of FTSEE on CSEE was higher for Boarding than Day schools implies that students in the Boarding schools performed better than their counterparts in the Day schools. This could be attributed to the fact that environments in Boarding schools favor students to perform better as they are obliged to follow strict school timetables from morning to evening. In addition, Boarding schools offer a greater scope for independent and experiential learning and students are more self-reliant and aware of time management. Moreover, the Boarding schools offer more opportunities for teamwork and students can explore interests and potentials. Above all, Boarding students have better opportunities for self-assessment through extra-curricular activities.

Regarding the mean score performance based on the two categories of schools, results from data analysis were as presented in Table 6:

According to Table 6, students in the Boarding schools had higher performance than those in the Day school. The mean scores for Boarding schools were 3.800= (grade C) and 2.9 (grade C) for Mzumbe, and 3.1667= (grade C) and 2.333= (grade D) for Kilakala in the FTSEE and CSEE examinations respectively. With regard to Kihonda, which is a Day school, the mean scores were 2.9167= (grade D) and 2.15 (grade D) in the FTSEE and CSEE respectively. This further, confirms the earlier observation that students in the Boarding schools performed better than those in Day schools.

10. Conclusion and Recommendations

Empirical evidence from this study has indicated that the FTSEE is an important tool in predicting students' academic success in the subsequent CSEE. Therefore, it is high time the government took affirmative actions to improve the modalities for administering the FTSEE by doing the following: First, the validity and reliability of items included in the FTSEE should be improved. This is due to the fact that there have been concerns from the public that some of the examinations are unreliable due to, among other reasons, repetition of some items year after year. Secondly, it should be mandatory for students who fail the FTSEE examination to repeat a year to enable them master the required contents in their subjects before they are allowed to sit for the CSEE examinations. This is particularly important as the 2010, 2011, and 2012 CSEE results indicated that more than 50% of students had failed. These were students who sat for the FTSEE in 2008, 2009, and 2010 in which those who passed and those who failed were allowed to join form three and sat for their CSEE in 2010, 2011 and 2012 respectively.

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S/n	Name of school	Number of students	
		Male	Female
1	Kihonda	30	30
2	Kilakala	–	30
3	Mzumbe	30	–
Subtotal		60	60
Grand total		120	

Table 1: Sample size

		FTSEE	CSEE
FTSEE	Pearson Correlation	1	0.451
	Sig. (2-tailed)		0.000
	N	120	120
CSEE	Pearson Correlation	0.451	1
	Sig. (2-tailed)	0.000	
	N	120	120

Table 2: The Pearson Product Moment Correlation Coefficient (r) between the FTSEE and CSEE

School name	School type	Sex	R	Level of significance
Kihonda	Day	Female	0.442	Correlation is significant at 0.05 level
		Male	0.65	Correlation is significant at 0.05 level
Kilakala	Boarding	Female	0.726	Correlation is significant at 0.01 level
Mzumbe	Boarding	Male	0.613	Correlation is significant at 0.01 level

Table 3: The Pearson Product Moment Correlation Coefficients (r) according to sex and type of school

School Name	Sex	Exam Type	Mean scores
Kihonda (Day)	Male	FTSEE	3.0667
		CSEE	2.3333
	Female	FTSEE	2.7667
		CSEE	1.9667
Kilakala (Boarding)	Female	FTSEE	3.1667
		CSEE	2.333
Mzumbe (Boarding)	Male	FTSEE	3.8
		CSEE	2.9

Table 4: Students' mean score performance in FTSEE and CSEE by sex

School Name	School type	r	Level of significance
Kihonda	Day	0.587	Correlation is significant at 0.05 level
Kilakala	Boarding	0.726	Correlation is significant at 0.01 level
Mzumbe	Boarding	0.612	Correlation is significant at 0.01 level

Table 5: The Pearson's Product Moment Correlation Coefficients (r) according to type of school

School name	School type	Exam type	Mean scores	Mean scores differences
Kihonda	Day	FTSEE	2.9167	0.7666
		CSEE	2.15	
Kilakala	Boarding	FTSEE	3.1667	0.833
		CSEE	2.333	
Mzumbe	Boarding	FTSEE	3.8	0.9
		CSEE	2.9	

Table 6: Students' mean score performance in FTSEE and CSEE based on type of school