

**INFLUENCE OF SCHOOL BASED ASSESSMENT ON  
PERFORMANCE IN PRIMARY TEACHER EDUCATION  
EXAMINATION IN KENYA //**

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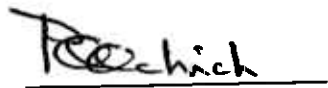
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## DECLARATION

This research project is my original work and has not been presented for any academic award at any other university.

 18/09/2012

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This research project has been submitted for examination with my approval as the university supervisor.

 18/09/12

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## **ABBREVIATIONS**

<b>B Ed</b>	<b>Bachelor of Education</b>
<b>CAT</b>	<b>Continuous Assessment Test</b>
<b>CRE</b>	<b>Christian Religious Education</b>
<b>CWA</b>	<b>Course Work Assessment</b>
<b>GEPA</b>	<b>Grade Eight Proficiency Assessment</b>
<b>GOK</b>	<b>Government of Kenya</b>
<b>KCSE</b>	<b>Kenya Certificate of Secondary Education</b>
<b>KNEC</b>	<b>Kenya National Examinations Council</b>
<b>MOE</b>	<b>Ministry of Education</b>
<b>NJDOE</b>	<b>New Jersey Department of Education</b>
<b>PGDE</b>	<b>Post Graduate Diploma in Education</b>
<b>PTE</b>	<b>Primary Teacher Education</b>
<b>QCA</b>	<b>Qualifications and Curriculum Authority</b>
<b>SBA</b>	<b>School Based Assessment</b>
<b>TTC</b>	<b>Teacher Training College</b>



## **ABSTRACT**

The purpose of this study was to investigate the influence of School Based Assessment (SBA) on performance of students in Primary Teacher Education (PTE) examination in public colleges in Kenya. The study adopted a nonexperimental research method combining survey and secondary data analysis designs. The PTE examination results of the years 2008 and 2010 were used. In addition, 721 students and 132 teachers constituted the sample survey of the study. The study objectives were to establish: 1) the relationship between students' SBA and final examination scores; 2) the effect of students' SBA scores on their overall performance in the examination and; 3) the views of students and teachers on integration of SBA and final examination scores for purposes of certification. Results indicated a weak relationship between SBA and final examination scores, with the mean of SBA scores being higher than those of final examination scores in majority of subjects. Weak and moderate Pearson correlations were found between SBA and final examination scores, with Mathematics having the highest correlation coefficients between the scores. The study results also indicated that – in majority of cases – inclusion of SBA scores had a positive effect on the students' grades, with the effect increasing as the weighting of SBA – as a component of the total examination– was increased.

## **1.0 CHAPTER ONE: INTRODUCTION**

### **1.1 Background to the Study**

There is no educational system in the world which is without some form of evaluation of the progress of the pupils and of the efficacy of the teaching. Those who support, through taxation, the provision of higher education and training have the right to expect that a high standard of education and training will be provided. Assessment plays an important role in fulfilling these expectations. Educational assessment is the process of gathering, interpreting, recording and using information about learners' responses against some standard of expectations. The assessment of learners' achievement provides objective evidence necessary in the decision-making process in education. According to Cone and Foster (1991), good measurement resulting in accurate data is the foundation of sound decision making. There is little doubt among educational practitioners about the special value of assessment as a basic condition for effective learning.

Examinations play a key role in education because they not only directly affect the future of individual candidates but also strongly influence instruction in schools. In education terms, assessment is a process of evaluating a learner's attainment after one has undergone a learning process. In its endeavour to make the education system more relevant to the needs of its people, the government of Kenya in 1985 implemented a diversified curriculum, which lays emphasis on the teaching and assessment of practical skills. This curriculum provided for a holistic approach to education where independent learning and continuous assessment were emphasized.

In many countries the education system is so examination ridden that the entire teaching and learning process is geared to passing the exam and getting good marks for entry to higher levels

of education (Capper, 1996). In some countries credit is given for learning obtained throughout schooling and expressed in multiple ways and formats. The New Jersey Department of Education (NJDOE) annually develops and administers the Grade Eight Proficiency Assessment (GEPA). This assessment consists of multiple-choice, short or structured response, and extended response items. The purpose of this assessment is, in part, for early identification of students that need remediation as well as how well the students, and school are meeting the state standards in mathematics for grade eight (New Jersey Department of Education, 2006). The nature of formative assessments gives teachers necessary feedback as to when students have mastered concepts or when more or different instruction is necessary.

However, Kellaghan and Greany (2004) have advanced some arguments against the use of school based assessment in public examinations. That firstly, the competence in assessment of many teachers is considered to be poor; secondly, the standards used to grade students in school based assessment are likely to vary, both between schools and between classes in the same school; and thirdly, school based assessment is difficult, in some cases impossible, to apply to non-school based learners. To address the concern of inflated SBA marks, the use of statistical moderation can be applied to ensure that SBA scores do not deviate drastically from the final examination scores of learners. The extent to which SBA marks are fair, valid and reliable is of paramount importance. In the Kenya Certificate of Secondary Examinations in 2005 seven subjects had a school-based project component which was combined with the external written (theory) paper to determine the final grade of the candidate. Onyango and Ndege (2007) reported that the percentage means in all the KCSE school-based projects were much higher than that of (externally assessed) theory paper, and that there is a poor correlation of the (school-based) projects means and the means of the (externally assessed) theory papers in most of the subjects.

Whereas it is acknowledged that there is value in SBA just as it is the case with external summative scores, there are still limitations due to lack of a policy framework to regulate the conduct of SBA at Primary Teachers' Training Colleges.

Guskey (2003) points out that many teachers have not received instruction in developing tests and as such may construct their own in a haphazard fashion. The situation is worsened by the absence of innovative preparations of educators to cope with challenges of SBA implementation. Continuous assessment conducted in a formative manner can lead to improved academic performance (Black & William 1998). It is therefore essential that attention is given, and initiative taken to improve the quality of assessment in education systems. In Kenya, education is run by the Ministry of Education (MOE). The mandate of the ministry is spelt out in the Education Act, chapter 211 of the Laws of Kenya, revised in 1980. The examining agency is the Kenya National Examinations Council (KNEC) which conducts public examinations on behalf of the Ministry of Education. The core functions of KNEC are to develop and administer tests and examinations for KCPE, KCSE and post school candidates and ensure that tests and examinations are free from bias and are valid, reliable, relevant, efficient and of globally accepted standards (KNEC, KCSE 2006 Examination Report). The Primary Teacher Education (PTE) examination is one of the post secondary school examinations offered by KNEC. It is meant to assess the students who training to become primary school teachers. All the PTE subjects offered have both the SBA and the external national examination components.

Although there have been numerous reforms on the current system of education as recommended by Kamunge and Koech reports of 1988 and 1999 respectively, such reviews have failed to substantially focus on the link between SBA and the external national examinations. A school

based assessment combined with end of course examination should ideally be able to stem the recurring dissatisfaction with the one-off public examination system. The primary purpose of national external summative achievement tests is to assess whether the prescribed curricular content was actually taught and acquired by graduating students. The Koech report contends that combining SBA scores with national summative examination scores for grading and certification may have other positive effects such as building teacher competence, and enhancing public confidence for using formative assessment for decision-making purposes.

## **1.2 Statement of the Problem**

The rationale behind using teacher-based classroom assessment scores as a component for certifying students among others is that 'one-shot' examinations are unable to fully examine all that a student has acquired after several years of study (Dery and Addy-Lampsey, 2010). Uncertainty exists in some quarters on sustainable availability of valid and reliable SBA tests that could be used in all schools. Kellaghan and Greany (2004) posit that standards used to grade students in SBA are likely to vary between schools and between classes in the same school.

Ojerinde and Falayajo (1984) posit that continuous assessment is an assessment procedure whereby the final grading of a student in any subject takes into account, in a systematic way, the progress of a student throughout the program of study. In the Primary Teacher Education (PTE) examination in Kenya, the final (external) exam scores for each paper are combined with SBA (internal) scores in certifying the students. The combination is done with external to internal assessment ratio of 70:30.

For purposes of determining whether or not to include SBA as a component for certifying students there is need to establish the relationship between SBA (internal) scores and final

(external) scores. This study sought to establish the influence of school based assessment on the performance of students in the final public examination.

### **1.3 Purpose of the Study**

The purpose of this non-experimental study was to examine the influence of SBA on the performance in final examination for students taking PTE examination in Kenya. Towards this purpose the study investigated the effect of the SBA scores on the final scores of students. The study also examined the relationship and correlation between SBA and final examination scores.

### **1.4 Objectives of the Study**

The objectives of the study were to:

1. determine the relationship between students' (SBA) scores and their final PTE examination scores.
2. establish the effect of students' SBA scores on their performance in PTE examinations.
3. establish the views of students and teachers on the effect of SBA on final PTE examination grades.

### **1.5 Research Questions**

The research questions of the study were:

1. What is relationship between students' SBA scores and their final PTE examinations scores?
2. What is the effect of students' SBA scores on their performance in PTE examinations?

3. What are the views of students and teachers on the effect of SBA on final PTE examination grades?

## **1.6 Significance of the Study**

The study brings further insight on the issues relating to the linking of school based assessment with public examination. In this regard the study findings would be important to the examination boards, teachers and educational administrators. The study brings out the implications of using different weighting of the SBA and public examination scores on the overall performance of students. Consequently the study reveals the need for further research on the effects of the different weighting with a view to recommending an appropriate weighting. The study findings could also be used to inform educational policy on issues related to the linking of SBA to public examination for purposes of grading and certification. Further research could be undertaken to establish whether incorporation of SBA scores into public examinations would solve the problem of poor performance in public examinations that do not currently consider the SBA component. The study findings show that – for a minority of students – the integration of SBA scores with examination scores has a negative influence on performance. This could be an indication of the need to formulate and implement appropriate educational interventions to address the issue.

## **1.7 Limitations**

The study adopted a non-experimental design whereby manifestations of the variables have already occurred and hence cannot be manipulated by the researcher. The design is considered appropriate for investigating the influence of SBA on performance in the final PTE examination as this cannot be tested through experimentation. However, this design is limiting as it is not possible to determine the specific effect of SBA on final PTE with a high degree of certainty.

The study used questionnaires despite the ability of other instruments to elicit in-depth information. This was due to the great distances between PTE colleges and the financial constraints. The researcher foresaw some limitations such as lack of openness of some respondents in divulging information. However, the archival research data collected in this study, by way of triangulation, was used to cross check information from the respondents.

### **1.8 Delimitations**

Factors identified for this study were SBA scores and final PTE examination scores and how they are combined for purposes of certification. These are not the only factors which either determine or influence learning assessment for certification purposes in education sector. This study did not target the private PTE colleges because the majority of them have not offered candidates for the PTE examination for more than 3 years.

### **1.9 Assumptions**

The assumption of this study was that the data required on assessment scores have been well stored and are easily retrievable. The other assumption was that the respondents in the targeted institutions would be cooperative in providing the required data. The study further assumed that the participants were cooperative, ethical and of high integrity. In addition it was assumed that the findings of this study can be replicated in other assessment programmes and levels in the education sector.

### **1.10 Definition of Operational Terms**

**Continuous assessment:** refers to the assessment of a pupil's progress throughout a course of study and giving a final mark or grade rather than exclusively by examination at the end of it.



**Influence:** refers to the effect of the inclusion of coursework marks as a component of public examination on the final mark or grade of learners in public examination or the capacity to have an effect on the character, development, or behaviour of something.

**School Based Assessment:** refers to a system of assessment in which the work done by students during their course of study is included in determining their final mark or grade. It also refers to the gauging of students' progress based on work they do or tests they take throughout the term or year as an important part of the students' learning process as well as for incorporation into final public examination grades.

**Public PTE College:** means a primary teacher education college supported by the government in terms of provision of infrastructure and human resources.

**Performance:** refers to grades representing the students' achievements with respect to attained academic skills or knowledge.

**Measurement:** will refer to the process of assigning numbers to individual objects, or events or observed behaviour responses in a systematic way to represent certain properties of test items using marks and grades.

**PTE examination:** refers to the public examination offered by the Kenya National Examinations Council to candidates who meet a minimum entry requirement of a Mean Grade of C plain in the KCSE examination with a minimum of Grade D plain in Mathematics and C minus in English and a two year PTE training course in a recognized institution.

**Effectiveness:** refers to the extent to which the inclusion of coursework marks as part of the final mark or grade positively influences performance in public examinations or capacity to produce a desired effect, regarding extent to which someone or situation can affect positively the academic performance or effectiveness.

**Moderation of Scores:** was used to mean the procedure by which SBA scores in a subject are statistically adjusted to make their distribution have the same mean and standard deviation as those of final public examination.

**Public examination:** refers to the examination offered by a national examination board for purposes of grading, selection and certification. The public examination in focus in this study is the PTE examination.

## **2.0 CHAPTER TWO: REVIEW OF RELATED LITERATURE**

### **2.1 Introduction**

The chapter examines existing literature related to school based assessment and its effects on performance in final public examination. In particular the chapter explores current practices of assessment in education, School Based Assessment (SBA) and public examinations. It also deals with performance in public examinations, integration of SBA scores with public examinations, theoretical framework and conceptual framework.

### **2.2 Current Practices of Assessment in Education**

The current practice of educational assessment includes school-based assessment also referred to as continuous assessments, end of course external examination, and weighted combination (Satterly, 1989). Continuous assessment of learners' progress could be referred to as a mechanism whereby the final grading of learners in the cognitive, affective and psycho-motor domains of learning systematically takes account of all their performances during a given period of schooling (Falayajo, 1986). Assessment in the cognitive domain is associated with the process of acquiring knowledge and understanding. According to Yip & Cheung (2005), the use of SBA supplement external examinations provides a more holistic and valid measurement of student abilities. Educational assessment provides the necessary feedback required to measure the outcomes of educational efforts. School based assessment of learning is usually carried out by teachers as they observe their students at work or by periodically administering various kinds of tests (Kalomba, 2001). In some countries there are concerns that the high failure rate in national examinations is due to the fact that SBA is not linked with the final external examination scores for purposes of grading and certification. . According to Cheung D (2001), about 140,000 form 5

candidates sat for Hong Kong Certificate of Education in which one out of six candidates failed in all the six subjects they attempted. This was attributed to use of final examination scores only to grade the candidates. It is expected that if SBA and final national examination are indeed different measures of the same thing then the performance of candidates in the two forms of assessment should ideally coincide.

Different countries have different modes of assessing and measuring academic performance after students complete a scheduled learning programme. In Kenya , the Kenya National Examinations Council (KNEC) is the body mandated by the Ministry of Education (MOE) to coordinate and administer the national external examinations for primary, secondary and middle level learning institutions. At the secondary level, weighted combination – of SBA and final examination scores – is mainly done in the Kenya Certificate of Secondary Education (KCSE) subjects that have a project component. These subjects include among others, Agriculture, Woodwork, Computer Studies, Metalwork, Home Science, Art & Design, and Agriculture The project scores are used in the final grading of the candidates at KCSE level (Wasanga &Ingolo, 2001). In Music and subjects classified as foreign languages – French and German – students are assessed practically, on their oral skills and the scores obtained submitted by the schools to KNEC to contribute to the final grade. The majority of the KCSE subjects have no practical or project component and are assessed purely using the end of course examination (Onyango & Ndege, 2006).

### **2.3 School-Based Assessment (SBA)**

SBA is preferred partly because in some quarters it is considered to be unfair and unnecessarily stressful for learners to be examined on only a single and one time scheduled examination where luck with questions may play a substantially significant part in candidates' chances of success

(Muller as cited in Satterly, 1989). Different arguments have been advanced on the merits of SBA. It is viewed that school-based assessment uses a variety of assessment instruments and can therefore provide a better report on performance of a learner than a single external national examination. Tests provide a snapshot of a student's performance on a given day while at the same time; formative assessment allows teachers to monitor and guide student's performance over time in multiple problem-solving situations.

This sentiment was shared by Guskey (2003), who stated that "teachers who develop useful assessments provide corrective instruction, and give students second chances to demonstrate success can improve their instruction and help students learn". It is therefore desirable that the formative assessments be followed by high-quality corrective instruction designed to remedy whatever errors the assessment may have identified after analysing and interpreting the results. Another advantage of continuous assessment is that it places teachers at the centre of all performance-assessment activities. It encourages more teacher participation in the overall assessment or grading of his/her learners. As suggested by Paris et al. (1991), teachers must be given opportunities to select and review assessments so that they become involved and knowledgeable in the process. Through this approach, teachers would be able to integrate assessment and assessment results into instructional practice. Teachers will be expected to incorporate assessment into the larger learning framework and possibly to provide evidence regarding how assessment information is used to inform and guide instruction for individual learners. According to Lewis (1997), teachers must embed the assessment in their instructions, score the assessments and discuss standards for good learners' work with colleagues, parents and learners.

In continuous assessments, learners' performance is assessed over a long period of time and in

variety of situations with a view of securing a representative view of the learners' abilities rather than solely relying on the artificial context of the examination room timetabled at the end of each calendar year. McMillan and Nash (2000) observe that teachers believe that their assessment of students' achievement and assigning grades gave a better understanding of the depth of student knowledge. It is on a similar argument that SBA is viewed as catalyst for student achievements while at the same time gives parents and educators the ability to monitor students' gains. Completeness and accuracy of assessment data is central to measuring students and ensuring accountability. It is necessary to have uniform testing conditions in order to have results that will be meaningful. The presidential working party on the second University in Kenya (GOK, 1981) recommended the inclusion of SBA scores in certification.

The Jomtien conference of 1989 on Education for All recommended the review of the examination system with a view to making them more humane, a characteristic that end of course, external examinations systems are devoid of. This is based on the belief that SBA uses multiple assessments and of different variety giving students opportunity to demonstrate their achievements in various ways.

#### **2.4 Public examinations**

Quality assurance in education systems all over the world has been one of the most debated topics in education. The external examination system is a procedure with long historic roots in education (Silver et al., 1995; Nilsson and Naslund, 1997; Lewis, 2005). Many countries traditionally have had systems of quality assurance which include national examinations. According to Dillard (2003), examinations provide a means of maintaining academic standards and to increase the efficiency of schools by bringing them into contact with one another and by making known to all, the best standards available, deciding the fitness of candidates for public

office or for an independent profession. Examinations also function as social engineering tool by allowing the advancement of boys and girls from lower strata of society by giving them opportunities of advancement through higher education.

Initially designed as diagnostic tools, standardized tests have since become an accepted means of grouping students based on ability or achievement to facilitate instruction. In addition to admission to the college of their choice, students' scores on these external examinations may affect their eligibility for scholarships, competitive academic programs, and varsity sports (Schiller 1997). Currently external examination systems still seem to enjoy considerable level of trust in those education systems in which it is found (Hannan and Silver, 2004; Brandt and Stensaker, 2005; EVA, 2005b). One of the basic purposes of a national examination system is to ensure that grades awarded by different institutions are comparable with respect to national or broadly acceptable academic standards. Some of the proponents of external summative examinations take cognisance of the fact there exist inherent weakness in SBA and therefore it is unlikely to be a reliable measure of students' abilities. Kato (1961) posits that national examination results often lead to misinterpretations and may turn schools to places where students compete excessively for high scores leading to failure in their policy of learning to interact and cope with each other. The worst occurs when national public examinations get transformed into high stakes examinations.

In the World Bank report (2001) on the use of examination results, various arguments were expressed including that, there are several problems that come about as a result of testing in national public examinations. These include high stake testing that sets up increased pressure due to rising value attached to grades obtained. Consequently the curriculum may get narrowed down, inequitable distribution of teachers, unfair treatment of students and widespread cheating.

Assessment anxiety and inappropriate assessment conditions are some threats which apply primarily to the external tests. Of these, assessment anxiety may be the greatest threat, particularly at the earlier key stages of education cycle. Increasingly – for each test series – there is media coverage about the pressures placed on pupils by parents and schools. What is not clear is how much these pressures distort performance and preparation (Madaus, 1988). Thus there is need to seek solutions and alternatives approaches in assessments through research studies. It is notable that given the limited resources available in the developing countries the opportunity to learn beyond the primary school level is judged through performance in public examinations. The national examinations therefore tend to be high stake examinations. High stakes examinations could be defined as those important examinations that a candidate takes any risk so as to be successful in to get a qualification (Njabini, 2000).

## **2.5 Integration of SBA Scores with Public-Examination Scores**

A policy of combining teacher-based continuous assessment with external public examinations for certifying graduates is not a new development even among African countries. In 1980s, Ghana implemented the assessment-policy framework stipulating that the final grading of junior and senior secondary school students should be made up of 40% teacher-assessment scores and 60% external-examination scores (Amedahe, 2001). There is a general consensus that teacher assessment is an essential part of the National Curriculum Assessment arrangements and that there is added-value where the results of end of key stage teacher assessment are reported alongside the national public examination test results. Both have equal status and provide complementary information about pupils' attainment. The national external tests score provide a standard 'snapshot' of attainment at the end of the key stage, while teacher assessment, carried out as part of teaching and learning in the classroom, covers the full range and scope of the



programmes of study, and takes account of evidence of achievement in a range of contexts, including that gained through discussion and observation (QCA,1999).

In some systems, teacher assessment is part of the National Curriculum Assessment arrangements. The results of end of key stage teacher assessment are reported alongside the public national test results. In this situation, both have equal status and provide complementary information about pupils' attainment (Reeves, 2001). However, the practice is fraught with some challenges that need serious consideration. The first issue is how to ensure that teacher-assessment scores submitted to the national examination body at the end of the programme truly reflect students' performance in the program. The number of items on tests, the difficulty of the items, and the quality of grading varies from teacher to teacher and from school to school.

A second issue is how to moderate the teacher-assessment scores. Currently, the teacher-assessment scores are moderated statistically. The literature on statistical moderation points out some assumptions underlying the procedure. Some of these assumptions are that the teacher assessments measures essentially the same knowledge, skills, and abilities as the external examination, and that the external examination is reliable and capable of being scored with a high degree of consistency (Cohen & Deale, 1977; Smith, 1978). Two implications of these assumptions are that there should be at least a moderate relationship between the performances of candidates on the two types of assessments and that there should be no statistically significant difference in mean student achievement on the two assessments.

There are other ways in which teacher-assessment scores can be moderated, including inspection and monitoring. Inspection involves bringing in persons called moderators to review or independently re-grade a randomly selected sample of students' responses to items on teacher assessments, particularly constructed responses (Harlen, 1994). This process can result in

ratification or repudiation of a teacher-awarded score. This kind of system has everything to do with quality control assurance procedure. The use of any of the procedures for moderating teacher-assessment scores depends on the availability of expertise in educational assessment and other resources. The results of a study using the standardized teacher assessment scores of a reference school to moderate other teachers' assessment scores appear to be promising (Amedahe, 1998).

Another issue – in linking SBA to public examination scores – is how to determine the appropriate weighting of the external- and teacher -assessment scores. The practice of weighting of the teacher-assessment scores and external-exam scores may not reveal the difference between the actual weighting of the two components after moderation and the nominal or intended weighting (variance and covariance), thus, the nominal weight may be different from the achieved (statistical) weight (Adams & Murphy, 1982). There seems to be a rationale behind the practice of combining teachers' assessments with external-examination scores for purposes of final grading and certification of students. However, there is the need to investigate challenges enumerated with a view to improve the soundness of the practice of combining teacher assessments scores and those obtained at summative external examinations.

## **2.6 Theoretical Framework**

The study was guided by the goal-gradient effect theory by Hull (1932) and expectancy value theory by Atkinson and Birch (1974). Hull (1932) posits that the closer someone is to his/her goal, the more motivated they become. He called this phenomenon the goal-gradient effect. According to this theory, people who perceive that they are closer to their goal should exert comparatively more effort. In a classic study demonstrating this effect, Hull timed rats running in

a maze, and found that the closer they were to food (the reward), the faster they ran.

Kivetz, Urminsky, & Zheng (2006) reinforced the goal-gradient hypothesis by generating new propositions for the human psychology of rewards. They tested these propositions using field experiments, secondary data, and paper-and-pencil problems. One of the key findings was that the illusion of progress towards the goal induces purchase acceleration (e.g. customers who receive a 12-stamp coffee card with 2 pre-existing “bonus” stamps complete 10 required purchases faster than customers who receive a regular 10-stamp card).

The study by Kivetz et al. (2006) had similarities with that conducted by Nunes and Dreze (2006) on how artificial advancement increases effort. Nunes and Dreze posited that people provided with artificial advancement towards a goal exhibit greater persistence towards reaching the goal. By converting a task requiring 8 steps into a task requiring 10 steps, but with 2 steps already complete, the task is reframed as one that has been undertaken and incomplete rather than not yet began. They used the term artificial advancement to refer to the act of moving someone towards a goal while simultaneously moving the goal away such that the task requirements and reward remain unchanged. Both programmes require 8 tasks and provide the same reward, yet there is a tendency for those who receive endowed progress (artificial advancement or bonus) to exert more effort. Nunes and Dreze (2006) referred to this phenomenon as the endowed progress effect.

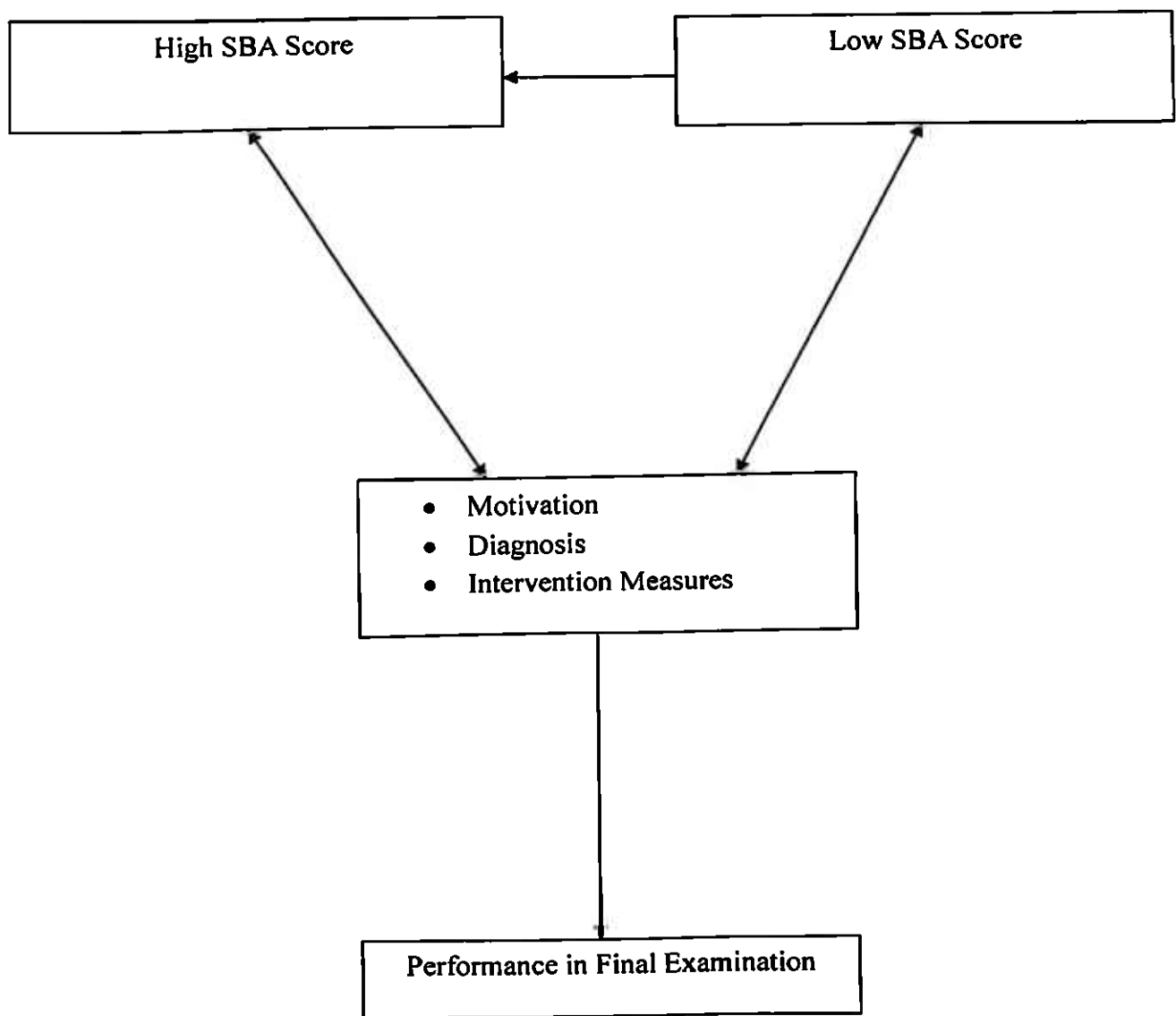
The goal-gradient effect is similar to the expectancy value. The researcher contends that, the common denominator of the two theories is that the perceived distance to the goal affects the effort exerted towards realizing the goal. Atkinson and Birch (1974) posit that as the distance from the goal decreases both the desirability and the feasibility of completion are believed to

increase. Models in this tradition have been referred to as expectancy value models. According to the expectancy theory, behaviour is a function of the expectancies one has and the value of the goal one is working toward expressed as:  $B = f(E \times V)$ . Where B is the behaviour, E is the expected outcome (Vroom et al. 1983). The expectancy theory seeks to elicit factors that shape the effort that someone puts into learning (or working), and factors that affect the effort-performance relationship.

The researcher expects that the inclusion of SBA as part of the final scores for grading learners in public (PTE) examination creates in learners the perception that assessment has been undertaken and is incomplete rather than one not yet begun. The learners are therefore expected to be more committed in completing the task of assessment by completing their learning programme. It is further expected that learners who have achieved higher SBA scores would be more motivated to achieve similarly higher scores in the final public (PTE) examination.

## **2.7 Conceptual Framework**

Performance in both formative school based assessments and external summative examinations can be influenced by a number of factors including the extent of syllabus coverage, personal characteristics (both of students and teachers) and situational factors. In some education systems overall performance is gauged using SBA only while in others overall performance in public examinations is determined solely using the final public examination. Kellaghan (1993) reports that a number of countries run assessment systems that also include measures of SBA. These include Australia, Canada, Chile, Costa Rica, Egypt, Finland, France, the Netherlands, New Zealand, United Kingdom and the United States. Currently such systems are also in use in Kenya, Lesotho, Uganda and Ghana.



*Figure 1.* Framework on Linking SBA with public (PTE) Examination

The low SBA scores could be an indicator that a learner needs some remedial measures so as to improve in subsequent assessments. Such intervention measures could make the learner achieve higher SBA scores in subsequent tests. The SBA scores, low or high, could determine the extent of motivation of the learner and hence influence his/her performance in the final public (PTE) examination.

### **3.0 CHAPTER THREE: RESEARCH METHODOLOGY**

#### **3.1 Introduction**

In this chapter the researcher outlines the study design, target population, sample and sampling procedure of the study. The data collection, data analysis and ethical issues are also addressed in this chapter.

#### **3.2 Study Design**

The study involved nonexperimental research design. Nonexperimental research designs describe phenomena and examine relationships between different phenomena without any direct manipulation of conditions that are experienced (McMillan & Schumacher, 2010). Specifically, the research study used a combination of the survey and secondary data analysis designs. The secondary data analysis may also be referred to as archival research. Cozby (2004) defines archival research as the use of existing sources of information for research. These sources include statistical records, survey archives, and written records. The test score records available at the Kenya National Examinations Council were used. The secondary data analysis involved computation of means, and Pearson correlation coefficients to examine the relationship between SBA and Final examination scores. The survey research design involved selection of a sample of students and teachers in public Primary Teacher Education (PTE) training colleges to whom questionnaires were administered to collect data. Descriptive statistics such as frequencies and percentages were used to analyse responses to the questionnaire items.

### **3.3 Target Population**

McMillan and Schumacher (2010) also state that, target population is a group of elements or cases, whether individuals, objects or events, that conform to specific criteria and to which the results of the research can be generalized. The list of elements from which the sample is actually selected is the *survey population* or *sampling frame*. The target population for this study consisted of all the 19,402 students who sat for the PTE examination in the year 2011 and about 2,050 teachers in the PTE colleges in the country. The sampling frame consisted of 9,352 students drawn from public PTE colleges who sat for the year 2011 examination and about 1,070 teachers in the public PTE colleges. In addition, the scores of students who sat for the PTE examination in the year 2008 and 2010 constituted the target population for the correlation design aspect of the population. The 8,070 and 8,552 students of the public PTE colleges who sat for the examination in the year 2008 and 2010 respectively constituted the sampling frame.

### **3.4 Sample and Sampling Procedures**

A sample is a smaller group obtained from the accessible population. In this case, the sample was selected to be a representative of the whole population with salient characteristics. Gay (1983) suggests that for descriptive studies, 10% of the accessible/target population is enough. However, according to Best (1992), an ideal sample should be large enough to serve as an adequate representation of the population of which the research wishes to generalize.

Simple random sampling was used to increase the chances of obtaining a representative sample. According to Vernoy and Kyle (2002), random sampling assumes that everyone in the population of interest is equally likely to be chosen as a participant and that all participants are chosen by some completely random process.

As already indicated, the sample frame of the study for the survey design aspect was 9,352 second year students enrolled for PTE examination in the 18 public TTCs in Kenya and 1,070 teachers in the same colleges. Six colleges were randomly selected from the 18 public TTCs which represent thirty per cent of all the colleges. From each of the 6 selected colleges, 160 students were randomly selected, making a total of 960 students which is 10% of the all 9,352 students enrolled in the public TTCs. The teachers selected to participate in the study were 150 from each of the 6 colleges. In addition, all the 8,070 and 8,552 students of public PTE colleges who sat for PTE examination in the year 2008 and 2010 respectively were selected as sample for the study. A total of 132 teachers' and 721 students' questionnaires – representing 92% and 78% respectively – were returned and used for analysis as shown in table 1.

*Table 1. Demographics of respondents by number and percentage*

Item	Attribute.	Frequency	Per cent
<b>Students' personal data (n= 721)</b>			
Gender	Male	412	57
	Female	309	43
Age bracket	Below 25 years	542	75.5
	25 - 30	146	20.2
	31-34	30	4.2
	35 and above	3	0.4
<b>Teachers' Personal Data (n = 132)</b>			
Gender	Male	44	33
	Female	88	67
Age bracket	Below 25 years	20	15.2
	26-44	56	42.4
	45-49	36	27.3
	50 and above	20	15.2
Professional qualification	M.ED	32	24.2
	B.ED	48	36.4
	PGDE	44	33.3
	Other	8	6.1
Teaching experience	Up to 5years	8	6.1
	6-10	16	12.1
	11-16	24	18.2
	16 -20	28	21.2
	20 and Above	56	42.4
In-service training in test development and administration	Trained	42	36.4
	Not trained	80	60.6

Source: Field data



### **3.5 Data Collection Instruments**

Data collection was carried out using the students' questionnaire and teachers' questionnaire. The students' questionnaire was administered to the second year students in the selected public PTE colleges. The questionnaire consisted of both closed-ended and open-ended questions. The questions sought the student's personal details and the student's perception on the impact of SBA on performance in public examinations. Students were asked their views on the proportion of SBA to final public examination in determining the grades in public examinations.

On the other hand, the teachers' questionnaire was administered to the selected teachers in public PTE colleges. The structured open-ended questions enabled the interviewees to elaborate their views for clarity of information. Teachers were asked to give their views on the inclusion of SBA to form part of the final examination grades of the learners.

The questionnaires were structured into three sections. Section A sought for biographical information of the participants with variables such as; gender, location of college. Section B contained structured and semi-structured (closed ended and open-ended) questions which were meant to elicit responses from teachers' and students' in order to capture their perception and opinion about integration of SBA as part of final public examination grades. Section C contained questions, on a Likert type scale, which were meant to elicit teachers' and students' responses. This items were in a five point Likert type scale (*Strongly Agree-SA; Agree-A; Undecided-U; Disagree-D and Strongly Disagree-SD*) where *SA-5; A-4; U-3; D-2 and SD-1*.

#### **1.1 Data Collection Procedure**

The researcher sought a research permit from the permanent secretary, Ministry of Higher Education, Science and Technology (MOHEST), before embarking on the actual fieldwork. The

researcher then made appointments with principals and teachers for the appropriate time to administer the instruments. Potential participants were approached and told that the study is an investigation of the 'Influence of School Based Assessment on Performance in PTE Examination in Public Colleges in Kenya'. The researcher then agreed with the participants on the appropriate date of collecting the filled questionnaires.

In addition, data was collected from the scores submitted to KNEC by selected public TTCs and compared with the final results recorded in the external public examinations for the last five years (2005 - 2010). The study involved collecting, analysing, and interpreting data of scores from school based assessment (SBA) also referred to as Continuous Assessment Tests (CATs), and the final Primary Teacher Education (PTE) examinations to determine the relationship between the two components. This was useful in establishing the influence of SBA scores on the performance of students in PTE examinations.

### **3.7 Validity and Reliability of the Instruments**

The instruments were piloted in one college to determine their validity and reliability. The respondents in the pilot study were not involved during the final administration of instruments. Piloting helped the researcher to find out whether the instruments could elicit the intended information. The researcher also established whether the language used was appropriate to the respondents. Where necessary, the items in the instrument were revised accordingly.

### **1.8 Data Analysis**

The data were organized and analysed using MS Excel and the Statistical Package for Social Sciences (SPSS) computer programs. The means and the Pearson product moment correlation ( $r$ ) of the SBA and final (external) examination scores were computed to examine the relationship

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between candidates' performance in the two components of the PTE examination. The combined mean scores for each subject at different weightings, the final (external) examination and SBA scores were used to assess the influence of SBA on performance in the final examination. Graphs depicting comparability of the mean scores were plotted. In addition, percentages and graphs were used to present and analyse the sample survey data to establish the pattern of responses on integration of SBA and final (external) examination scores for purposes of grading and certification.

### **3.6 Ethical Issues**

The principle of voluntary participation was strictly adhered to and the respondents were not coerced into participating in the research. Permission was sought from individual institutions participating in the study. In addition, the respondents participated with informed consent. They were informed of the purpose of the research and the likelihood of study becoming a reference document at their places of work. Protection of the identity of research participants was assured. The researcher assured respondents' of their confidentiality. For this purpose, the study does not reveal the identity of participating colleges. This remained anonymous throughout the study.

## **4.0 CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION**

### **4.1 Introduction**

The main focus of this chapter is the presentation of data, analysis and interpretation of the findings. Therefore data were analysed, interpreted and presented in relation to the relevant study objectives.

### **4.2 Relationship between SBA and final examination scores**

In order to examine the relationship between students' SBA scores and their final public examinations scores, the correlation coefficient ( $r$ ) between the exam and CAT marks for every subject for years 2008 and 2010 was computed. The Pearson product-moment correlation coefficient was used. It can assume any value from -1.00 to +1.00. A correlation coefficient of -1.00 to +1.00 indicates perfect correlation.

The comparison of the examinations means and CAT means for the years 2008 and 2010 is shown in table 2 and figures 2 and 3.

**Table 2.** Comparison of exam and CAT scores for 2008 and 2010

Paper Code	Item	2008			2010		
		No. Sat	Mean	SD	No. Sat	Mean	SD
1011 Education	Exam Mark	8,070	66.89	6.55	8,552	58.17	8.00
	Cat Mark	8,070	64.18	10.01	8,552	65.66	9.94
1012 English	Exam Mark	8,122	52.18	7.05	8,608	52.24	6.68
	Cat Mark	8,122	56.13	8.24	8,608	60.19	8.23
1013 Kiswahili	Exam Mark	8,064	53.63	7.91	8,616	53.54	6.92
	Cat Mark	8,064	59.94	8.65	8,616	63.89	8.93
1014 Physical Education	Exam Mark	8,477	49.88	8.58	8,845	53.45	8.41
	Cat Mark	8,477	55.15	9.44	8,845	62.10	10.19
2011 Mathematics	Exam Mark	4,169	64.61	10.14	4,328	66.46	8.78
	Cat Mark	4,169	62.08	10.80	4,328	65.26	9.99
2012 Science	Exam Mark	4042	59.71	8.53	4,298	53.79	7.81
	Cat Mark	4042	67.55	8.90	4,298	68.78	8.16
2013 Agriculture	Exam Mark	4,016	66.05	7.60	4,230	61.77	7.33
	Cat Mark	4,016	68.65	10.91	4,230	68.13	12.18
2014 Home Science	Exam Mark	4,088	63.89	6.81	4,300	60.97	6.70
	Cat Mark	4,088	63.60	10.87	4,300	62.98	12.13
3011 CRE	Exam Mark	3,936	68.71	9.71	4,187	55.40	8.30
	Cat Mark	3,936	72.84	9.86	4,187	71.38	11.26
3012 IRE	Exam Mark	137	68.59	7.96	134	70.93	7.97
	Cat Mark	137	76.07	12.46	134	71.68	13.15
3013 Social Studies	Exam Mark	4,045	64.26	6.56	4,326	48.95	6.18
	Cat Mark	4,045	68.59	9.55	4,326	70.04	10.88
3014 Art & Craft	Exam Mark	4,240	62.37	8.11	4,452	62.44	7.37
	Cat Mark	4,240	53.18	9.37	4,452	55.03	9.56
3015 Music	Exam Mark	4,044	64.53	12.49	4,344	69.76	10.77
	Cat Mark	4,044	64.53	13.85	4,344	61.44	14.97

Source: KNEC test score data

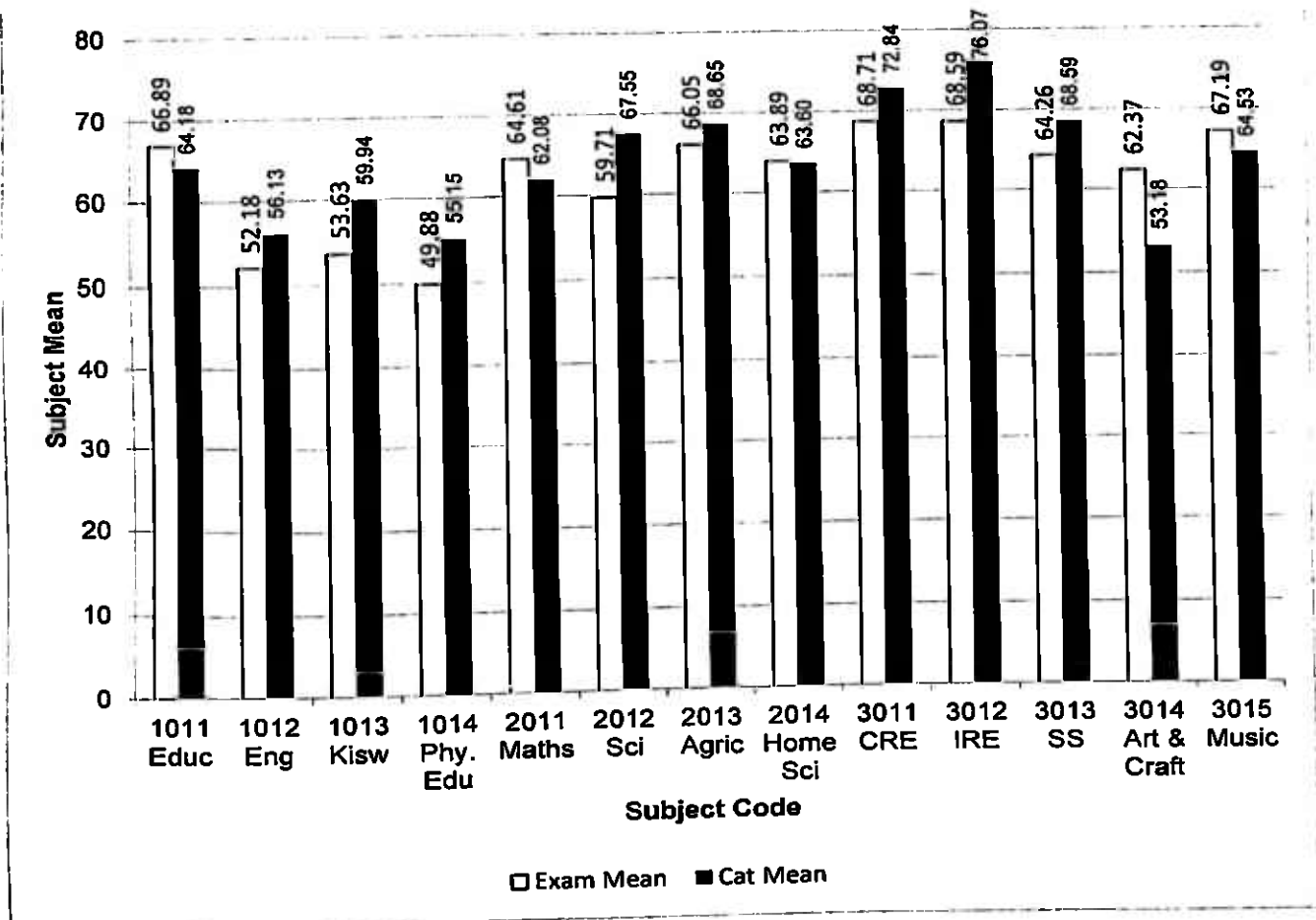


Figure 2. Examination and CAT means for the year 2008

It can be observed from table 2 and figure 2 that, in the year 2008, eight (61.54%) out of the thirteen subjects had the CAT mean scores which were higher than the examination mean scores. It can also be observed that Science had the highest percentage CAT mean score – 8 per cent – above the examination mean score. The four subjects that had examination mean scores higher than the CAT mean scores were Education, Mathematics, Art and Craft, and Music. Notably Art and Craft had the highest percentage examination mean score – 9 per cent – above the CAT mean score.

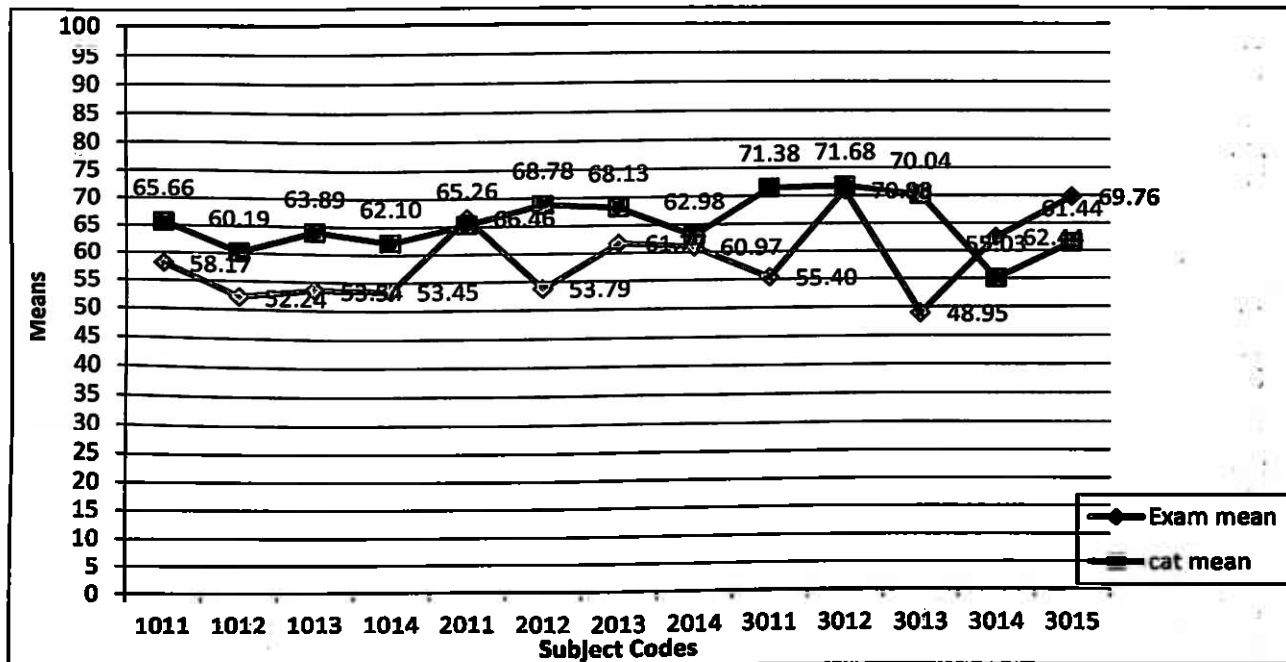


Figure 3. Examination and CAT means for the year 2010

In the year 2010, ten (76.92%) out of the thirteen papers had CAT mean scores which were higher than that of the examination mean score as shown in table 2 and figure 3.

In addition to the comparison between the CAT and examination mean scores, Pearson's correlation coefficient ( $r$ ) between the examination scores and CAT scores was computed. It is important to note that for this study the correlation is said to be significant at 0.01 level. Furthermore, the performance in the final examination and the CAT were compared by using mean scores and standard deviation with z test, at 95% confidence interval. The z test is significant when the value of the probability ( $p$ ) is greater or less than 1.96. The results of the test are shown in table 3.



Table 3. Correlation and z test of examination and CAT scores for 2008 and 2010

Paper Code	Item	No. Sat	2008			z-test (95% CI)	No. Sat	2010			z-test (95% CI)
			Mean	SD	r			Mean	SD	r	
1011 Education	Exam Mark	8,070	66.89	6.55	0.1460	-31.70	8,552	58.17	8.00	0.2034	76.40
	Cat Mark	8,070	64.18	10.01			8,552	65.66	9.94		
1012 English	Exam Mark	8,122	52.18	7.05	0.3582	45.63	8,608	52.24	6.68	0.4177	99.52
	Cat Mark	8,122	56.13	8.24			8,608	60.19	8.23		
1013 Kiswahili	Exam Mark	8,064	53.63	7.91	0.4603	64.81	8,616	53.54	6.92	0.4102	123.58
	Cat Mark	8,064	59.94	8.65			8,616	63.89	8.93		
1014 Physical Education	Exam Mark	8,477	49.88	8.58	0.3223	50.81	8,845	53.45	8.41	0.4060	85.46
	Cat Mark	8,477	55.15	9.44			8,845	62.10	10.19		
2011 Maths	Exam Mark	4,169	64.61	10.14	0.6061	-13.65	4,328	66.46	8.78	0.5651	-7.67
	Cat Mark	4,169	62.08	10.80			4,328	65.26	9.99		
2012 Science	Exam Mark	4,042	59.71	8.53	0.2061	51.01	4,298	53.79	7.81	0.3041	111.35
	Cat Mark	4,042	67.55	8.90			4,298	68.78	8.16		
2013 Agriculture	Exam Mark	4,016	66.05	7.60	0.3332	17.41	4,230	61.77	7.33	0.2498	43.04
	Cat Mark	4,016	68.65	10.91			4,230	68.13	12.18		
2014 Home Science	Exam Mark	4,088	63.89	6.81	0.2093	-2.13	4,300	60.97	6.70	0.1944	14.72
	Cat Mark	4,088	63.60	10.87			4,300	62.98	12.13		
3011 CRE	Exam Mark	3,936	68.71	9.71	0.3434	23.03	4,187	55.40	8.30	0.1607	100.77
	Cat Mark	3,936	72.84	9.86			4,187	71.38	11.26		
3012 IRE	Exam Mark	137	68.59	7.96	0.2121	4.12	134	70.93	7.97	0.0986	0.38
	Cat Mark	137	76.07	12.46			134	71.68	13.15		
3013 Social Studies	Exam Mark	4,045	64.26	6.56	0.3138	34.48	4,326	48.95	6.18	0.2601	173.86
	Cat Mark	4,045	68.59	9.55			4,326	70.04	10.88		
3014 Art & Craft	Exam Mark	4,240	62.37	8.11	0.2684	-63.24	4,452	62.44	7.37	0.3664	-56.57
	Cat Mark	4,240	53.18	9.37			4,452	55.03	9.56		
3015 Music	Exam Mark	4,044	67.19	12.49	0.3360	-10.91	4,344	69.76	10.77	0.4012	-38.67
	Cat Mark	4,044	64.53	13.85			4,344	61.44	14.97		

Source: KNEC test score data

It can be observed from table 3 that: firstly, for the year 2008, the correlation coefficient between the examination scores and CAT scores lie between 0.1460 and 0.4603 in all the subjects except

in, subject code 2011, Mathematics that had a coefficient of 0.6061. This implies that even though there is a positive correlation between the examination and the CAT scores, this correlation is ranges between weak and moderate. Secondly, there is a significant difference between the performance of candidates in examination and CAT except in, subject code 3012, IRE in the year 2010 as shown by the z test. Thirdly, the performance in CAT is better than in examination in eighteen out of the twenty six subjects of the year 2008 and 2010 combined. Fourthly, the CAT scores on their own may not be true reflection of the candidates' abilities given that the correlation between candidates' examination and CAT scores is weak.

The mean and standard deviation of examination and CAT scores were compared at two different weightings. Table 4 shows the weighting of examination and CAT scores at a ratio of examination to CAT score of 70:30 and 50:50.

Table 4. Correlation between Exam and CAT Scores for 2008 and 2010

Paper Code	Item	2008				2010			
		No. Sat	Mean	SD	r	No. Sat	Mean	SD	r
1011 Education	Exam Mark	8,070	66.89	6.55		8,552	58.17	8.00	
	Cat Mark	8,070	64.18	10.01	0.1460	8,552	65.66	9.94	0.2034
	combine 70:30	8,070	66.11	5.80	0.8644	8,552	60.50	6.78	0.9117
	combine 50:50	8,070	65.59	6.29	0.6346	8,552	62.05	6.79	0.7305
	Exam Mark	8,122	52.18	7.05		8,608	52.24	6.68	
1012 English	Cat Mark	8,122	56.13	8.24	0.3582	8,608	60.19	8.23	0.4177
	combine 70:30	8,122	53.40	6.23	0.9319	8,608	54.69	6.06	0.9346
	combine 50:50	8,122	54.21	6.24	0.7971	8,608	56.32	6.15	0.8114
	Exam Mark	8,064	53.63	7.91		8,616	53.54	6.92	
1013 Kiswahili	Cat Mark	8,064	59.94	8.65	0.4603	8,616	63.89	8.93	0.4102
	combine 70:30	8,064	55.56	7.07	0.9480	8,616	56.71	6.35	0.9290
	combine 50:50	8,064	56.84	6.99	0.8440	8,616	58.82	6.53	0.8000
2011 Mathematics	Exam Mark	4,169	64.61	10.14		4,328	66.46	8.78	
	Cat Mark	4,169	62.08	10.80	0.6061	4,328	65.26	9.99	0.5651
	combine 70:30	4,169	63.89	9.39	0.9626	4,328	66.15	8.15	0.9546
	combine 50:50	4,169	63.41	9.33	0.8905	4,328	65.94	8.20	0.8700
	Exam Mark	4,042	59.71	8.53		4,298	53.79	7.81	
2012 Science	Cat Mark	4,042	67.55	8.90	0.2061	4,298	68.78	8.16	0.3041
	combine 70:30	4,042	62.09	6.99	0.9306	4,298	58.34	6.57	0.9403
	combine 50:50	4,042	63.68	6.70	0.7707	4,298	61.37	6.31	0.8069
2013 Agriculture	Exam Mark	4,016	66.05	7.60		4,230	61.77	7.33	
	Cat Mark	4,016	68.65	10.91	0.3332	4,230	68.13	12.18	0.2498
	combine 70:30	4,016	66.84	7.12	0.9014	4,230	63.69	7.00	0.8628
	combine 50:50	4,016	67.36	7.61	0.7381	4,230	64.96	7.85	0.6602
	Exam Mark	4,088	63.89	6.81		4,300	60.97	6.70	
2014 Home Science	Cat Mark	4,088	63.60	10.87	0.2093	4,300	62.98	12.13	0.1944
	combine 70:30	4,088	63.81	6.30	0.8626	4,300	61.57	6.47	0.8345
	combine 50:50	4,088	63.75	6.98	0.6490	4,300	61.97	7.47	0.6062
	Exam Mark	3,936	68.71	9.71		4,187	55.40	8.30	
3011 CRE	Cat Mark	3,936	72.84	9.86	0.3434	4,187	71.38	11.26	0.1607
	combine 70:30	3,936	69.99	8.25	0.9441	4,187	60.30	7.08	0.8939
	combine 50:50	3,936	70.84	7.94	0.8919	4,187	63.56	7.29	0.8014
	Exam Mark	137	68.59	7.96		134	70.93	7.97	
3012 IRE	Cat Mark	137	76.07	12.46	0.2121	134	71.68	13.15	0.0986
	combine 70:30	137	70.90	7.29	0.8713	134	71.15	7.14	0.8355
	combine 50:50	137	72.45	7.96	0.6627	134	71.30	8.02	0.5780
	Exam Mark	4,045	64.26	6.56		4,326	48.95	6.18	
3013 Social Studies	Cat Mark	4,045	68.59	9.55	0.3138	4,326	70.04	10.88	0.2601
	combine 70:30	4,045	65.61	6.05	0.8990	4,326	55.38	5.93	0.8649
	combine 50:50	4,045	66.51	6.47	0.7302	4,326	59.67	6.65	0.6659
	Exam Mark	4,240	62.37	8.11		4,452	62.44	7.37	
	Cat Mark	4,240	53.18	9.37	0.2684	4,452	55.03	9.56	0.3664
3014 Art & Craft	combine 70:30	4,240	59.66	6.94	0.9233	4,452	60.31	6.64	0.9216
	combine 50:50	4,240	57.85	6.90	0.7654	4,452	58.88	6.85	0.7791
	Exam Mark	4,044	67.19	12.49		4,344	69.76	10.77	
	Cat Mark	4,044	64.53	13.85	0.3360	4,344	61.44	14.97	0.4012
3015 Music	combine 70:30	4,044	66.42	10.85	0.9328	4,344	67.28	10.21	0.9153
	combine 50:50	4,044	65.89	10.76	0.7856	4,344	65.62	10.83	0.7744

Source: KNEC test score data

From table 4 it can be observed that the mean of the combination of the examination and CAT scores is better at the ratio 50:50 than 70:30, when the CAT mean is greater than examination mean.

Since in most of the cases – CAT means are better than examination means – the candidates mean performance is better when the weighting is at 50:50. However, it can also be observed that the correlation between CAT scores and examination scores is stronger when marks are combined at the ratio of 70:30 than at the ratio of 50:50. For example, for the subject, code 2012, Science, the correlation before combining the marks is 0.20. The correlation after combining the scores at the ratio of examination to CAT score of 70:30 is 0.93 and at 50:50 it decreases to 0.77. Therefore, the marks combined at the ratio 70:30 give a better reflection of candidates' performance.

#### **4.3 Effect of students' SBA scores on their performance in PTE examination**

To establish the effect of students' SBA scores on their performance in final PTE examination, the researcher compared the mean scores of four subjects as a result of different weighting as per the following ratios of examination score to CAT score; 70: 30, 60:40 and 50:50 for the years 2008 and 2010. The means and standard deviations of the candidates combined marks using different weighting was computed for the candidates who had both examination and CAT marks. The means and the standard deviations are in table 5.

**Table 5. Effect of different weighting on candidates' performance in final examination**

Subject		2008					2010				
		Exam	cat	70:30	60:40	50:50	Exam	cat	70:30	60:40	50:50
1011 Education	No. Sat	8070	8070	8070	8070	8070	8550	8554	8554	8554	8554
	Mean	66.89	64.30	66.11	65.85	65.59	58.17	65.91	60.47	61.25	62.02
	S D	6.55	9.82	5.80	5.95	6.29	8.00	9.52	6.87	6.79	6.88
1012 English	No. Sat	8122	8122	8122	8122	8122	8608	8702	8702	8702	8702
	Mean	52.18	56.24	53.396	53.8	54.21	52.25	60.19	54.23	55.09	55.94
	S D	7.05	8.07	6.2282	6.173	6.237	6.68	8.23	7.45	7.256	7.164
1013 Kiswahili	No. Sat	8064	8064	8064	8064	8064	8616	8705	8705	6705	8705
	Mean	53.63	60.06	55.558	56.2	56.84	53.54	63.89	56.26	57.35	58.44
	S D	7.91	8.45	7.0724	6.98	6.991	6.918	8.934	7.712	7.567	7.533
2011 Mathematics	No. Sat	8338	8338	8338	8338	8338	4328	4328	4328	4328	4328
	Mean	64.62	62.19	63.893	63.65	63.41	66.48	65.4	66.15	66.05	65.94
	S D	10.14	10.67	9.3911	9.313	9.325	8.736	9.804	8.147	8.129	8.204

Source: KNEC test score data

From the data above it can be noted that when the mean of the CAT marks is greater than the mean of examination marks the combined mark means weighting at 70:30 is less than 60:40 which is also less than 50:50 and vice versa. The effect of different weighting was done with respect to the KNEC grading of examination mark to CAT mark of 70:30. This weighting of 70:30 was compared to the weighting of 60:40 and 50:50 in each subject. The changes of mark deviation were interpreted as follows:

Deviation of  $\pm 2$  is negligible and will not result in the change of grade;

Deviation of between 3 and 5 will result in a positive change by one grade;

Deviation of 6 and above will result in a positive change by two grades;

Deviation of between -3 and -5 will result in a negative change by one grade;

Deviation -6 and below will result in a negative change by two grades;

**Table 6. Effect of different weighting on grades in Education for 2010**

Deviation Score	Ratio 60:40	% Grade Change	Ratio 50:50	% Grade Change
-6 to -9	0	0.00	21	0.25
-3 to -5	34	0.40	263	3.08
-2 to 2	7994	93.45	5370	62.78
3 to 5	525	6.14	2606	30.47
6 to 12	1	0.01	294	3.44

It can be observed from table 6 that the scores deviation with the weighting of 60:40 ranges from -4 to 6 marks while the scores deviation with the weighting of 50:50 ranges from -9 to 12 marks. It can be further observed that if weighting is 60:40, 93.45% of the candidates' grades will remain the same, 6.14% of the candidates' grades will improve by one grade, and 0.01% of the candidates' grades will improve by two grades. If weighting is 50:50, 62.78% of the candidates' grades will remain the same, 30.47% of the candidates' grades will improve by one grade, 3.44% of the candidates' grades will improve by two grades, 3.07% of the candidates' grades will drop by one point and 0.25% of the candidates' grades will drop by two points.

**Table 7. Effect of different weighting on grades in Mathematics for 2010**

Deviation Score	Ratio 60:40	% Grade Change	Ratio 50:50	Grade Change
-6 to -10	0	0.00	29	0.67
-3 to -5	39	0.90	331	7.66
-2 to 2	4278	98.84	3742	86.46
3 to 5	11	0.25	223	5.15
6 to 9	0	0.00	3	0.07

From table 7 it can be observed that: firstly, the scores deviation with the weighting of 60:40 ranges from -5 to 5 marks while the scores deviation with the weighting of 50:50 ranges from

-10 to 9 marks. Secondly, if weighting is 60:40, 98.84% of the candidates' grades will remain the same, and 0.25% of the candidates' grades will improve by one grade. Thirdly, if weighting is 50:50, 86.46% of the candidates' grades will remain the same, 5.15% of the candidates' grades will improve by one grade, and 0.07% of the candidates' grades will improve by two grades.

*Table 8. Effect of different weighting on grades in English for 2010*

<b>Deviation Score</b>	<b>Ratio 60:40</b>	<b>% Grade Change</b>	<b>Ratio 50:50</b>	<b>% Grade Change</b>
-6 to -7	0	0.00	6	0.07
-3 to -5	12	0.14	51	0.59
-2 to 2	8441	98.06	6072	70.54
3 to 5	155	1.80	2427	28.19
6 to 9	0	0.00	52	0.60

Table 8 shows that the scores deviation at the weighting of 60:40 ranges from -4 to 5 marks while the marks deviation at the weighting of 50:50 ranges from -7 to 9 marks. If weighting is 60:40, then 98.06% of the candidates' grades will remain the same, 1.80% of the candidates' grades will improve by one grade while if weighting is 50:50, 70.54% of the candidates' grades will remain the same, 28.19% of the candidates' grades will improve by one grade, and 0.60% of the candidates' grades will improve by two grades.

**Table 9. Effect of different weighting on grades in Kiswahili for 2010**

<b>Deviation Score</b>	<b>Ratio 60:40</b>	<b>% Grade Change</b>	<b>Ratio 50:50</b>	<b>% Grade Change</b>
-3 to -6	7	0.08	44	0.48
-2 to 2	8153	94.59	5109	59.30
3 to 5	459	5.33	3250	37.72
6 to 8	0	0.00	216	2.51

From the table 9, we note that the scores deviation with the weighting of 60:40 ranges from -3 to 4 marks, the marks deviation with the weighting of 50:50 ranges from -6 to 8 marks, if weighting is 60:40, then 94.59% of the candidates' grades will remain the same, 5.33% of the candidates' grades will improve by one grade, 0.08% of the candidates' grades will drop by one point and if weighting is 50:50, then 59.30% of the candidates' grades will remain the same, 37.72% of the candidates' grades will improve by one grade, 2.51% of the candidates' grades will improve by two grades, 0.43% of the candidates' grades will drop by one point and 0.05% of the candidates' grades will drop by two points.

#### **4.4 Views of students and teachers on integration of SBA and final PTE scores**

To establish the perception of students and teachers on the effect of SBA on final PTE examination grades both students and teachers were requested to give their view on a number of statements.

##### **4.6.1 Students' views on integration of SBA and final examination scores**

For students, the statements and their respective responses are as shown in table 10:



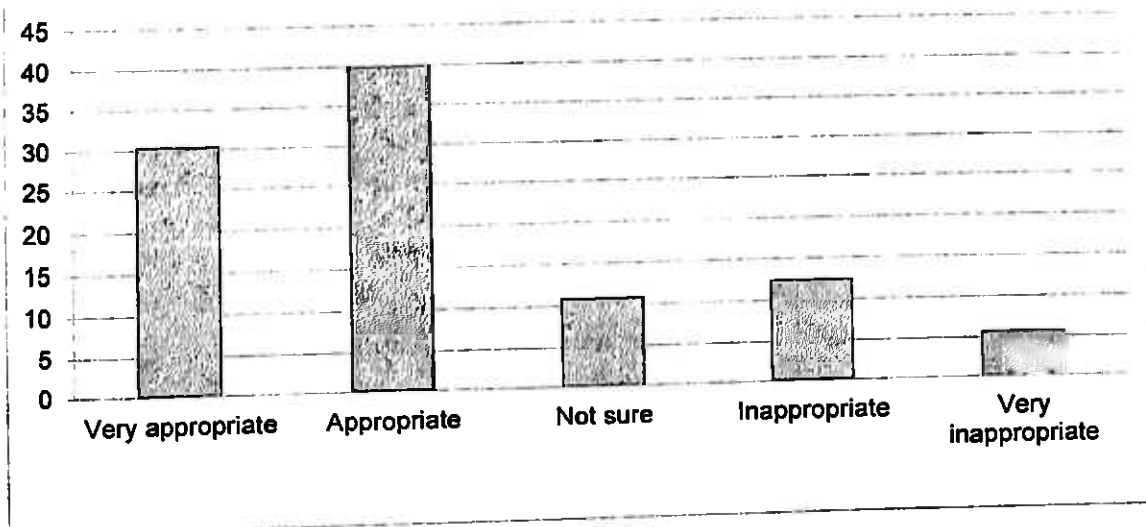
**Table 10. Percentages of students' views on combining SBA and final PTE scores**

Item No.	Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
10.1	Accumulation of SBA scores for inclusion in final grades after the course will enhance learning and performances	39.6	31.8	8.8	10.1	9.7
10.2	SBA alone is enough to reflect the potential and performance of a student	27.1	19.6	3.2	39.8	10.3
10.3	External examinations alone will reflect potential and performance of a student	18.6	9.7	8.1	39.1	24.5
10.4	SBA is organized and conducted satisfactorily	38.1	39.5	6.1	12.1	4.2
10.5	SBA helps students to understand complex concepts and skills.	43.6	45.5	1.0	7.1	2.8
10.6	SBA motivates students to perform better in external examinations.	43.9	47.7	2.6	2.6	3.2
10.7	School based assessment improves teaching as well as curriculum delivery.	36.8	45.3	8.6	4.8	4.5
10.8	School based assessments have positive impact on entire school academic evaluation system.	36.9	50.1	2.8	5.1	4.9

Source: Field data

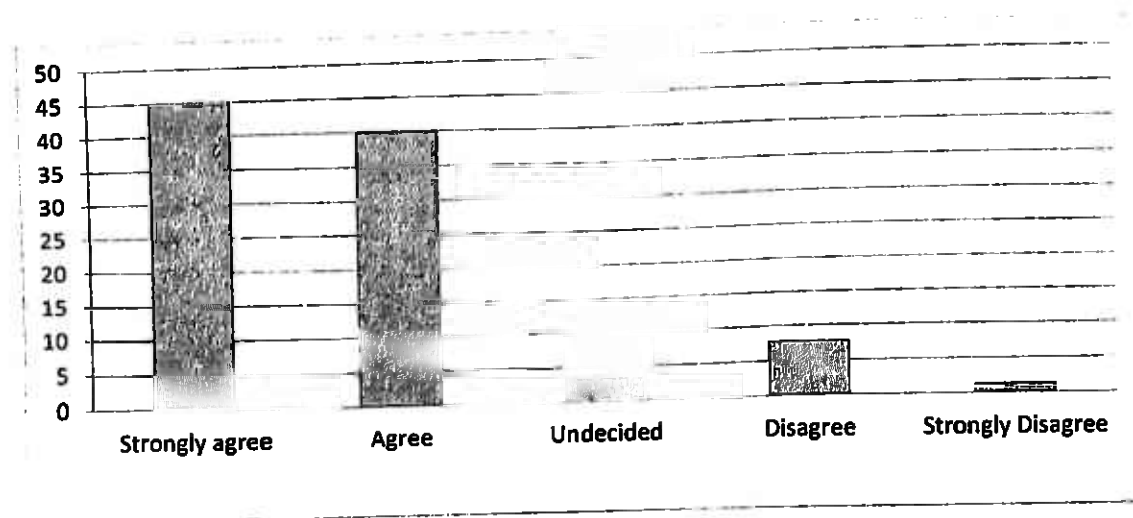
From the data on table 10, it can be observed that 71.4% of the respondents have a positive attitude towards SBA while 19.8% have negative attitude. On the ability of SBA alone to reflect the potential and performance of a student there is divided opinion as 47% feel it can while on the other hand 50% feel it cannot. The possible reasons advanced for its lack of ability include lack of standardization in the tests, inadequate administration and uncoordinated marking among others. A total of 65% feel that external examinations alone cannot reflect the potential and performance of a student. On the other hand 28% feel it can. On the level of satisfaction with the way SBA is conducted, 78 % indicated that they are satisfied by the way the SBA is conducted in their colleges whereas 16% are dissatisfied.

Table 10 further shows that a total of 640- representing 89% of the respondents- agree that SBA helps students to understand complex concepts and skills. On the other hand only 71 respondents representing 10% of the respondents disagree. A great majority, 91.6%, agrees that SBA motivates them to work hard hence perform better in national examinations while only 5.6% feel they do not motivate. This is despite the weaknesses of SBA as enumerated in section 4.3. On the ability to improve teaching, 82% of the respondents feel SBA helps to improve teaching while on the other hand 9% feel it does not. A total of 627 respondents representing 87% of the respondents feel that SBA positively impacts on the entire school academic evaluation system. On the other hand 10% feel it does not.



*Figure 4. Appropriateness of the ratio 30:70 between SBA and PTE examination*

On the appropriateness of the ratio of 30:70 between SBA to PTE exam 70% felt it is appropriate, however 18% felt it is inappropriate.



*Figure 5. SBA and performance in national examination*

On improving students' performance on later tests including external national examinations, 87% feel that SBA enables students to improve in later tests while only 9% feel it does not. This could

be attributed to the fact that SBA enables students to identify their areas of weakness and hence work to improve on them.

#### 4.6.2 Teachers' views on integration of SBA and final examination scores

The following were the responses from teachers on the given statements:

*Table 11. Percentages of teachers' views on combining SBA and final PTE scores*

Item No.	Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
11.1	Accumulation of SBA scores for inclusion in final grades after the course will enhance learning and performance	42.4	51.5	0.0	6.1	0.0
11.2	SBA alone is enough to reflect the potential and performance of a student	6.1	18.2	9.1	36.4	30.3
11.3	External examinations alone will reflect potential and performance of a student	0.0	12.1	0.0	48.5	39.4
11.4	SBA is organized and conducted satisfactorily	9.4	68.8	6.3	12.5	3.1
11.5	SBA helps students to understand complex concepts and skills	36.4	45.5	18.2	0.0	0.0
11.6	SBA motivates students to perform better in external examinations	37.5	50.0	6.3	6.3	0.0
11.8	SBA improves teaching as well curriculum delivery	38.7	48.4	6.5	6.5	0.0
11.9	School based assessments have positive impact on the entire school academic evaluation system	36.4	48.5	9.1	3.0	3.0
11.10	The ratio 30:70 between SBA and final exam is appropriate	28.1	34.4	25.0	12.5	0.0

Source: Field data

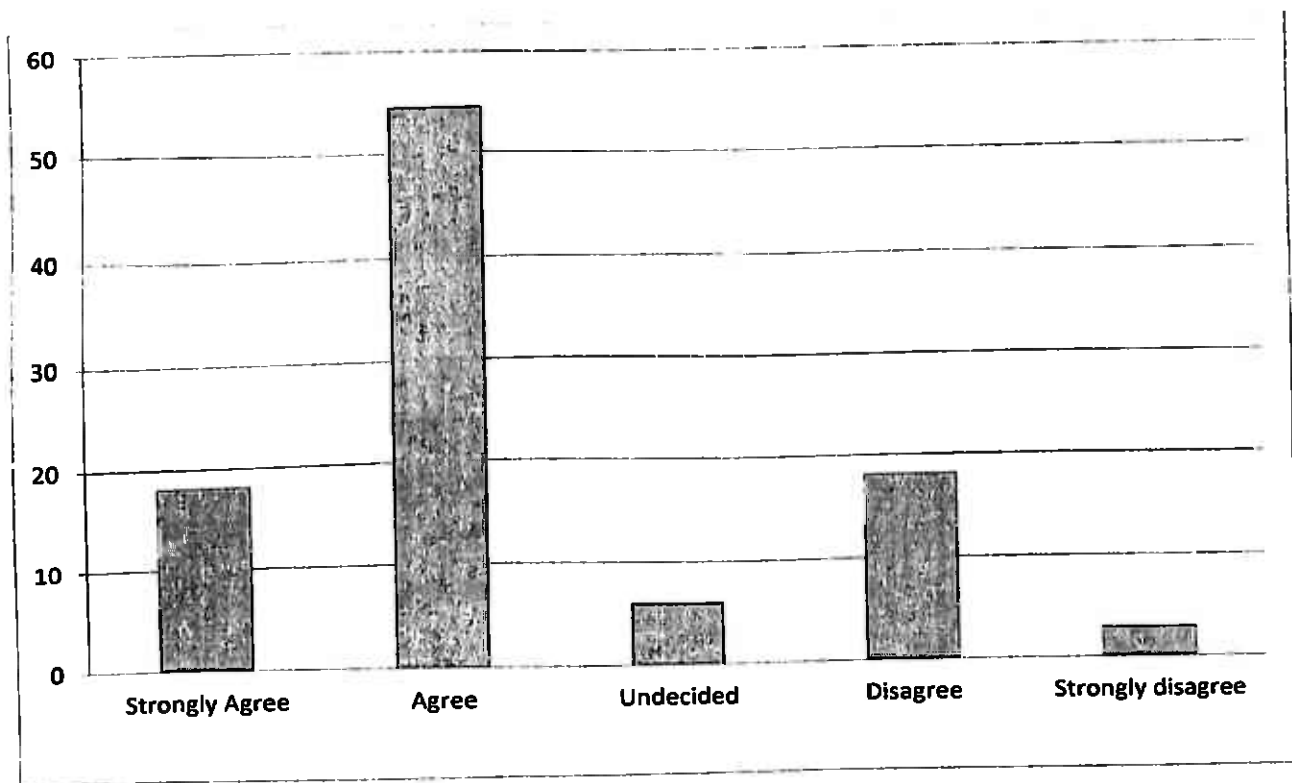
Table 11 reveals that 94% of the respondents had confidence that accumulation of SBA scores and inclusion in the final scores will improve learning and performance. From comments given in a different section of this analysis, the fact is strongly supported by a majority of the respondents suggesting that this inclusion shall improve performance. This could be an indicator that inclusion of SBA scores in the final examination scores is necessary and appropriate. From the table it can be noted that only 24% of the respondents are convinced that SBA alone is

enough to measure the potential and performance of a student. A majority (67%) of the respondents on the other hand disagree with the view that SBA alone can reflect the potential and performance of a student. This shows that SBA cannot be the sole determinant of a student's capability according to the data.

A majority of respondents rejected the view that external examinations alone can adequately reflect the performance of students. This may be attributed to various sentiments expressed in other sections of this chapter about external examination such as bias, cheating and leakages. This is also a strong suggestion that SBA should be combined with external examinations to overrule misjudgements, show the real performance of a student and at the same time build confidence in the system and curriculum of the colleges. A total of 68% of the respondents recorded their satisfaction in the SBA or CATs conducted in their respective colleges. 12% were dissatisfied and 3% were very dissatisfied with reasons given later in this chapter.

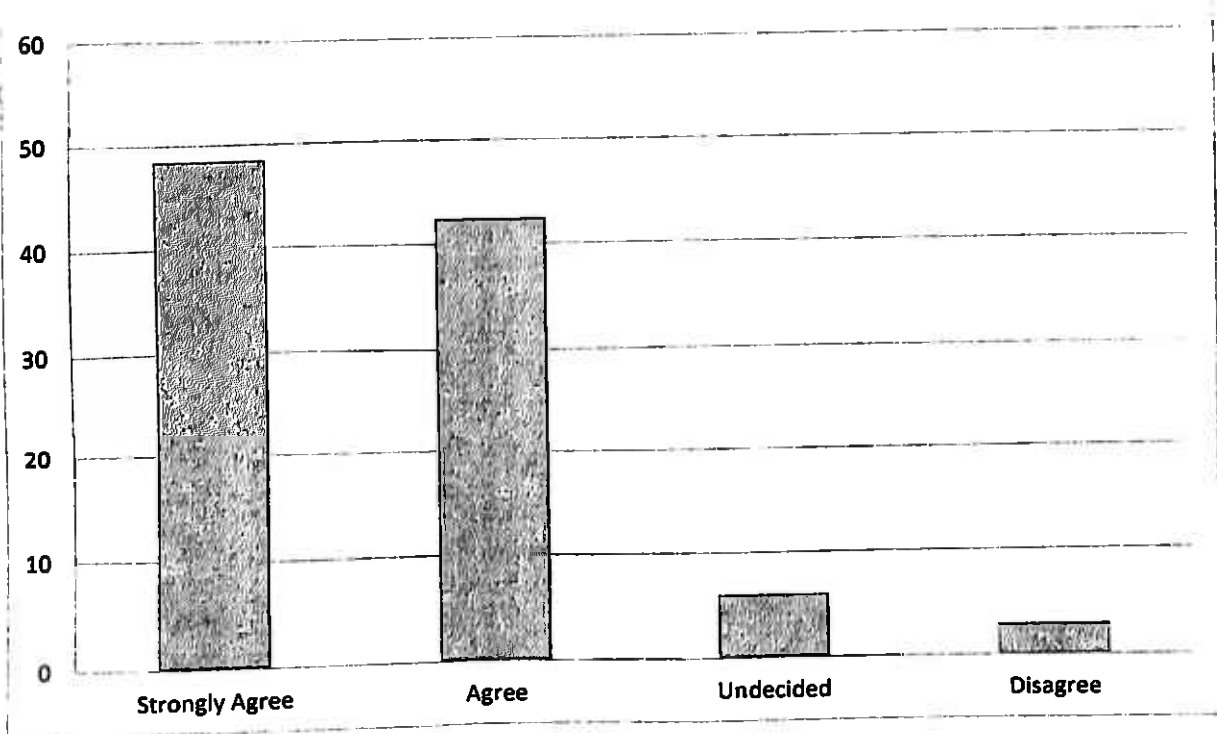
Table 11 further reveals that 82% of the respondents are of the view that SBA tests assist students in understanding complex concepts and skills. Earlier in this chapter on merits of SBA a number of respondents stated that since SBA is conducted after a topic or a given number of topics, students have time to study for the particular section taught and this enables them grasp concepts section by section hence good performance in the later examinations. The analysis indicates that a total of 88% of the respondents are of the opinion that SBA motivates students to perform better in final external examination. From the table 87.1% agree that SBA improves teaching as well as curriculum delivery while on the hand only 6.5% disagree. This could be attributed to the fact that SBA enables both teachers and students to identify areas of weakness hence organize remedial lessons and vary teaching-learning methods to enhance effective learning. On the

impact of SBA on the entire school academic evaluation system, 84.8% feel it positively impacts on the evaluation system. This is more so in institutions where SBA tests are given frequently, records well kept, results interpreted and used. A total of 63% of the respondents feel indicated that the ratio is appropriate. Only 13 % mentioned the inappropriateness of the combination. Notably 25% are not sure whether or not the ratio is appropriate.



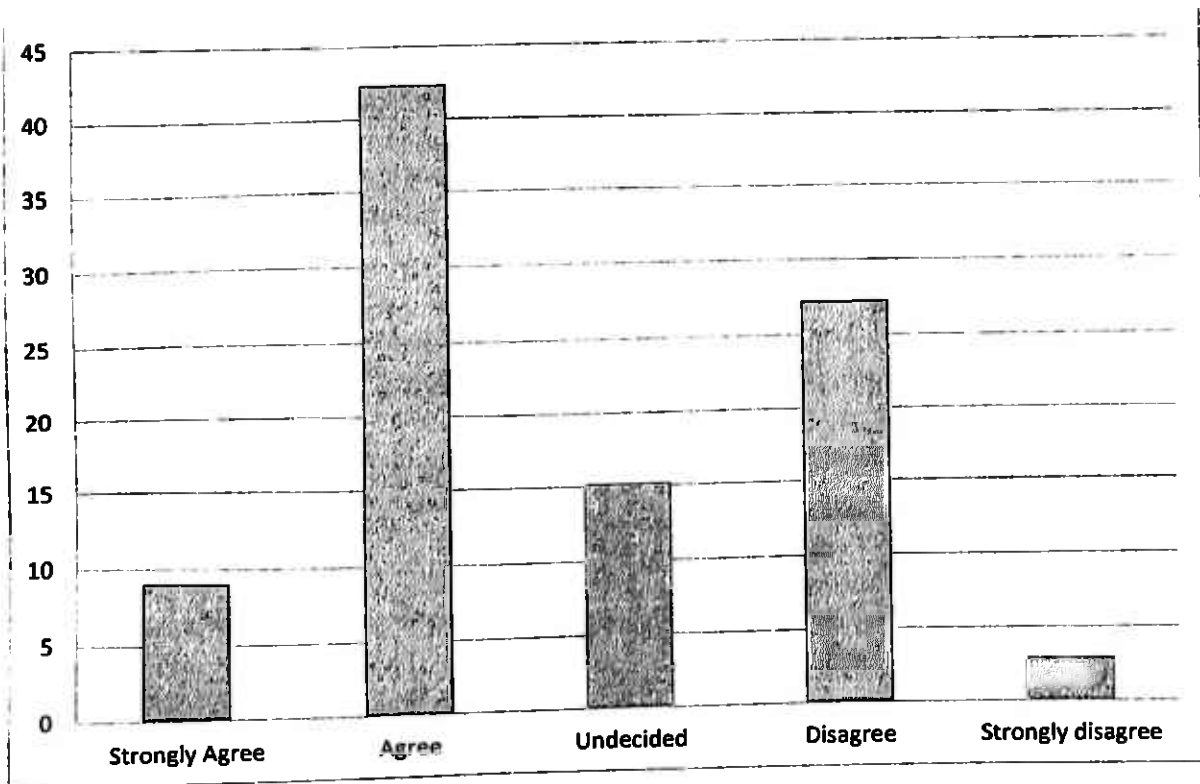
*Figure 6. SBA as a sole measure of learning outcome at the end of a course*

A large Percentage of teachers agree that SBA tests are not standardized hence cannot reflect the learning outcome at the end of the course. This is also in tandem with other sentiments raised by students where a good number recorded also the same view.



*Figure 7. SBA tests and performance in national examination*

The figure illustrates that 90% of the respondents agree that taking SBA tests improves the performance on later tests including the external national examinations. This is also in line with responses given in this chapter on the merits of SBA where a teacher suggest that these tests shall engage students even more hence improving performance.



**Figure 8. Comparing students' performance in SBA and final examination**

On comparing SBA scores with the final external exam, opinion is divided as 52% were of the view that SBA scores tally with the final external exam scores. On the other hand, 32% had the view that the SBA scores did not tally with the final external exam scores. This is in agreement with the findings in section 5.1.1 where we noted that, although a good number of mean marks for specific papers in SBA and final PTE exam were close, a few of them differed widely.



## **5.0 CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter presents a discussion of the study findings. The conclusions and recommendations have been derived from the data presented, analysed and interpreted.

### **5.2 Summary of Findings**

The study sought to establish the influence of SBA on performance in the final PTE examination in public colleges in Kenya. This has been discussed under the relevant study objectives.

#### **5.2.1 Relationship between SBA and final examination scores**

From the analysis in chapter four we noted that there is a weak to moderate positive relationship between students' SBA scores and their final PTE examinations. The implication is that a student who scored high marks in SBA also scored high marks in the final PTE examination. Conversely, a candidate who scored low marks in SBA also scored low marks in the final PTE examination.

On comparing the means of SBA and final PTE marks, we note that papers whose SBA mean marks were high, recorded correspondingly high mean marks in the final PTE examinations. Conversely those that had low mean marks in SBA recorded corresponding low mean marks in the final PTE examination.

#### **5.2.2 The effect of SBA on performance in final examination**

The effect of the SBA scores on performance in final PTE examination depends on whether the examination mean is lower or higher than the SBA mean. Where the SBA mean is higher than the examination mean, combining the two components led to higher grades for candidates in the final examination.

It was also evident that as the weighting of the SBA to the final examination increased, the effect of SBA on final examination scores and grades also increased. For example, in the case of year 2010 results for Education–subject code 1011– if weighing of final examination to SBA is 60:40 then only 6.14% of the candidates' grades improve by 1 grade but if the weighing is 50:50 then 30.47% of the candidates' grades improve by 1 grade.

### **5.2.3 Views of students and teachers on the effect of SBA**

From the results enumerated in chapter four, both students and teachers feel that SBA scores should be combined with the final PTE examination scores of candidates. Students feel this should be so because inclusion of SBA scores in final grades will enhance learning and performance in final exams and that it helps students understand complex concepts and skills; motivates students to perform better in external exams; helps in improving teaching as well as curriculum delivery; and has a positive impact on the entire school academic evaluation system. This is more so in colleges where both teachers and students take the continuous assessment seriously and the process is objectively undertaken.

Generally, the respondents have a positive attitude towards SBA and appreciate its inclusion in the final grading of PTE examination and are satisfied with the ratio of 30: 70 for SBA to final PTE examination. This may be because of the fact that although SBA is supposed to test all areas of the syllabus in each subject, in its present form it is not standardized and there is no moderation and coordination during marking. This makes it somehow subjective and hence fails to be reliable. This is reinforced by the fact the comparison of mean scores showed that in most cases the mean scores for CATs were higher than those of the corresponding final PTE examinations.

### **5.3 Conclusion**

From the study we can conclude that SBA scores are positively related to the final PTE examination scores such that they are in most cases directly proportional to each other. This implies that a candidate who scores high marks in SBA is likely to score high marks in the final PTE examination. SBA scores have a weak to moderate positive effect on the final PTE examination scores and grades of a candidate. A student who scores higher marks in SBA than a fellow student will get higher scores in the final PTE examination.

The study findings indicate that inclusion of SBA in the final grade in PTE examination enhances teaching and learning and hence improves performance of candidates. This is despite the fact that SBA tests are not standardized and sometimes marking is biased. Most students and teachers have a positive attitude towards SBA and feel that it should continue being included in the final PTE grades of students.

### **5.4 Recommendations for implementation**

Based on the findings of the study the researcher recommends that SBA should be retained and its scores be included in the final PTE grade of students. More specifically, there is need to offer in-service training to all teachers on test development, administration and marking. This will help them to develop, administer and mark standardized tests which are valid and reliable. The Kenya National Examinations Council should develop a bank of questions and forward them to colleges for administration and marking. This will enhance uniformity in the tests offered in all the colleges since the final grade should indicate the student ability across the colleges.

The ratio of final PTE examination to SBA should be retained at 70:30 since SBA in its present form has no standardized procedures for setting, moderation, administration and marking. The

study revealed that correlation between examination and SBA scores gets stronger as the ratio increases from 50:50 to 70:30. Furthermore, the study findings indicate that SBA mean scores and the almost equal the scores are combined at examination to CAT ratio of 70:30. There is need to establish policy framework on when to administer tests, the number of tests per term and the scope of the tests.

### **5.5 Recommendations for further research**

There may be need to conduct a research on the quality of SBA tests offered at Teacher Training Colleges to establish the standard of tests. A research on teachers' competency levels in testing should be done to establish deficiencies in testing hence identify the best in-service training to correct the deficiencies. In addition, further research may be undertaken to investigate the effects of the different weightings of examination to SBA on overall performance of students in public examinations.

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## APPENDICES

### Appendix 1: Students' questionnaire

#### Introduction

This study is being carried out to investigate the “**Influence of School Based Assessment on Performance in PTE Examination in Public Colleges in Kenya**”

Since you are a student in a teacher training college, for the purpose of this research, you are an important stakeholder. Your contribution to this study in form of information on the above title is very valuable to the success of this research study. You are therefore requested to volunteer to participate in this study to the best of your ability. *Your identity and personal information will be kept confidential.* Please respond to all items in the questionnaire as honestly as possible.

#### SECTION A: Biographical Information

1. What is your gender? Male [  ] Female [  ]
2. What is your age bracket? Below25 [  ] 25-30[  ] 31-34[  ] 35and above [  ]

#### SECTION B: Structured and Semi-structured Items

3. How often are you given school based tests? Please tick [] the appropriate box  
1per term [  ] 2per term [  ] 3per term [  ] 4per term [  ] Others (specify) \_\_\_\_\_
4. Rate your attitude as a student towards school based assessment (SBA) or continuous assessment tests (CATs) and their inclusion in final PTE exam?

Please tick [] the box that best reflects your attitude.

Very Positive [] Positive [] Not Sure [] Negative [] Very Negative []

5. How appropriate is the ratio of 30:70 between SBA and final PTE exam?

Please tick [] the box that best reflects your view.

Very Appropriate [] Appropriate [] Not Sure [] Inappropriate [] Very Inappropriate []

6. To what extent are you satisfied with SBA or CAT conducted in your college?

Please tick [] the box that best reflects your feeling.

Very Satisfied [] Satisfied [] Not Sure [] Dissatisfied [] Very Dissatisfied []

7. Which of the following procedures are used to obtain information of student

performance while at the College. Please tick [] the appropriate box.

- a) Written examination []
- b) Practical projects []
- c) Participation in out of class activities []
- d) Observing students while at work []
- e) Assignments []
- f) Others (specify) \_\_\_\_\_

8. What do you consider as the advantages of combining SBA scores with final PTE examination scores for purposes of grading and certification of students?

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**9. Indicate weaknesses that you may have noted in the present national external examinations for Primary Teacher Education Colleges.**

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**SECTION C: Likert Type Scale Items**

10. How much do you agree with each of the following statements? The scales are Strongly Agree, Agree, Undecided, Disagree or Strongly Disagree. For each item, please tick [√] in one box that best reflects your opinion (perception).

Item No.	Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
10.1	Accumulation of SBA scores for inclusion in final grades after the course will enhance learning and performances					
10.2	SBA alone is enough to reflect the potential and performance of a student					
10.3	External examinations alone will reflect potential and performance of a student					
10.4	SBA is not well standardized and therefore not adequate to reflect the learning outcome at the end of course.					
10.5	Taking SBA tests improves students performances on later tests including external national examinations.					
10.6	SBA helps students to understand complex concepts and skills.					
10.7	SBA motivates students to perform better in external examinations.					
10.8	School based assessment improves teaching as well curriculum delivery.					
10.9	School based assessments have positive impact on entire school academic evaluation system.					

## Appendix 2: Teachers' Questionnaire

### Introduction

This study is being carried out to investigate the **“Influence of School Based Assessment on Performance in PTE Examination in Public Colleges in Kenya”**

Since you are a teacher in a teacher training college, for the purpose of this research, you are an important stakeholder. Your contribution to this study in form of information on the above title is very valuable to the success of this research study. You are therefore requested to volunteer to participate in this study to the best of your ability. *Your identity and personal information will be kept confidential.*

Please respond to all items in the questionnaire as honestly as possible.

### Section A: Biographical Information

1. What is your gender? Male  Female
2. What is your age bracket? Below 25years  25-44years  45-54years  Over50years
3. What is your highest academic qualification? Masters  B.Ed.  PGDE

Any other (specify) \_\_\_\_\_

4. For how long have you been in the teaching profession? Less than 5years  6-10years   
11-15years  16-20years  Over 20years
5. (a) Have you received any specialized in-service training in test development and administration?

Yes [ ] No [ ]

(b) If yes, then state

(i) the duration of the course \_\_\_\_\_

(ii) where it was conducted \_\_\_\_\_

## **SECTION B: Structured and Semi-structured Items**

6. Indicate how often you do prepare and keep the following documents:

6.1 Students' progress records

Very often [ ] Often [ ] Very often [ ] Undecided [ ] Rarely [ ] Very rarely [ ]

6.2 Record of students' work

Very often [ ] Often [ ] Very often [ ] Undecided [ ] Rarely [ ] Very rarely [ ]

6.3 Continuous Assessment Tests and results

Very often [ ] Often [ ] Very often [ ] Undecided [ ] Rarely [ ] Very rarely [ ]

7. Which of the following procedures do you use to obtain information on students' performance while at the College? Please tick [✓] the appropriate box.

a) Written examination [ ]

b) Practical projects [ ]

c) Participation in out of class activities [ ]

d) Observing students while at work [ ]

e) Assignments [ ]

f) Others (specify) \_\_\_\_\_

8. To what extent are you satisfied with SBA or CAT conducted in your college?

Please tick [✓] the box that best reflects your feeling.

Very Satisfied [ ] Satisfied [ ] Not Sure [ ] Dissatisfied [ ] Very Dissatisfied [ ]

9. What weaknesses have you observed in the present SBA or CAT system in Primary Teacher Education Colleges?

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10. Indicate weaknesses that you may have noted in the present national external examinations for Primary Teacher Education Colleges.

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11. What do you consider as the advantages of combining SBA scores with final PTE examination scores for purposes of grading and certification of students?



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12. How appropriate is the ratio of 30:70 between SBA and final external exam?

Very Appropriate  Appropriate  Not Sure  Inappropriate  Very Inappropriate

### SECTION C: Likert Type Scale Items

13. How much do you agree with each of the following statements? The scales are Strongly Agree, Agree, Undecided, Disagree or Strongly Disagree. For each item, please tick [√] in one box that best reflects your opinion (perception).

Item No.	Statement	Strongly Agree	Agree	Un-decided	Disagree	Strongly Disagree
13.1	Inclusion of SBA in final grades enhances learning and performance					
13.2	SBA alone is enough to reflect the potential and performance of a student					
13.3	External examinations alone will reflect potential and performance of a student					
13.4	SBA is not well standardized and cannot adequately reflect learning outcome					
13.5	Taking SBA tests improves students performance on national examinations					
13.6	SBA helps students to understand complex concepts and skills					
13.7	SBA motivates students to perform better in external examinations					
13.8	SBA improves teaching as well curriculum delivery					
13.9	SBA has positive impact on the entire school academic evaluation system					
13.10	Performance of students in SBA tally with their performance in final exam					

**Appendix 3: 2011 PTE enrolment summary for public colleges**

<b>PTE</b>	<b>Centre Code</b>	<b>County</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Colleges</b>					
Shanzu TTC	101	Mombasa	212	254	466
Kamwenja TTC	202	Nyeri	325	219	544
Thogoto TTC	203	Kiambu	158	173	331
Kilimambogo TTC	204	Kiambu	169	374	543
Murang'a TTC	205	Murang'a	196	196	392
Machakos TTC	301	Machakos	319	277	596
Kigari TTC	302	Embu	310	425	735
Meru TTC	303	Meru	183	346	529
Egoji TTC	304	Meru	304	352	656
Kericho TTC	501	Kericho	289	325	614
Mosoroit TTC	502	Nandi	253	300	553
Moi Baringo TTC	507	Baringo	169	243	412
Tambach TTC	508	Keiyo	239	238	477
Eregi TTC	601	Kakamega	242	283	525
Kaimosi TTC	602	Vihiga	270	286	556
Asumbi TTC	703	Homa Bay	235	252	487
Migori TTC	705	Migori	276	304	580
Garissa TTC	801	Garissa	162	194	356
<b>Total</b>			<b>4311</b>	<b>5041</b>	<b>9352</b>

*Source: KNEC*

**Appendix 4: Letter of request for collection of research data**

Patrick Ochich

University of Nairobi

Department of Measurement and Evaluation

P O Box 30197

**NAIROBI**

Name of Institution:

Address:

**RE: REQUEST FOR A RESEARCH PERMIT BEFORE COMMENCEMENT OF RESEARCH WORK**

I am a post graduate student at the University of Nairobi pursuing a Master of Education in **Measurements and Evaluation**. I do hereby report to your office as required by the Ministry of Higher Education Science and Technology before starting to collect research data within your province.

Attached please find a copy of the research authorization letter.

Kindly allow me to conduct this research in your province.

Thank you.

Patrick Ochich

Cell phone: 0722350500

Email: [Ochich@yahoo.com](mailto:Ochich@yahoo.com)

**Appendix 5: Letter of introduction to the respondents**

Patrick Ochich

University of Nairobi

Department of Measurement and Evaluation

P O Box 30197

**NAIROBI**

The Respondent

**RE: INFLUENCE OF SCHOOL BASED ASSESSMENT ON PERFORMANCE IN PTE EXAMINATION IN PUBLIC COLLEGES IN KENYA**

I am a post graduate student at the University of Nairobi pursuing a Master of Education in **Measurements and Evaluation** conducting research on the above topic.

I am kindly requesting you to respond to the questionnaire attached as honestly as possible. The instrument is meant for this research only and the responses given will be treated with utmost confidentiality. Towards this end, no name of the respondent or school will be written on the instrument.

I look forward to your honest participation.

Thank you in anticipation.

Yours faithfully

Patrick Ochich

Cell phone: 0722350500

Email: [Ochich@yahoo.com](mailto:Ochich@yahoo.com)