THE INFLUENCE OF TEACHER- MOTIVATION ON PERFORMANCE OF STUDENTS IN BIOLOGY: A CASE OF BURETI SUB-COUNTY, KERICHO COUNTY, KENYA

BY

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DECLARATION

Declaration by the Student

This Thesis is my original work and has not been presented for examinations in any other University and or institution. No part of this Thesis may be reproduced or photocopied without the permission of the author and or University of Eldoret.

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This Thesis has been submitted to the school of Education for examination with our approval as university supervisors.

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DEDICATION

This work is dedicated to my husband, Mr. David Koech for his moral and financial support, as well as his encouragement, our children who motivated me and gave me encouragement to go on.

ABSTRACT

In an effort to encourage teachers to work closely with students to improve performance in their respective subjects, schools have resorted to reward good performers by use of a rewarding system commonly called motivation. The purpose of this study therefore was to investigate how motivation of teachers influences the performance of students in Biology subject in secondary schools in Bureti Sub-County, Kericho County. This study was guided byHerzberg hygiene factortheory. From this theory, a conceptual framework was developed. The study employed survey research design. Both purposive and simple random sampling procedures were used to choose the sample. Schools were chosen purposively to include those that are known to motivate their teachers and those that are easily accessible to the researcher but having same characteristics and from this population simple random sampling was done. The following instruments of research were used to collect the data: questionnaire and interview schedules. Piloting was carried out in four schools from the neighbouring Konoin Sub-County which was used purposely to determine reliability and validity of the instruments. The data collected was coded, edited for accuracy, completeness and uniformity. Data analysis and interpretation was done using both descriptive and inferential statistics such as mean, frequency pie charts, bar chart and percentages and for inferential statistics ANOVA was used. From this study it is evident that there are more male Biology teachers than the female Biology teachers who are qualified and experienced. The selection of categories of schools for this study was well represented. Majority of teachers who participated in this study were motivated. There exists teacher-motivation in many schools in Bureti district. However, teacher-motivation varies from school to school. This accounts for the disparity in the academic performance in schools which participated in this study. The study further reveals that there is varying perception of teachers who participated in this study to the various forms of teacher -motivation. The study also indicates that there is significant difference in performance between motivated and unmotivated teachers. The findings from the study obtained were used to make recommendation to the Educators, Principals, teachers and parents on how teacher motivation influences students' performance. The study proposed the following recommendations. The ministry of Education need to harmonise teachers' salaries and allowances with those of public service. The school principals and their BOM need to revalue the purpose of organizing staff-trip in terms of timing and other possibilities.

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LIST OF ABBREVIATIONS

BOM:	Board of Management
DQUAS:	Directorate of Quality Assurance
E.W&C:	Electricity, Water &Conservancy
ECD:	Economic Co-operation and Development
EMIS	Education Management Information System
FDSE:	Free Day Secondary School Education.
JICA:	Japanese International Corporation Agency
KCSE:	Kenya Certificate of Secondary Education
KITA:	Kick In the Ass
KNUT:	Kenya Union of Teachers
KUPPET:	Kenya Union of Post Primary Education Teachers
L.T.T:	Local Travel and Transport
M.O.E:	Ministry of Education
MDG:	Millennium Development Goals
MOHEST:	Ministry of Higher Education, Science and Technology
NACOSTI:	National Commission for Science Technology& Innovation.
P.T.A:	Parent Teachers Association
PBSD:	Problem-based School Development.
PSM	Public Service Motivation
R.M.I:	Repairs, Maintenance, Improvement
SEP:	Science Education Project
SMASSE:	Strengthening Mathematics and Sciences in Secondary Education.

SPSS:	Statistical Package for the Social Scientists
TSC:	Teachers Service commission
OECD	Organization for Economic Cooperation and Development

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To all I say, may God bless you and shower you with his abundant grace and blessings.

CHAPTER ONE

INTRODUCTION

1.1 Introduction of the Chapter

This chapter was designed to provide the introduction, background information of the study, statement of problem, research questions and objectives of study,hypothesis, justification, significance, assumption, limitations and delimitation, scope of the study, theoretical framework, conceptual framework and definition of operational terms.

1.2 Background of the Study

Biological knowledge is very important to an individual in terms of understanding individual body systems and functions and is an eye opener to various careers which are very important to economic and social life of the nation; hence, the role of biological knowledge cannot be underestimated as it plays a fundamental role in most aspects of life (Klein, 2001). For instance, application of biological knowledge in genetic engineering has result in production of high yielding plant and animal species. This has made a fundamental contribution of food requirement for the ever growing population globally (Doré*et al.,* 2011). Biological knowledge is also applied in branches of medicine such as organ transplant and control of a wide range of disease such as the use of micro-organisms in food processing (William, 2009). Other areas where biology knowledge has been applied include population control and environmental conservation (Klein, 2001). For this reason, Kenya needs to develop through science and technology and particularly Biological Sciences, where human resource for rapid industrialization need to have motivated personnel who have a driving force to discharge their duties, which will ensure economic growth and sustainable development (Hall, 2005).

This subject is also important in fields such as health, environment and education (William, 2009). The quality work a teacher performs depends on many factors, amongst these is teacher -motivation on which the study seeks to investigate, kinds of rewards given and teacher's perception on motivation. Motivation has been defined as the psychological process that gives behaviour purpose and direction (Robbins& Judge, 2012); a predisposition to behave in a purposive manner to achieve specific, unmet needs (Verplanken&Holland, 2002); an internal drive to satisfy an unsatisfied need (Rainlall, 2004); and the will to achieve (Deci& Ryan, 2011).

Therefore, teacher motivation need to be researched on to investigate whether it influences how a teacher discharges his or her duties, which will translate to effective teaching yielding good students' performance. There is a missing link between teacher motivation and how it translates to self-driven desire to discharge the teaching duties which will eventually lead to high student performance in Biology. This research sought to investigate how teacher-motivation and how teachers perceive these forms of motivations given to themand how it influence performance of students in Biology.

The education system in Kenya is examination oriented. The quality of education offered by any school is judged in terms of the number of students who perform well in national examinations (Eshiwani, 1993). For this matter, educators and the general public in Kenya have often expressed concern over factors that influence student performance in national examinations. The organizational management of schools greatly influences student academic outcomes. Rutter& Maughan, (2002) noted that in order to improve students' performance, the head teacher is first of all required to improve the management of the school in general. This can be done by setting a clear vision for the

school and communicating the vision to students, support the achievement of the vision by giving instructional leadership; provide resources; and be visible in every part of the institution that accounts for academic performance of students (Leithwood&Riehl, 2003).

Both the government and parents expect teachers to perform better at their present levels of learning. The whole issue of students' performance should be considered from the broad framework of input and output (Lewis&Frank, 2002). One of the core functions of schools is to take raw material (students) and convert them into valuable commodities i.e employable adults.

Of paramount importance, therefore, is the proper management of teachers for its absence will invariably lead to low productivity (Musungu&Nasongo, 2008) and poor performance of students. Head teachers as chief executives of schools are charged with this daunting task of managing teachers among other school resources for high academic achievement. Research and inspection have ascertained that the quality of leadership makes a difference between success and failure of a school (Wright, 2001). In highly effective schools, as well as schools which have reversed a trend of poor performance and declining achievement, it is the head teacher who sets the pace by leading and motivating students and staff to perform to their highest potential. As such, schools make a difference to the achievement of students; Themotivational strategies of headteachers are some of the factors which contribute to the academic success of students (Podgursky&Springer, 2007).

The support the achievement of Science is recognized widely as being of great importance internationally both for economic well-being of nations and need for scientifically literate citizenry (Wambugub& Changeiywo, 2008). Generally, science teaching has been a problem due to abstract nature of some concepts and the use of teacher-centred methods of teaching. For the student-centred methods to be effected well, the teacher needs to derive pleasure and enjoyment while carrying out the various activities (Schweisfurth, 2011). However, most teachers consider student- centred method to be time consuming hence do not embrace them. This leads to poor performance in sciences including biology subject.

The role of teachers is crucial for the transfer of knowledge in schools. At the same time, teachers' remuneration is the biggest cost factor in educational finance. In most countries, developing and industrialized alike, teachers' salaries account for between half and three fourth of current education expenditure. In some African countries, their part rises up to 90% (Glewwe&Kremer, 2006). Given the magnitude of the financial investment involved, it is extremely important to know whether these funds are used efficiently.

Biology subject is a very important subject as it addresses national goals and answer expectations of vision 2030 (Kinuthia, 2009).Through Biology subject Kenya governmentimprove in eradication of extreme poverty and hunger, reduction of child mortality, improvement of maternal health, combat of HIV/AIDS, malaria, other diseases and ensuring environmental sustainability (Maritim, 2009). Biological knowledge lays a firm foundation for food security, healthy related issues, global warming and environmental conservation. Biology has contributed to the development of new and better drugs and vaccines against many human and animal diseases such as measles,

malaria, polio and rinderpest, and it has contributed towards conservation of the environment and endangered species (McEnrue, 2011).

Biology lays the foundation for careers in Agriculture, which is the engine for economic growth. Agriculture in Kenya earns 60% of foreign exchange and provides employment to over 70% of the population, (Abdulai&Hazell, 1996). Biology researchers have been able to develop high yielding, disease resistant and fast maturing food crops and animals to meet the food requirements of an ever increasing world population through continuous research (Godfray*et al.,* 2010). Admittedly, many countries are striving to make headway in economic progress through scientific innovation to solve various challenges (Bernardes, 2003). These challenges include emergences of new drug resistant diseases, effects of genetic experimentation and engineering, ecological impact of modern technology, dangers of nuclear war and explosions and global warming among others (Lopez-Gunn& Ramón Llamas, 2008). As a result, there are rapid changes taking place in industry, communication, agriculture, and medicine. Science as an instrument of development plays a dominant role in bringing about these changes by advancing technological development, promoting national wealth, improving health and industrialization (Wambugu&Changeiywo, 2008).

For Kenya to realize development, it needs a human resource capacity to promote teaching of science for rapid industrialization, which will ensure economic growth and sustainable development (Hall, 2005). Poor performance in Biology is an impediment to moving towards achieving a scientific and technological nation. The recurrent complaint made every time the national examinations are released is that performance in science is

low. If the Kenyan government is to meet her goal of industrialization by the year 2020 it is important to emphasize teaching of science particularly Biology subject (Klein, 2001).

KNEC 2011 report (KNEC, 2011) clearly delineates low achievement in Biology in Bureti district (Table 1.2,page 6) despite progressive improvement in national Biology performance (Table 1.1 page 5). Despite this low performance in the subject, some schools in the district performed well in Biology (Appendix V, page 122). This dichotomy is what triggered the researcher to investigate teacher- motivation as a factor influencing Biology performance amongst other factors.

From table 1.1, page5; standard deviation values indicate that the papers adequately discriminate learners of different abilities. Despite the improving mean scores of Biology nationally, Bureti Sub-County. Biology performance remained below average as shown by theSub-County results analysis of 2011(Appendix V, page 122). Bureti Sub-County district had a mean score of 4.72 and mean mark of 35 in KCSE. This show that majority of the students in Bureti district attain a mean of C- in Biology subject.

Table 1.1: Trend of Biology performance at KCSE (2006-2011) nationally

Year	Mean Mark	Mean score	Standard Deviation
2006	27.40	3.28	15.00
2007	41.80	5.01	19.68
2008	60.64	7.27	29.12
2009	54.29	6.51	28.80
2010	58.39	7.01	30.44
2011	64.87	7.78	31.05

Source: KNEC, 2011 Page 35

After KCSE results are released, feedback is sent to schools through a backwash report indicating not only how candidates have performed but also giving suggestions on what students should do in answering question in future examinations (KNEC, 2009).

Table 1.2 shows that majority of schools in Bureti Sub-County had a mean score of C- and below. This means that Biology performance is still wanting in Bureti Sub-County. Biology education therefore enables the learner to acquire problem-solving and decision-makingskills that provides ways of thinking and inquiry which help them to respond to widespread and radical changes in industry, health, climatic changes, information technology and economic development.

Table 1.2: Performance in Biology 2011 KCSE in Bureti Sub-County schools

Mean score range	Mean grade	Number of schools(n)
8-9.5	B+	6
6-7.99	C+	3
5-6.99	C	6
4-4.99	C-	12
3-3.99	D+	13
2-2.99	D	6

Source: KNEC, 2011

1.3 Statement of the Problem

The education system in Kenya is examination oriented. The quality of education offered by any school is judged in terms of the number of students who perform well in national examinations (Eshiwani, 1993). For this matter, educators and the general public in

Kenya have often expressed concern over factors that influence student performance in national examinations (Musungu&Nasongo, 2008). Poor performance in Sciences, Biology being one of them in Kenya has been an area of concern to stakeholders in the field of education. The government of Kenya, in partnership with Japanese International Corporation Agency (JICA),introduced Strengthening Mathematics and Sciences in Secondary Education(SMASSE)project in July 1998 and later launched it in the whole country in May,2003 with the aim of improving students' performance in mathematics and sciences (Oyaya&Njuguna, 1999). In spite of this effort, the required level of improvement has not been realized in students' performance in mathematics and Sciences. Studies carried out attribute poor performance of students to factors such as lack of resources, poor teaching methods and students' attitude, among others (Eshiwani, 1993; Lydiah&Nasongo, 2009).Bennell and Akyeampong (2007) found that low teacher-motivation results in absenteeism, underutilization of class time, professional misconduct, reliance on traditional teaching practices, poor preparation, and secondary income-generating activities that distract from teaching duties.However, the extent to which these factors influence performance has not been taken into serious and systematic consideration.

In the section dealing with background knowledge, it has been illustrated that there has been poor performance in KCSE Biology in Bureti Sub-County as reflected by more low quality grades in schools of C- to D from 31 out of 46 Schools (67.3%) as indicated by KCSE results of 2011 and very few high quality grades C+ to B+ from 15 Schools, (32.7%) within the same period. This shows that the Biology performance is still wanting

in majority of Schools in Bureti Sub-County. Nationally, Biology subject has been improving in KCSE,as shown Table 1.1 but for Bureti Sub-County, Biology performance is still wanting as shown in Table 1.2. Despite this low performance in Biology subject in the Sub-County, some schools post excellent performance in Biology subject; others have continued to perform dismally. It is because of this lacuna that the study looked into the cause of this glaring disparity.Despite the knowledge of the importance of Biology for socio-economic development of the country, the government and other stakeholders' efforts in provision of facilities and teachers, the performance in science and Biology in particular has not been impressive in Bureti Sub-County.

In view of students poor performance in KCSE Biology, there is need to establish the factors that promote good performance in KCSE Biology. It is in view of this gap that this study was carried out. Therefore the researcher specifically set out to investigate influence of teacher-motivation on students' performance in KCSE Biology in selected secondary schools in Bureti Sub-County, Kericho County.

1.4 Purpose of the Study

The main goal of this study was to examine the effects of teachers' motivation on students' academic performance in Biology. It was specifically conceived to examine whether there is a significant influence between motivated teachers and those that are not motivated in terms of students' performance in Biology.

1.5 Objectives of the Study

1.5.1MainObjective

To investigate how teacher- motivation as a factor influence students' performance in Biology in Bureti Sub-County, Kericho County.

1.5.2 Specific Objectives

1. To establish whether schools in Bureti Sub-County motivate their teachers.
2. To investigate ways in which teachers are motivated.
3. To investigate the perception of teachers towards motivation
4. To determine the influence of teacher- motivation on performance of students in Biology in secondary schools in Bureti Sub-County of Kericho County.

1.6 Research Questions

1.6.1 Main Research Question

How does teacher -motivation influences performance of students in Biology in Bureti Sub-County, Kericho County?

1.6.2 Specific Research Questions

1. Do schools in Bureti Sub-County motivate their teachers?
2. Which ways do schools in Bureti Sub-County use to motivate their teachers?
3. How do teachers in Bureti Sub-County perceive this motivation?
4. What are the influences of teacher- motivation on students' performance in Biology in secondary schools in Bureti Sub-County?

1.7 Hypothesis

The hypothesis tested was;

HO: There is no significant difference in students' performance in Biology between teachers who are motivated and those who are not motivated.

1.8 Justification of the Study

Kenya has invested heavily in Education with a purpose of improving the lives of Kenyans. This is evident in free primary Education and the subsidised secondary school program by payment of Ksh.10, 265 (Appendix VI Page126) to every secondary school student.

Science Education is seen as a requirement for technological advancement. Biology as a subject in particular is a vehicle through which some of the established Millennium Development Goals (MDG) 2015 and Vision 2030 are achieved (Harrison *et al.*, 2003). These goals include eradication of extreme poverty and hunger, reduction of child mortality, improvement of maternal health, combat of HIV/AIDS, malaria, other diseases and ensuring environmental sustainability (Sachs& McArthur, 2005). Biological knowledge lays a firm foundation for food security, health related issues, global warming and environmental conservation.

Kenya's vision 2030 initiative aims at making the country a newly industrialized middle income country providing high quality life for all its citizens (McMichael& Schneider, 2011).

The Government of Kenya has identified Research, Science and Technology as a key driver for socio-economic and political transformation (Thaxton, 2007). Indeed, socio-

economic growth and global competitiveness can only be measured based on how a nation harnesses, embraces and deploys scientific and technological development (Sachs& McArthur, 2005). This fact is aptly captured in the nation's Vision 2030, which recognizes the urgent need to establish an effective research, science, technology and innovation system, that is a network of research centres, universities, think tanks, private enterprises and community groups that can tap into the growing global knowledge and assimilate and adapt it to local needs while creating new technologies and knowledge frontiers (Elishiba& Donald, 2010).

This study is of great importance as this is the era of science and technology and the future of a student depends on the successful completion of secondary school education. Student's learning depends on effective teaching, hence the need to explore the influence of teacher- motivation on performance of students in Biology subject.

1.9 Significance of the Study

Kenyan educators are continually seeking for a better learning environment with academic success for all students in mind hence education for all. This study will contribute to existing research in relation to teacher- motivation as a factor in performance of Biology subject. This research is expected to benefit educators by extending the knowledge base that exists already, as it presents empirical evidence in relation to importance of teacher –motivation.

The findings of this study were generalized to other Secondary Schools in Kenya and its borders. This will help to raise awareness of importance of teacher-motivation amongst the government agencies, stakeholders and Principals of secondary schools.

This study is going to help the Principals of secondary schools to device ways of teacher –motivation, which can promote students' performance. It will also motivate parents to play a role in providing teacher-motivation which is likely to promote students' achievement and help Educators, Ministry of Education (M.O.E) and the Teacher Service Commission (T.S.C) to plan for various teacher- motivation strategies.

1.10 Assumption of the Study

The assumptions focus on expected things that are expected to be already in place and should not affect or influence the research. They are not part of the research.

The study assumed that all schools in Bureti Sub-County offer Biology subject and all students take and examined in KCSE at end of four years. It also assumed that there were competent teachers teaching the subject. All the teaching resources were available and adequate for the teaching and learning of Biology subject.

1.11 Limitations of the Study

These are problems anticipated to affect the conduct of the study. They are hindrances to the study and can interfered with it like time, finance, administration structure, weather condition i.e. unpredictability of weather conditions in Bureti Sub-County. The exercise was expensive and time consuming, especially typesetting, printing and photocopy, distributing the questionnaire and means of transport to various schools, especially those off the main road was very challenging as Bureti Sub-County is located in ever rainy environment which renders the roads impassable. In some schools the principals and teachers were not willing to take questionnaire such that the researcher had to visit these schools more than once and some schools questionnaire got lost hence others were to be taken. Principals in some schools were very harsh and hardly willing to answer the

interview schedule. To minimise limitation of transport the researcher had to use taxi and wait for time of the day when the rain has subsided. For the typesetting, the researcher had to proof read severally before printing. For the unwilling teachers and principals the researcher had to persuade and even book another day of their convenience. For the lost questionnaire, the researcher had to produce more and take them and wait for them to be filled and returned.

1.12Scope of the Study

The teaching of Biology is a broad area but this study focused on one area, motivation of teachers and performance of students in Biology KCSE examinations in Bureti Sub-county.

1.13 Theoretical Framework

This study was guided by Herzberg's 'Motivation-Hygiene Theory' also known as the 'Two-Factor theory, The theory postulated a graduated scale of human needs ranging from basic, physical ones such as hunger and thirst to higher level ones such as the need to be loved and the need for self-fulfillment. The theory believed that employers would see better results from workers if they recognized the various needs of individual workers and if they varied the rewards offered to them.

This theory split factors of motivation into two categories called hygiene factors and Motivation factors. The Hygiene factors can de-motivate or cause dissatisfaction if they are not present, but do not very often create satisfaction when they are present. These include company policy, supervision, and relationship with boss', work conditions, salary, relationship with peers .However, Motivation factors do motivate or create

satisfaction and are rarely the cause of dissatisfaction, these include achievement, recognition, the work itself, responsibility, advancement, and growth.

The motivator factors lead to satisfaction when they are fulfilled, contrary to the hygiene factors that trigger dissatisfaction when they are unfulfilled (Kressler, 2003). Reward systems are usually based on the assumption that the only thing that motivates people is money. According to Herzberg (1959), money is a so called hygiene factor that creates dissatisfaction if not received in appropriate amounts, but it is not seen as a potential satisfier, or positive motivator (Bassett-Jones & Lloyd, 2005). The impact of salary gives a favorable short-term feeling. However, motivators produce a more lasting satisfaction (Bandura, 2001). The motivators that generate satisfaction and motivation are factors such as success, recognition, being challenged, sense of contributing, trust, independence, possibility of career development, and responsibility. Khalifaand Quang (2010) further argue that the hygiene factors are needed to make sure that a worker does not become dissatisfied. They do not work to cause higher motivation although a lack of them can cause dissatisfaction. Typical hygiene factors are salary, working conditions, status, company policies and administration.

Critics of Herzberg's theory argue that the two-factor result is observed because it is natural for people to take credit for satisfaction and to blame dissatisfaction on external factors (Bassett-Jones&Lloyd, 2005). Furthermore, job satisfaction does not necessarily imply a high level of motivation or productivity. This has been argued to be the theory’s biggest weakness (Bigley&Steers, 2003). Despite Herzberg's theory inherent weaknesses its enduring value and strength is that it recognizes that true motivation comes from within a person and not from KITA factors, these are factors that determine whether there

is dissatisfaction or no dissatisfaction are not part of the work itself, but rather, are external factors (Steel&König, 2006).

Herzberg often referred to these hygiene factors as "KITA" factors, where KITA Kick In the Ass, the process of providing incentives or a threat of punishment to cause someone to do something (Bigley&Steers, 2003). He believed that these incentives could only be used as a punishment. As such, they would only result in limited, short term benefits, as the employee would merely have to perform to avoid them being taken away. In contrast, the motivation factors were part of the work itself, and hence the harder the employee worked, the greater the motivation factors would become. Therefore these factors will tend to motivate employees to work harder.

Vroom (1964) and Lawler (1969) agree that teacher performance and ultimately student performance is linked to the ability of staff, the motivation level of staff, or some combination of the two. Teachers perceive that motivation increases their own output in the form of instructional techniques which influences the student's achievement and leads to the student meeting their overall goal of achievement. The intensity at which teachers instruct leads to the attainment of the students' goal. A school climate that resembles a dictatorship guides teachers to become unmotivated and not enthusiastic about completing the requirements of the job. According to Dzubay (2001) a teacher's attitude, performance, and overall job satisfaction changes dramatically in a dictatorship environment and teachers become unmotivated hence lowering their teaching morale.

The main competing theory to Herzberg's Motivation-Hygiene Theory of motivation is the Maslow's hierarchy of needs theory (Gawel, 1997). Maslow postulates that

motivation process can be explained in terms of needs theory that states that it is an unsatisfied need that motivates general human behavior worldwide. According to Maslow, human needs are divided into five different levels (Hagerty, 1999). The categories include physiological, safety, belonging, esteem and self-actualization. This study was based on the Herzberg's Motivation-Hygiene Theory of motivation since the theory aids to understand human nature and how individual needs influence motivation (Gawel, 1997). It explain the internal needs and motivation that employees bring with them to work (Adair, 2006). This information is useful when an organization wants to design a reward system. In order to know what motivates employees, it is important to understand what motivates people.

1.14 Conceptual Framework

The conceptual framework seeks to correlate teachers-motivation strategies and students' performance.Monetary rewards are usually a variable compensation separated from the salary. It is received as a consequence for extra ordinary performance. Money is a crucial motivating factor to teachers that if provided, enables them to work harder thereby improving student performance as students are motivated to work harder in order to get the monetary presents. Monitoring, revision and therefore students 'improvement in exams. Whereas teachers' career prospects make them feel extremely motivated to work harder to benefit from the accompanying promotion which in turn leading to students' improved performance, group rewards helps instill teamwork which greatly influences overall performance of students.

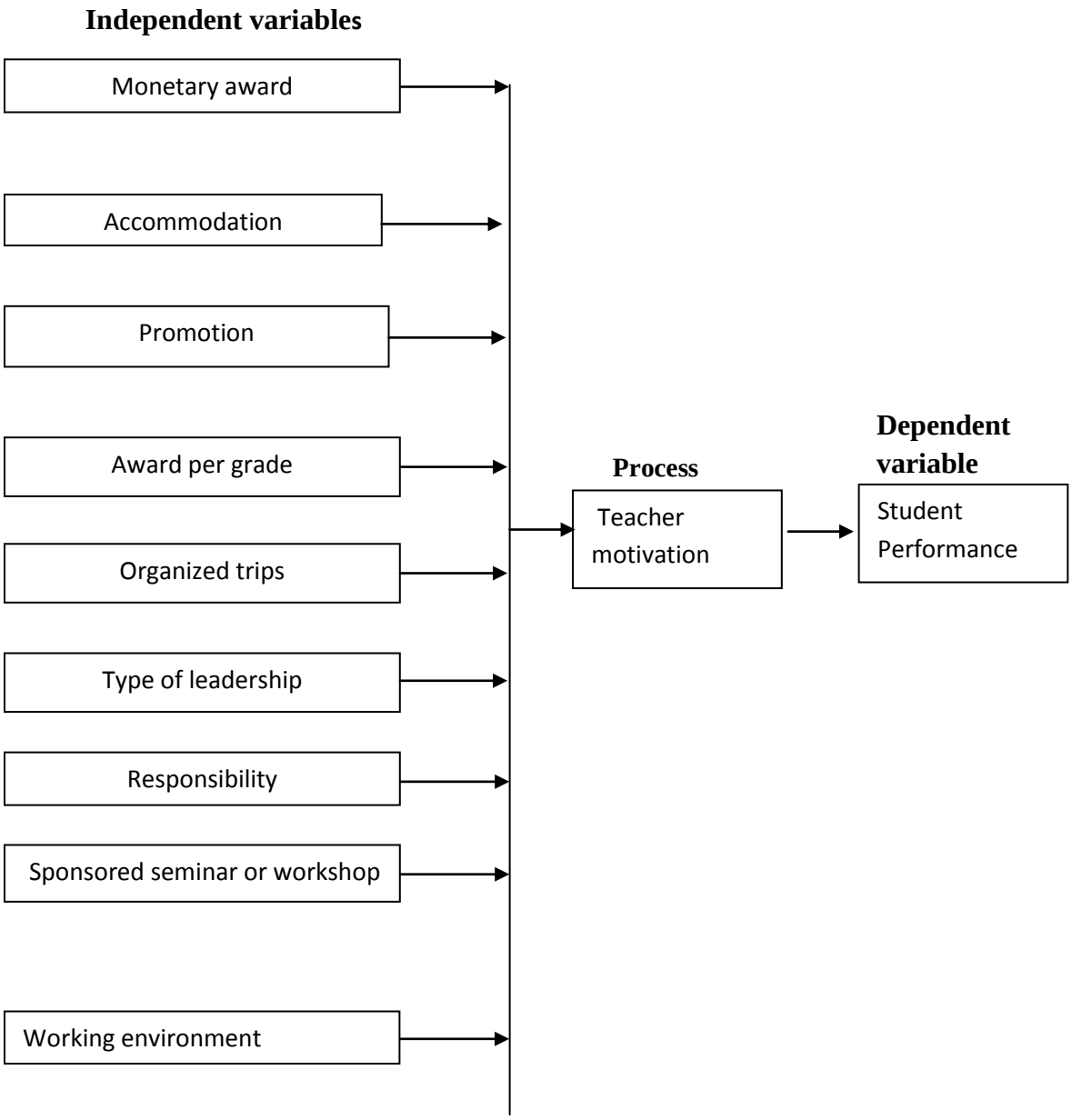

Figure 1.1: Teacher-Motivation Strategies

(Source: Author, 2015.)

1.15 Operational Definition of Terms

Extrinsic motivation: Motivation that required outside factors for fulfilment of individuals to do activities for instrumental or other reason, for example a received reward for a completed task" (Adair, 2010).

Goals: Specific purposes that teachers and students strive for in secondary education.

Intrinsic motivation: Motivation that required no external factor for fulfilment but in-built force to discharge duties.

Motivation: In the school settings, there are things done to a teacher with a hope that they will make a teacher go an extra mile to discharge his/her teaching duties effectively.

Performance: This is achievement of students at end of four years in secondary school and attainment of course objectives.

Student achievement: This is a summary of cognitive measure of what a student learned in K.C.S.E

Teacher-motivation: Element of appreciation with a hope that teachers put more efforts to discharge the teaching duties.

Teacher performance: Any set of activities or behaviours that increased teacher efficacy, high quality teaching, improved student's achievement, and added to school improvement.

1.16 Summary

This chapter has looks at main elements of the chapter and their relationship with the study which involves investigating the influence of the teacher- motivation on the performance of secondary school students in biology subject in Bureti Sub-County. The main elements discuss include description of the statement of problem, purpose of the study, research objectives, research questions and hypothesis, justification, significance of the study, assumption of the study, scope and limitation, theoretical framework and conceptual framework and definition of operational terms.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to sociologists, current school situations are reward scarce for professional work, and often seem to work against teachers' best efforts to grow professionally and improve students' learning (Peterson&Flanders, 2002). This study sought to interrogate the type of existence of rewarding system in Bureti district, Kericho County. As a result, research show that many good teachers left the teaching profession in the first three years (Ingersoll, 2003).

This chapter focuses on the studies done by other researchers and writers which were relevant to this particular study. It contains the review of theoretical literature, the review of analytical literature and the summary of the gaps to be filled in the study. The chapter starts by exploring general literature, Bio data of the respondent, form of rewards used in majority of secondary schools, explains various intrinsic and extrinsic methods used for teachers' motivations.

2.2 Teachers' Status and Welfare in Nigeria

Prior to independence, teaching was considered by almost all sections of society as a highly respected profession. Teachers played key leadership roles in local communities and acted as role models. However, after Independence, when the demand for educated labour grew rapidly, many teachers left the profession to take up jobs elsewhere in the public and private sector (Khan, 2007). According to Obanya (2002), this marked the beginning of the teacher motivation crisis in Nigeria, as the public began to look down on those teachers who remained in the classroom as second-string public servants. The

growing tendency for school leavers to opt for teaching only if they are unable to find other more lucrative public or private sector employment further compounded this problem of lowered professional status (Lawal, 2002). Dr.Owusu, the leader of the accreditation team of the National Commission for Colleges of Education remarked that the teaching profession in Nigeria had been relegated to the background and that teaching is not accorded the respect it deserves (Adelabu, 2005). The rapid increase in enrolment led to the employment of many untrained teachers, which prompted the Banjo Commission in 1961 to review policy on teacher employment. It recommended the gradual elimination of untrained teachers in the schools, improvement of teachers' condition of services, the promotion of efficient teachers to the highest professional grades, and reduction in class size to forty pupils for the lower grades (Ahmed, 2012).

It was the Udoji Commission in 1972 that made the most impact on teachers' status and welfare in Nigeria. The major achievement of the Commission was that it harmonized the public sector pay by bringing all public sector personnel under one unified salary scheme and it also ensured that teachers enjoyed comparable salary status with other key public sector workers. The Commission recommended the creation of a uniform grading and pay scale for public servants, including teachers in order to ensure that the public sector is able to recruit and retain its fair share of scarce manpower and eliminate invidious pay comparisons between the public and private sectors (Adelabu, 2005). This is lacking in the Kenyan education sector, hence the study sought to investigate whether better pay can motivate teachers. However, Udoji (1995) Commission's bold attempt to introduce a new grading scheme for the teaching service largely focused on the job evaluation of school administrative positions rather than on the actual job of classroom teaching.

Consequently, classroom teachers could not be promoted on the basis of their achievements with regard to effective learning, which seriously reduced the incentives for them to stay in the classroom (Kamoh*et al.*, 2013).

A body of literature highlights teacher motivation as critical for student learning outcomes. Chesterfield *et al.* (2002) find that teacher attitude is the dominant factor explaining teacher and school performance in their evaluation of a USAID basic education project in Guatemala. Similar findings among assessments of the EscuelaNueva model in Colombia and Guatemala are also reported (Kline, 2002). In East Africa, Anderson*et al.* (2003) reports that teacher- motivation was a key factor in Agha Khan Foundation teacher training programs. Using case studies of 12 African and South Asian countries, Bennell and Akyeampong (2007) pinpoint the commitment of teachers as one of the most important determinants of learning outcomes. Thus, in a number of developing countries, high teacher- motivation leads to positive educational outcomes.

2.2.1Teacher Motivation in Developed Countries

Williams and O'Reilly (1998) mentions research evidence that teacher attrition that is individual decisions to leave the profession permanently tend to be negatively related to age and positively related to intellectual capacity and educational attainment. One cannot assume that teachers'- motivation, even if it is related to attrition, necessarily has the same set of relationships.

Murnane (1987) suggests that some university graduates in the United States of America are attracted to teaching as a 'medium-term' occupation rather than a permanent career.

Research shows that teachers suffer more than other professional groups from occupational lack of motivation (Evans, 1998).

2.2.2 What Motivates Teachers

Central question that arises as government consider the implementation of a performance-based compensation system is: what motivates teachers? One possibility is that performance pay mostly rests on the premise that teachers can be motivated by extrinsic rewards, such as attaching cash to test scores or evaluation scores. Much like the car dealer or the insurance salesperson working on Commission for vehicles or policies sold the logic of this behaviorist/economic paradigm is that teachers should be rewarded for getting students to achieve or for demonstrating great teaching and also punished financially by reducing their compensation in comparison with their peers. This thinking comes from a Skinner paradigm where employees focus on improving those things to which incentives are attached (Skinner, 1938) and an economic paradigm that rational people respond to financial or remunerative incentives. Opposing these behaviourist /economic views is the idea that teachers are actually motivated by altruistic or intrinsic rewards. This paradigm tells us that teachers are motivated to help their students achieve and improve because it provides importance to lives. This altruistic, or public service motivation (PSM) paradigm holds that the idea of offering some amount of money to teachers to get them to work harder and provide better instruction is insulting to teachers, who would already do anything, they could to help students succeed because it provides them intrinsic gratification (Gratz, 2009; Perry, Mesch&Paarlburg, 2006). Frederick Herzberg (1959) presented his two-factor theory as a model for how these two opposing views might coexist. Herzberg theorizes that there were two sets of factors that affected

satisfaction and job performance. Herzberg's factors were a set of motivators and a set of hygiene factors. Herzberg argued that both sets of factors were important, but attention to the hygiene factors was important to prevent job dissatisfaction and attention to motivators was important to increase job performance.

Public Service Motivation theory argues that the purpose component Pink's framework is stronger in some people than in others. As applied to teachers, PSM theory holds that individuals in the public service fields intend to and are motivated to "do good for others and shape well-being of society" (Hondeghem, 2008, p.3).

The behaviours of these duals are driven by values that are grounded in the purpose of the organization for which they serve, that individuals engage in altruistic behaviours they are willing to sacrifice for others without expectation of reciprocal benefits, and that these individuals exhibit what Perry and Hondeghem call pro social behaviours, which advances that these individuals engage in activities believed to benefit other people or society as a whole. Hondeghem goes on to discuss that there is "moral significance" and meaning to the work these individuals do (Hondeghem, 2008). Fullan (2008), in his work argues that a key element to having a successful school (or any organization for that matter) is "connecting peers with purpose" (p.39).

2.2 3 What Teacher Motivation Means for Performance Pay

The question of what motivates teachers is a foundational psychological point to consider as the national debate around performance-based compensation continues. If teachers are only motivated for intrinsic reasons, then all performance-based compensation schemes are doomed to fail because they are not doing the work for the money, therefore an

additional incentive will not motivate them to work harder or improve. On the other hand, if teachers are motivated by money, as the behaviouristic framework would lead one to believe, then performance-based pay systems are exactly the right approach using the finite resources that schools have to dramatically improve teaching and learning. There is a wide range of views about teacher motivation in Africa and South Asia, most of which are country specific. However, there appears to be mounting concerns that unacceptably high proportions of teachers working in public school systems in many developing countries are poorly motivated due to a combination of low morale and job satisfaction, poor incentives, and inadequate controls and other behavioural sanctions. Bennell(2004) reports the 2000 EFA Country Assessment for Pakistan which noted that poor teacher motivation is a colossal problem which is seriously compounded by political interference.

In Uganda, information about the teachers' job performance is not well documented, yet job performance of teachers is important in areas like classroom management, participation in sports, guidance and counselling, conducting fieldwork among other activities. Cheptoek (2000) carried out a study to establish whether job satisfaction influences job performance among non- academic staff at Islamic University in Uganda. However, the study was not directly related to the teachers' role of teaching (job performance). The current research established the influence of motivation on teacher's morale to perform. In the same vein, Nambassa (2003) investigated the impact of classroom supervision on the quality of teaching and learning in primary schools of Wakiso District Uganda. However, the study did not specifically look at the variables of intrinsic and extrinsic motivation at work hence the relevance of this study in regard to the influence of motivation on teachers' performance in Bureti district, Kericho County.

Analoui (2000) asserts that low teacher motivation is reflected in deteriorating standards of professional conduct, including serious misbehaviour in and outside of work, and poor professional performance. Teacher absenteeism is unacceptably high and rising, time on task is low and falling, and teaching practices are characterized by limited effort with heavy reliance on traditional teacher -centred practices. Teachers are devoting less and less time to extra-curricular activities, teaching preparation, and marking.

The fact remains that very little robust evidence is presented to support these views and assertions concerning teacher motivation in developing countries. In the absence of adequate information, the incidence of poor teacher motivation and misbehaviour could well be seriously over-exaggerated mainly because of the pervasive negative stereotyping of teachers in many countries. On the few occasions when teachers and school managers have been directly asked about teacher- motivation, reported levels of morale have generally been quite high. As part of a study on the impact of the AIDS epidemic on education in Botswana, Malawi and Uganda, representative groups of primary and secondary school teachers were asked if they agreed with the statement that teacher morale at this school is high. Morale in Botswana and Uganda was reasonably good whereas there appeared to be more cause for concern in Malawi, especially at primary schools (Bennell, Hyde &Swainson, 2002). Despite the reported morale, this study investigated whether motivation of teachers increase their morale to perform.

A study by Bennell, Bulwani and Musikanga (2003) revealed that teacher morale also varied noticeably across schools in the same locations for example, in a small survey of secondary schools in Lusaka, Zambia. This study sought to investigate the teachers-motivation as one of the causes of Biology performance disparity in Bureti District.

Ryan and Deci (2000) indicate that individual teacher characteristics can also have adverse impact on motivation levels. They further noted that the age profile of teachers has become younger in many countries due to the rapid expansion of primary and, more recently, secondary school enrolments and/or higher rates of teacher attrition. This study sought to investigate whether teacher – motivation was amongst the factors causing teacher attrition.

Research by Bratton (1994) indicated that motivational patterns are different among men and women in developing countries with men more concerned with extrinsic rewards (most notably pay) and women focusing more on intrinsic rewards that is, the satisfaction of teaching children.

Another study by Bennell (2004) in Sub Saharan Africa noted that incentives for schools and teachers in the public education system to perform well are frequently weak due to ineffective systems ,particularly the case when teachers could not be effectively disciplined for unacceptable behaviour such as absenteeism, lateness, poor teaching, abusive behaviour towards pupils by school managements because it was very difficult to dismiss them as pay and promotion were largely unrelated to actual performance. According to Carron (1996) where teacher pay is very low, there is normally de facto recognition and the labour process in schools has to be organized in such a way that enables teachers the autonomy to generate additional income. Most managers also engage in these survival activities. More generally, there is a widespread acceptance that you get what you pay for, which is not very much when pay does not meet minimum livelihood needs. Secondary employment activities are likely to both directly and indirectly lower the motivation of teachers and eventually their performance in their main jobs.

2.2.4 Intrinsic Motivation and Performance

Intrinsic rewards like recognition creates role models and communicates the standards. These constitute the great performance. Bennell (2004) notes that the emergence of a sizeable private education sector has further diversified the teaching force and improved their recognition. Private sector teachers are often seen in a more positive light by parents and the wider public because they are harder working and usually less well paid, but achieve better learning outcomes.

A study by Analoui (2000) on what motivates senior managers revealed discontent with the managerial style and traditional attitudes of top management who took things for granted. Good work and high quality performance were not often recognized. The old style and culture of passive interaction still persisted especially in ministries and other government organizations where some top management was referred to as old guards who had not really changed. Lack of recognition is not always a direct consequence of the presence of old values and traditional managerial styles.

Torrington *et al.* (2002) on the other hand indicate that poor human resource management seriously de-motivates employees. Teacher management at the national and sub-national levels is nothing short of chaotic in many countries. In most of Africa, teacher management lacks clear rules which tend to generate conflict, power vacuum, and overlap and duplication of effort. Management styles tend to be authoritarian with limited participation, delegation, and communication with respect to major school management functions. Teachers subjected to these types of management regimes feel treated as children. The extent to which teacher grievances are addressed is also a key issue. The high turnover of head teachers in many countries is particularly disruptive and frequently

bad for teacher morale. Effective management training programmes for head teachers are necessary to lead to noticeable improvements in teacher behaviour and performance. This study sought to investigate how type of leadership affects teacher motivation in schools.

Meir (1972) noted that while workers are interested in advancing their financial position, there are many other considerations such as opinions of their fellow workers, their comfort and enjoyment on the job and their long range security that prevents them from making a direct automatic positive response to an incentive plan. This implies that for employees to perform and have better results they must be motivated by a token of appreciation. The study sought to interrogate the type of appreciations teachers like.

Bennell (2004) further notes that most teachers want to be posted to urban schools for both professional and personal reasons. The size of the rural-urban divide in most countries creates enormous disincentives to being posted to a rural school. He indicated that teachers want to remain in urban areas for a variety of reasons, most notably the availability of good schooling for their own children, employment opportunities for spouses and other household members, the desire to maintain often close knit family and friendship networks, opportunities for further study, and poor working and living conditions in rural schools (Bennell, 2004). The much greater opportunities for earning secondary incomes in urban locations is also a major factor. Being posted to a rural primary school can, therefore, severely affect their ability to undertake further studies as well as earn additional income. Similar findings are documented by Dickinson& Balleine (1994).

Stone (1988) also found that the job performance and intrinsic reward relationship follows the social challenge theory; employees' performance is giving back to organizations from which they get their satisfaction. The relationship between intrinsic motives and performance is better explained by the expectancy theory espoused by Vroom found in Cole (1995). According to Vroom, perception that effort will lead to effective performance (expectancy), that performance will lead to rewards available (valence) combined to create a strong motivation for an individual to put in effort to achieve a level of performance and obtain rewards at the end.

According to Maicibi (2003), increasing hours of work, larger class sizes, more subjects, and constantly changing curricula are cited as major de-motivators in many countries. What is expected from teachers is not pitched at a realistic level in many countries given material rewards, workloads, and work and living environments. Large class sizes and heavy workloads in relation to pay also make teachers resistant to the introduction of new teaching methodologies and other innovations. However, the introduction of free universal primary education resulted in larger classes, especially in the lower grades, which tend to stress teachers hence de-motivating them. Farrel (1993) notes that relatively low levels of client trust and respect and inadequate levels of teacher accountability are key factors that tend to lower the occupational status of teachers in many developing countries. He indicates that parental views about teachers are, in fact, often quite contradictory and even paradoxical. Parents generally know very little about education and schooling, which, in the past, has probably enhanced the public perception of role of teachers. However, lack of understanding and unrealistic expectations has led to frustration and negative stereotyping of teachers. Often views of local schools which

parents have had first-hand knowledge of are far more positive than perceptions of schools and teachers as a whole.

Carron (1996) notes that the teaching profession has suffered greatly from the negative effects, from the economic crisis and adjustment policies which have had severe impact in the standard of living of teachers. This phenomenon has had severe effect on their morale, their sense of commitment and motivation. In agreement, Coombs (1985) argues that when teachers' salaries fail to keep pace with the cost of living they undergo a reduction in real income, their morale suffers and the able ones shift to better paying jobs thus pulling down the quality of instruction. Gavinda and Varghese (1993) looked at this scenario and affirmed that where teachers are disillusioned and frustrated about conditions of service, the quality of education is likely to deteriorate even with substantial input of equipment and material. However, they conclude that if a teaching force is reasonably paid, and well-motivated, they can achieve much for the quality of education even against great odds.

Kasaija (1991) studied the effects of monetary and non-monetary rewards on motivation of teachers. He established that both monetary and non-monetary rewards are motivators to teachers. Similarly, Ogomarch (1994)'s study agrees with this assertion, he stresses that professional allowances have great significance in motivating lecturers to do their work effectively.

According to Grusky (in print), rewards are among the most important factors which influence the strength of a person's attachment to an organization. He says that if a person discovers that he cannot obtain the rewards he originally desired, he either leaves

the organization or joins another, or if it is not feasible, he accepts those rewards which he can obtain and at the same time feels less committed to that organization. On the other hand, obtaining rewards sought operates to further his felt obligation to the organization and his commitment is strengthened.

According to Mumanyire (2005) the most important motivator to the teacher is money which can be in form of salaries, allowances, wages, bonuses, duty allowances and other monetary rewards. However, other factors such as actual teaching conditions, the environment in which the school is located, teacher participation in matters which affect them, job security and level of commitment to the school‘s objectives are all crucial to the level of motivation of teachers. The factors were in line with the study’s interest particularly extrinsic motivators like remuneration and how it affects teacher performance in Bureti District, Kericho County.

Teachers are human beings with various needs to be satisfied, and failure to have such needs satisfied leads to frustration, nonchalant attitude towards work and rebellion (Adams, 1963; Ubom&Joshua, 2004). Similarly, Armstrong (1996) emphasizes the value of financial rewards when he says that money provides the means to achieve a number of different ends. Kiseesi (1998) in her study about job satisfaction of workers recommends that, salaries of the workers should be paid promptly and that promotion of workers should have a corresponding increase on the salary they earn. Therefore from the above expression, financial rewards have greater effects than non-financial rewards on the performance of teachers. From the literature above the study therefore investigate the effect of motivation on job performance amongst teachers in Bureti District, Kericho County.

2.3 Teacher Characteristic

This section will explore the review of literature of the teacher characteristic and how they influence performance of the students. The term teacher characteristics can be referred to as qualities that can be measured with tests or derived from their academic or professional records. They indicate that teacher characteristics does not generally refer to the direct observation of their influence on students' learning in terms of either students' test performance or teaching behaviors. Rather, the approaches dealt within the scope of this research are those that fall traditionally into the province of personnel psychology or personnel selection. This review deals with those characteristics of teachers that might be identified and used in the initial hiring of teachers to increase their students' achievement. Ashton &Newman (2006) indicates that these characteristics could include qualities of teachers that are viewed as personal such as mental ability, age, and gender or as experiential such as certification status, educational background, previous teaching experience and the like. Some characteristics are combinations in unknown amounts of personal and experiential qualities, for example; candidates' performance on teacher-certification tests such as the diploma, bachelor degree or master degree examinations.

2.3.1Teacher Qualification and Student Academic Achievement

A teacher with a master degree does not necessarily make him a better teacher and most teacher characteristics and Student Mathematics Achievement in Taiwan's Junior High Schools of the literature seems to agree with this viewpoint. Hanushek *et al.*(1999) showed that only about 10 percent of related studies found a statistically significant positive impact of teacher education on student achievement. Other studies either found no connection or a negative relationship. It appears that a teacher's advanced degree is

not clearly associated with increased student learning. However, further analysis indicated that it is more likely to find a positive relationship if a teacher's advanced degree is closely related to his teaching subject. Goldhaber and Brewser (2000) found no evidence that teachers with a master degree help students to score better than those students whose teachers had only a bachelor degree. However, having a master degree in math and science benefit their students and seems to make them a more effective teacher. Goldhaber and Brewer (2000) used data for older students and also came to similar conclusion.

Darling Hammond (1999) defines well qualified teacher as one who was fully certified and held the equivalent of a major in the field being taught. Although the formal qualification of teachers is an important indicator for their knowledge and competence in teaching, it has only limited utility in analyzing how well are for what they have to teach in schools. More detailed knowledge of the courses they have taken during their training needs to be compared to the actual content and skills required to teach the high school's curriculum. Ruthland&Bremer (2002) refer to teacher qualification in two ways traditional and alternative qualification routes. Traditional certification is when an individual completes an undergraduate degree or post graduate program in education. Alternative routes of certification are based on coursework in pedagogy and subject area without a degree in education. Hardy&Smith (2006) cite short term activities such as mentoring, peer evaluations and workshops as ways other than formal qualifications for improving teaching. More often graduates teachers with first degree content go into teaching if they cannot find another job right away. Although they often get somewhat lower salary than a fully qualified teacher; they choose not to enroll in the one year post-

graduate professional training and therefore lack a basic foundation for teaching. Huang &Moon (2009) documents that teacher qualification accounted for approximately 40 to 60 percent of the variance in average of students' achievement in assessment. Richardson (2003) reveals that students in urban areas performed better than those in rural areas. The researcher suggests that the availability of enough qualified teachers must have been a determinant for students' performance. However, in Kenya, some schools in the rural areas have performed better than their urban counterparts (Owoeye&Yara, 2011). Maundu (1986) concludes that there was significant correlation between teacher qualification and pupil performance in Kenya. The good performance was attributed to excellent instructions given by qualified teachers in addition to other inputs. Maundu (1986) establishes that teachers who had graduated from Kenya Science Teachers College were more practically oriented than those who had degrees from public universities. Wilson *et al.* (2002) suggest that even with the shortcomings of current teacher education and licensing, fully prepared and certified teachers are more successful with students than teachers without this preparation.

Ashton& Newman (2006) notes that teachers with regular state certification receive higher supervisor ratings and student achievement than teachers who do not meet standards, but this observation was based on data with virtually no statistical controls having been imposed. In spite of the quantity of research on the benefits of teacher certification for student learning, little of the past research exercised controls over student inputs that would give the critical reader confidence in the findings.

Laczko&Berliner (2003) assert that the impact of certification status on student achievement in two large urban school districts in the United States of America. The

school districts provided information about teachers hired for the 1998-1999 and 1999-2000 school years. Information included the school where they were currently teaching, the grade level taught, the teacher's certification status, highest degree earned, date and institution where It was achieved, age, and number of years teaching experience. It has been evidenced that in many countries, teacher qualifications that are considered to be related to student learning have become desirable targets of teacher education reform. Some of these reforms call for the professionalization of teacher education by making it longer, upgrading it to graduate programs, and regulating it.

It has been evidenced that in many countries, teacher qualifications that are considered to be related to student learning have become desirable targets of teacher education reform. Some of these reforms call for the professionalization of teacher education by making it longer, upgrading it to graduate programs, and regulating it through mechanisms of licensure, certification, and promotion aligned with standards (Darling-Hammond *et al.*, 2008). Findings related to teachers' academic degrees for example; bachelors or masters among others are inconclusive. Some studies suggest positive effects of advanced degrees (Rice, 2003; Wayne &Youngs, 2003). Some argue that the requirement of a second degree raises the cost in terms of teacher education and the time it involves and may prevent quality candidates from choosing this profession (Murnanen&Levy, 1996). This characteristic is related to the subject-matter knowledge teachers acquire during their formal studies and pre-service teacher education courses. The evidence gained from different studies is contradictory. Several studies report a positive relationship between teachers' preparation in the subject matter they later teach and student achievement (Goldhaber& Brewer, 2000), while others have less unequivocal results. Monk & King

(1994) find both positive and negative effects of teachers' in field preparation on student achievement. Goldhaber&Brewer (2000) find a positive relationship in mathematics, but none in science. In addition, Rowan *et al.* (2002) report a positive relationship between student achievement and teachers' majoring in mathematics. Monk&King (1994) observes that having a major in mathematics has no effect and a significant negative effect of teachers with more coursework in physical science.

Some studies seek to determine whether students benefit from teachers who graduate from better schools, but the findings are indeterminate. Summers and Wolfe (1977) used samples of students in Philadelphia and found a positive relationship between student achievement and the ratings of 8^{th} grade social teachers' undergraduate institutions. Murnane and Phillips (1981), however, could not find any link between students' vocabulary score gains and teachers' college ratings in Indiana. Ehrenberg and Brewer (1994) reached the results that having a teacher from a better-rated college increased White and Black students' academic performance, but not so for Hispanic students.

The normal school system remained the sole teacher education in Taiwan until 1994 much later than was the case in western countries. Some research in Taiwan was aimed to explore whether teachers' training background makes a difference in students' academic achievement in Taiwan. Wang*et al.* (2008) used data from 80 teachers and 1,572 elementary school students in Taitung and showed that students taught by intern teachers performed worse in terms of mathematics and Chinese scores than those taught by teachers who graduated from normal schools.

However, the study found no difference between teachers from normal college and other institutions. Lee *et al.* (2010) evaluated the professional performance of the novice elementary school teachers from different education systems. They found new teachers graduated from normal colleges outperformed those trained in post-bachelor teacher training classes in terms of student guidance and educational attitude.

Most related literature in Taiwan centered on the influence of personal and family background on students' academic achievement. Few studies were able to use large and representative sample to systematically analyze this relationship between teacher characteristics and student achievement simply owing to a lack of data. Yang*et al.* (2006) examined a small sample from Taitung County and found a negative correlation between teachers' education attainment and pupils' achievement. He also indicated that teachers' belief of internal control had positive effects on student achievement, which was parallel to what Wu &Short (1996) found by using the data drawn from Taitung Educational Survey. Wu's additional finding was negative teacher-student relationship was negatively related to student performance.

2.3.2 Teacher Experience and Student Academic Achievement

Teacher experience has a significant effect on pupil performance in primary schools and at upper secondary level. Experienced teachers have a richer background of experience to draw from and can contribute insight and ideas to the course of teaching and learning, are open to correction and are less dictatorial in classroom.

Teachers' experience and student achievement was that students taught by more experienced teachers achieve at a higher level, because their teachers have mastered the

content and acquired classroom management skills to deal with different types of classroom problems (Gibbons, 2002). Furthermore, more experienced teachers are considered to be more able to concentrate on the most appropriate way to teach particular topics to students who differ in their abilities, prior knowledge and back grounds (Stringfield&Teddlie, 1991).

Teachers attendance of in – service training are one of the indicators of experience. Teachers' motives to attend in-service training can be manifold e.g. increase in salary, career planning, keeping up with developments, filling in lacunae, removing insecurity and meeting colleagues. In the Science Education Project in South Africa (SEP), the objectives were mainly formulated by the developers after having consulted various experts who had experience with Education in Africa. The teachers in this program had been and did not have any experience with practical work. Only in a later stage of their in-service training course they had a better idea of the possible content and methods, did formulating objectives of their own lessons become part of the program (Fullan, 1993).

Therefore, the more the teachers know about students, the better the teachers can connect with them and the more likely they will be able to benefit from the teachers' experience in reconstructing their world. The knowledge that teachers need about students in order to connect with them is gained through interaction. For many reasons, measuring the real impact of experience on a teacher's effectiveness is complex, more so than measuring any other teacher attribute. Consequently, many well-constructed research attempts to interpret the relationship between experience and effectiveness have produced varying results that reveal no particular pattern. Murnane and Levy (1996) found that teacher effectiveness improves rapidly over the first three years of teaching and reaches its

highest point between the third and fifth year but found no substantial improvement after year five.

In contrast, a small number of studies suggest that teacher experience effects may be evident for a longer period of time. Murnane & Phillips (1981) state that experience had a significant positive effect on elementary student achievement among teachers during their first seven years of teaching. Ferguson (2011) reveals that at the high school level, students taught by teachers with more than nine years of experience had significantly higher test scores than students whose teachers had five to nine years of experience. Rivers & Sanders (2002) suggest that teacher effectiveness increases dramatically each year during the first ten years of teaching. In the extreme case, Clotfelter *et al.* (2007) found evidence of growing teacher effectiveness out to 20 or more years in their analyses of North Carolina teacher although more than half of the gains in teacher effectiveness occurred during the first few years of teaching. Stronge *et al.* (2007) assert a positive relationship between teachers' verbal ability and composite student achievement, verbal ability has been considered an indicator of teacher quality. The basic logic is that teachers rely on talk to teach explaining, questioning, and providing directions. What verbal ability means and how to measure it, it turns out, are not straightforward. Lai &Waltman (2008) measured teachers' verbal ability with a 30-item sentence completion test. Thus, though talk about the importance of teachers' verbal ability persists, it is not a strong measure of teacher quality.

Teacher experience has a significant effect on pupil performance in primary schools and at upper secondary level. Experienced teachers have a richer background of experience to draw from and can contribute insight and ideas in the course of teaching and learning, are

open to correction and are less dictatorial in classroom. Students taught by more experienced teachers achieve at a higher level, because their teachers have mastered the content and acquired classroom management skills to deal with different types of classroom problems (Gibbons *et al.*, 2002). Experienced teachers are considered to be more able to concentrate on the most appropriate way to teach particular topics to students who differ in their abilities, prior knowledge and backgrounds (Stringfield and Teddie, 1991). Stronge (2007) assert a positive relationship between teacher's verbal ability and composite student achievement, verbal ability has been considered an indicator of teacher quality. The basic logic is that teachers rely on talk to teach, explaining, questioning and providing directions. Mukhwana *et al.* (2013) found that experience equips an individual with the necessary knowledge on how to tackle the challenges in a particular field. For example, high level of experience may equip the teachers with the necessary skills to change students' attitude to make them like the subject hence perform well. Highly experienced teachers have a wide range of knowledge from which they could use to enhance performance. Teachers polish their skill over a period of time so as to perform tasks effectively as relates to mastery of content, teaching methodology and management of students.

In general, experience and tenure are considered as essential human capital factors and affect one's productivity. There is no reason why this concept cannot be applied to education. A teacher with more experience should be more familiar with the subject and have more control of students' learning than a new teacher. Nevertheless, quite a few previous studies did not find this positive effect of teacher experience on student outcomes. As a matter of fact, some studies even found a significant negative effect.

Hanushek (2003) pointed out this negative or no effect is connected with selection bias in the sample. Oftentimes a more experienced teacher is more likely to be assigned to a class whose overall performance is lower than average in the school. Therefore, it is a mistake to reach the conclusion that no relationship was found between teacher experience level and student achievement if we ignore this causal relationship. Taking this causality into consideration or control, most people agree that inexperienced teachers are typically less effective than more senior teachers, although the influence of years of experience on student outcome is not entirely linear. For instance, Rivkin *et al.* (2005) used the nonparametric estimation of experience and found that learning effects for new teachers are concentrated especially in the first few years of teaching.

2.3.3 Teachers' Attitude and their Teaching Methods and Performance in Biology

Banu (1986) examined attitudes of secondary school students towards sciences in Gongola State, in Nigeria. He concluded that the quality of science teachers and development of more relevant curriculum might improve students' attitude toward science subjects. Shumba (1993) surveyed the attitudes of students of form two and form four towards science subjects in Zimbabwe.

It was noted that there was a significant difference between attitudes of the students at different levels. In this study, he cited the teachers' influence as a possible reason with the impoverished attitudes of students. It was also indicated that the secondary school science teachers in the Harare Region where the study was carried out reported lack of facilities and resource materials to support hands-on activities. He recommended that the pre-service teacher education should not rely on the convenient lecture method, as this could not inculcate positive attitude towards sciences by the prospective teacher. He

observed that teachers may lack enthusiasm of making science subjects viewed as gender related, many science subjects for example, are often viewed as males subjects (Bandura, 2001). Research on gender biases in education seems to indicate that both the content of the curriculum and the delivery of the curriculum are equally important in addressing issues of efficacy and equity in science education (Carlson *et al.,* 2002). The authors observed that preponderance of women in elementary education given the high level of science anxiety among females, suggests that elementary students lack role models who can encourage positive attitudes towards science. Research on the impact of the role models on students' attitudes and performance suggest the need of career education including equity education (Proctor, 2007).

Raizen and Michelson (1994) suggested several strategies on which to increase equity in science and in mathematics, including career education in science, providing female role models in science, and teaching spatial thinking to females. Raizen and Michelson (1994) also recommended inquiry, hands-on or manipulative materials for females. Bandura (2002) also reported that increased self-efficacy and decreased anxiety could be achieved through modeling, by watching other females succeed in science, being exposed to females in science careers, or observing competent female teachers, girls may elect to take more science -related careers. Hong *et al.* (2005) reported that females favored the social-problems approach to teaching science more than did males. The authors observed that females might learn science more effectively if scientific, societal, and technological concepts were integrated into the curriculum and finally, instruction that places emphasis and lowers anxiety of science for females. Research by Enochs*et al.* (1995) suggested that teachers need to be aware of the general classroom and school practices that

encourage gender biases and point out to children gender stereotypes in texts, films, media, education materials and society as a whole Science anxiety is a product of low self-efficacy (Yager & Penick, 1986). Research on science anxiety involving over 2,000 students and 50 teachers supports the Social Cognitive Theory that low self-efficacy in science leads to high anxiety and reduced performance among many elementary students and their teachers (Czerniak &Lumpe, 1996). Students as early as the third grade, exhibit anxiety towards science (Krajcik*et al.,* 1999), and students' interest in science starts declining between the third and seventh grade (Horton &Hutchinson, 1997). Females, as early as the third grade, exhibit more anxiety than their male counterparts (Krajcik*et al.,* 1999). This science anxiety may contribute to students, particularly females, low enrolments in science related careers at higher education (Westerback, 1982). Similarly, in other research on anxiety and performance; Westerback and Long (1990) indicated that a high level of anxiety accompanies poor student performance in most academic areas, and Spielberger and Syderman (1994) reported that highly anxious students tend to lack self-confidence, curiosity and adventurousness. Social Cognitive Theory according to Bandura (2002) suggests that anxiety is a result of feelings of inefficacy; anxiety then leads to avoidance of situations that arouse the feelings of inefficacy.

Providing evidence of this relationship, some teachers reported in informal interview that they do not teach much science because they were not very good at it, they taught science only because they had to and hence they did it in a perfunctory manner, when possible they traded this responsibility with someone who was better prepared (Bandura, 1999). The impression that these teachers felt powerless to affect in a positive way, their students' science learning was disturbing but not totally surprising (Horton

&Hurtchinson, 1997). Viewed in the light of research concerns, education in general and related with self-efficacy among students and teachers in particular, these teachers' attitudes and behaviors are understandable (Horton &Hurtchinson, 1997). Teachers repeated negative experiences with science may include personal failure in science as a student or poor experiences with science instruction from their previous instructors (Kang, 2008). In addition to these findings, the teacher's negative experiences may include lack of adequate time allowed for preparing science teaching, lack of science content background needed to teach the subject effectively, lack of administrative support, and lack of funding for supplies and equipment.

This repeated negative experiences, as a student and as a teacher, result in a low sense of self-efficacy that provides high levels of anxiety towards science and science teaching (Kang, 2008). Negative attitudes towards science teaching, poor use of allocated time, and preference for teaching other subjects may result in low self-efficacy in science instruction and high science anxiety (Westerback &Long, 1990). Thus, teachers' anxiety over teaching science is likely to have noticeable effects on both the quantity and quality of science instruction which may impact negatively on students' attitudes towards the subject (Westerback &Long, 1990).

For students who are enrolled in science classes, increases in anxiety may result in lowered achievement (Spielberger & Syderman, 1994). Lawrenz and Cohen (1985) found that students gave "difficulty" as a reason for not enrolling in science and Westerback (1982) found that anxiety increased with the increased complexity and difficulty of learning tasks. Westerback and Long (1990) suggested that programmed learning and gradual mastery (i.e., taking tasks in small steps until skills were gained and mastered)

have been shown to increase skillfulness, knowledge and confidence and to decrease anxiety Westerback (1982) found that teachers who provided clear expectations, opportunities for remediation and study support reduced anxiety towards science in the students. In summary, the use of programmed learning and mastery learning models seems to benefit not only highly anxious students but also prospective teachers (Bandura, 1999). Horton and Hutchinson (1997) suggested several classroom instructional practices that could reduce anxiety and help females and socially disadvantaged students to learn science and mathematics. These include building confidence by encouraging guessing, estimating, and testing and instruction in science that places less emphasis on "right answers" and facts which seems to build confidence in the students In teachers, anxiety about teaching science seems to be lowered after experiences with science content and science pedagogy (Goldsmith, 1996). Westerback (1984) reported that a sequence of hands-on science content courses reduced prospective teachers' anxiety about teaching science. Similarly, Czerniak & Lumpe (1996) found that anxiety towards teaching science was significantly lowered after completing a science methods course. Science anxiety has been established to have a bearing on both the teaching and the learning in science subjects (Nyongesa, 2014).

According to SMASSE Project (2000), biology as a science subject requires an integration of both theoretical and practical work to make it easily understood by the students. This, therefore, calls for application of a myriad of teaching aids to enable learners to concretize biological principles, concepts and facts. This requires various resources/learning materials and facilities to facilitate the teaching-learning process (Clark, 1994). Aiken (1997) concluded that teachers of science, in contrast with the

teachers of mathematics, generally recognized that teaching for development of favorable attitudes in the learners was an important part of their work. Newton and Tarrant (2012) observed that the attitudes and behaviors of teachers within classrooms may have a strong influence on the development of attitudes and values towards science by students. In addition the authors pointed out that the teachers' attitude towards the curriculum influence the students' attitude towards the same curriculum. There is a positive relationship between teachers' attitude and their teaching methods (Newton &Tarrant, 2012).

2.4 Forms of Rewards

In most cases, rewards come in two forms. It can be in form of incentive motivation or personal growth motivation. Incentive motivation is the kind that comes from within the individual for example a feeling of being proud of something. Personal growth motivation is the type that is brought to you by the organization (Kaplan &Maehr, 2007). Furthermore, extrinsic rewards can be monetary or non-monetary. The monetary is usually a variable compensation separated from the salary. It is received as a consequence for extra ordinary performance or as an encouragement and it can be either individually based or group based. The conditions to obtain this reward should be set in advance and the performance needs to be measureable (Luthans & Stajkovic, 1999). For a reward system to be ideally motivational, the reward should satisfy a number of criteria: It should have value, should be large enough to have some impact, should be understandable, be timely, the effect should be durable, and should also be cost efficient (Merchant, 2007). Also, since there is a direct link between experience and number of years spent in an institution, it can be deduced that teachers' experiences over time led to

increased performances. However, since experience was not being determined and all teachers in the sampled institutions had experiences, it can be ignored. Therefore, monetary rewards and Teachers' bench marking Practices had contributed to the increased performances of students.

2.4.1 Monetary Rewards on Student Performance

Motivation is the activation of goal-oriented behavior. It is usually used as a tool to getting results. According to Adams & Hicks (2000), a delicate balance of communication, incentives and structures are necessary in motivating others.

Various schools use both intrinsic and extrinsic motivation methods. Intrinsic motivation is described as the motivation that is driven by an interest in the task itself. This form of motivation exists within the individual and does not rely on external pressure. On the other hand, according to Frey & Jegen (2001) extrinsic motivation originates from outside the individual. An example of extrinsic motivation is rewards like grades and money or coercion and punishment.

Adams & Hicks (2000) described motivation as being entrenched in the essential need to reduce physical pain and increase pleasure. People value money and therefore making money a very important form of reward. Monetary reward systems can be classified into four major categories, performance-based, salary increases, short-term incentive plans, and long-term incentive plans. The latter two rewards are common on managerial levels and are often linked to performance during a specific time period (Merchant 2007). The first one is often considered to be the greatest motivational factor of them all.

Each and every organization gives salary increase to employee's at all organizational levels. This is normally a small portion of an employee's salary, but has a significant value due to its long-term perspective. Short term incentives in some form are however, commonly used in organizations. A cash bonus is usually based on performance measured on a time period of one year or less. According to Tsui *et al.* (1997), a company primarily uses a variable pay to differentiate it among the employees, so that the most successful employees will be rewarded. Recognizing the employee's contributions to the company makes it easier for the organization to encourage excellent performance. The employees appreciate the possibility of receiving a reward for their performance (Ngala & Odebero, 2010). Using a variable pay can also be an advantage for the company in terms of risk-sharing. This means that the expense for compensation varies more with company performance when the total compensation is partly variable, making the cost lower when no profit is made and when there is a profit, it can be shared with the employees. Rewards based on performance measures over time periods larger than one year are long-term incentive rewards. By using this, a company can reward employees for their outstanding work performance to maximize the firm's long-term value (Kinicki & Kreitner, 2003). This also works to attract and retain key talented persons. A popular type of long-term incentive is some form of a restricted stock plan. This reward is shares given as a bonus to the employee; however, they can only be sold after certain time period. After for instance one year, the teacher will be able to sell one fifth of the shares, after two years he or she will be able to sell two-fifths and after three years three-fifths etc. This is a way to retain competence within the company, not to motivate employees, since if they choose to end their employment before the fifth year; they will lose the remaining

portion. Some firms take this even further by withdrawing the shares an employee already received. Employees are not solely motivated by money even though money is used as an indicator of success. This is because employee behavior is linked to their attitudes (Ngala & Odebero, 2009). For example, when an employee is given a thank you from the manager or to receive gratitude from co-workers are both examples of non-monetary rewards. Monetary rewards are often accused of being too short-termed, and not creating a long-term commitment which is normally what you want from your employees (Kinicki & Kreitner, 2003). To achieve long-lasting motivation for the employees the organization should pay attention to both the financial and the non-financial motivators, in order to provide the best mix (Darrow &Armstrong, 1999). Teachers' behaviors are influenced by their wants and desires are among the motivation methods employed by schools. The needs are numerous and as such they are arranged in order of importance starting from the basic to the complex. Tylecote (1994) says that, one cannot advance to the next level of needs before the lower level is minimally fulfilled. Although some schools do not offer direct monetary awards, for example higher wages or salaries, the strategy employed to retain the existing Teachers is spread on areas like transport allowances, cell phone, car parking allowances among other. This has been as a retention strategy.

2.4.2 Salary Equity and Teacher Performance

The internal component has a link with the fair wages concept; for a given job, the money compensation is adequate for an employee to maintain descent standards of living. It is also essential to determine if the money wage is adequate to cover basic needs such as housing, food, transport, medical care, children's education and some possibility for

some savings for a contingency. Internally, the persons doing similar jobs should be similarly compensated (Owojori & Popoola, 2009).

The internal comparisons are also unfair as the organization could be underpaying. The literature is lacking the information that there must first be the understanding of the employee perception of fair salary. The expenditure habits are different for each person .According to Gretchen (2006), since there is no standardized descent living standard. Standards of living are not limited to basic life but are influenced by intrinsic drives and desires for pleasure and status alongside social pressure to perform. This may therefore not be a very good measure for fairness in remuneration (Baker *et al.,* 1988).

2.4.3 Individual-based Versus Group-based Rewards

For a group reward to provide a direct incentive effect, the employee to whom the rewards are promised has to believe that they can influence the performance on which the rewards are based on to a significant extent (Zemke &Zemke, 1999). Achieving something as part of a group usually strengthens the ties between co-workers. However, if someone has been part of the group without contributing in the same way as the rest, this usually creates great dissatisfaction among the rest, and teaches employees that they get rewards without input. This phenomenon is called the free-rider-problem. In many projects and companies, it is not possible to carry out a task by you but the task-completing-process is a process through the company, engaging many different people. In these cases, a group-based reward is preferable since everyone has “pulled their weight”, although itis hard to see the individual impact (Axelsson & Bokedal, 2009). Individual-based rewards often lead to sub-optimization. When introducing an individual-

based reward system, employees tend to concentrate on their own performance instead of the company's performance as a whole.

Asking co-workers and managers for help is suddenly something you think twice about, as you might need to share a future reward if you do. This leads to tasks fulfilled with an okay result, instead of a better result that might had sprung from a collaboration with co-workers, more competent to the task or parts of the task, hence sub-optimization. However, an individual-based reward creates the greatest motivation and larger incentives for the individual. Increasing the responsibility for an employee usually tends to also increase motivation (Tylecote, 1994). This is because increased responsibility makes the employee feel more appreciated and skillful. When in a group, a person learns from each other, creating more and more positive actions, and also gets more effective. Rewarding a group using a monetary reward often creates an intrinsic reward for the group-members, as they feel satisfied belonging to a group that has performed something extraordinary. There is also a possibility to combine these two kinds of rewards. This can be done by basing the total reward on group performance, and the individuals' shares of this reward on individual performance (Kaplan & Maehr, 2007).

2.5 Teachers Career Prospect's and Students' Performance

Teachers' career prospects play a very big role in either motivating or demotivating secondary school teachers in their day to day duties. When promotion prospect are tied to individual teacher's performance, then they feel extremely motivated to work harder and benefit from the accompanying promotion (Elfers*et al.,* 2008). Those argue for this view believe that its fairer to promote and therefore motivate secondary school teachers who perform well in their respective disciplines instead of paying all of the teachers equally

with no regard to the level of performance. The researchers in this school of thought also claim that incentives and promotions based on the actual performance highlights the relationship between money spent on teachers and the results thereby building a lot of public support to the concerned schools (Supovitz, 2006).

Some researchers are however of contrary opinions, arguing against pegging career prospect on performance. They argue that reasonable and precise evaluations are no easy to obtain since performance can generally not be established objectively. They also say that unity and collaboration among teachers is greatly diminished as cut throat competition is inculcated in teacher (Nelson & Hammerman, 1996). They therefore majorly focus in criteria and academics resulting production of one sided students. Presently, close to half of OECD nations have resorted to motivating their teachers in different ways. Czech Republic, England, Mexico, the Netherlands, Sweden and Turkey for instance reward and promote teachers based on exceptional teaching performance.

The salary increment is also largely based on performance of students rather than on teachers' position in base salary scale. In other countries like Czech Republic, Denmark, England, Estonia, Finland, Mexico, the Netherlands, Norway, Poland and the Slovak Republic, annual supplementary is based on the actually results delivery that is, the performance student in exams (Elfers *et al.,* 2008). In Austria, Chile, and the Czech however, only the supplementary subsidiary payments are based on teachers' academic performance. On overall, no relationship has emerged between typical student performances in various countries the application of performance based reward criteria. However, a very close relationship between overall teachers payment compared to average national income of various countries. Within countries that pay fairly low

teachers' salaries (more than 15% of GDP), student performance has been found to be better when promotions and incentives are based on individual teachers performance (Nelson &Lynch, 1984). On the other hand, in countries where school teachers are comparatively better paid (more than 15% of GDP), little effect is notice promotions and incentives are based on individual teachers performance. Many Principals fail to adopt different teacher retention strategies when dealing with people from different nationalities. Various schools have a great challenge of integrating specific needs of different teachers from different countries. To improve the morale of their teachers, many school managements use remuneration as the only factor to regulate and improve performance.

2.6 School Leadership and Teacher Motivational Strategies

Both the government and parents expect teachers to perform better at their present levels of learning. The whole issue of students' performance should be considered from the broad framework of input and output. One of the core functions of schools is to take raw material (students) and convert them into valuable commodities i.e. employable adults. Of paramount importance, therefore, is the proper management of teachers for its absence will invariably lead to low productivity (Musungu & Nasongo, 2008) and poor performance of students. Head teachers as schools' chief executives are charged with this daunting task of managing teachers among other school resources for high academic achievement.

Research and inspection have ascertained that the quality of leadership makes the difference between the success and failure of a school (Wright, 2001). In highly effective schools, as well as schools which have reversed a trend of poor performance and

declining achievement, it is the head-teacher who sets the pace by leading and motivating students and staff to perform to their highest potential. As such, schools make a difference to students' achievement; head teachers' motivational strategies are some of the factors which contribute to students' academic success. Other school factors that the head teacher ought to address due to their influence on students' behavior and scholastic achievement include: Amount of teaching and degree of academic emphasis; the extent and nature of ability groupings; teacher expectation; styles of teaching and classroom management; size of the school; and, patterns of discipline and characteristics of school climate (Wozney*et al.*, 2006).

According to Lydiah & Nasongo (2009), the head teacher is the leader in a school, the pivot around which many aspects of the school revolve, and the person in charge of every detail of the running of the school be it academic or administrative. The head teacher should be involved in making most of the decisions of the school. It is therefore important that, the head teacher is a leader, a thinker and a decision maker. A discreet head teacher will employ teamwork as a working strategy. She/he will set up committees and smaller groups of members of staff to investigate ideas or strategies. It therefore important for the head teacher to be a good team player upon whom the performance of a school is appraised. Muchiri (2012), describes the head teacher as the keeper of keys, the director of transportation, the coordinator of correspondence, the quartermaster of stores, the divisor of intricate schedules, the publisher of handbooks, the director of public relations and the instructional leader; the head teacher is a key person in any education system. She/he takes care of the final arrangements for the education of students in a school. His/her role cannot be taken for granted, hence, the focus of this study Wandiba

(1996), remarked that schools in Western Kenya, once the pride of the nation in academic excellence, have dropped drastically in educational standards. He attributed these poor standards to unpreparedness among members of the teaching fraternity, rampant absenteeism and drunkenness. Therefore, one can conclude that something is wrong as far as teacher competency, teacher motivation and instructional matters are concerned and only those head teachers who are keen on good performance will resolve this problem.

2.7 Teachers' Motivation Conceptualization

According to Cohen & Dörnyei (2002), motivation is a set of forces that causes people to behave in certain ways. It is a set of force that change behavior and determine it form; direction and intensity.

Motivation is that energizing force that induces or compels and maintain behavior. According to Maslow's Hierarchy of needs or content theory: several factors are believed to affect a person's desire to perform work or behave in a certain way. The theory of needs explained motivation as a phenomenon that occurs intrinsically or within an individual.

Anderson & Erickson (2003) maintained that if schools improve teaching to affiant high academic performance and motivated teachers, there will be no room for enormous cases of school dropouts, hence motivated teachers can create a good social, and psychological knowledge of Biology in the classroom. Motivation is the word derived from the word 'motive' which means needs, desires, wants or drives within the individuals. It is a process of stimulating people to actions to accomplish the goals.

Dörnyei (2001) observed that students will work harder at a task when they are handled by the teachers who are well taken care of in terms of working incentives and remuneration and their performance at the same level irrespective of gender.

Laurillard (2013) maintained that lack of effective motivation of teachers is manifested in an individual indifferences to learning; that is lack of interest in learning; weak drive towards goal attainment and little identification with school subjects, this is manifested in the students by being absent frequently from school due to lack of interest in the teaching learning process. A child who is not under the care of a well-motivated teacher does not take school work serious irrespective of gender. Akpan (2013) identified the concept of motivation to include drive, needs, incentive, rewards, reinforcement, goal setting and expectantly in the study to examine the correlation that exist between motivation of teachers and students' performance in Biology. It was concluded that motivation of teachers provide students a source of happiness and encouragement in their learning not minding their gender.

2.8 Teachers' Motivation and Job Satisfaction

Since no education system that can rise above the quality of its teachers, teacher education shall continue to be given major emphasis in all educational planning and development (Dewey, 2007). It is disheartening with their jobs. Schonfeld (2000) observed that pay rise is one of the powerful tools used in increasing motivation. Teachers should be allowed to undergo in-service training with pay, since teachers' training is one of the most effective motivational variables which are the gate way to workers positive performance. This training may be carried out as full time where the student attends regular course for the training or part time. In supporting the in-service

training for teachers Huling-Austin (2000), listed some positive changes that will occur. They are as follows:

a) Raises the morale of teachers towards their work.
b) Training and development can improve motivation, which makes a teacher to become more skilled and shows seriousness in their work.
c) Training of teachers exposes the teacher to a new and modern technique in teaching especially in this computer era. Physiological needs are the bedrock of all the needs as

These needs involve the need for air, food, water and shelter. Apart from air and sleep which are naturally satisfied, food, water and shelter are those basic inevitable needs which a worker needs to satisfy himself and his dependents from his pay packet.

2.9 Cultural Aspects of Teachers

Understanding the cultural aspects of all teachers is important to be able to understand their needs. Schools culture may be generally described as a set of norms, beliefs, principles and ways of behaving that together give each school a distinctive character (Willcoxson, 2006). However, many schools located in diverse cultures have failed due to failure to adopt better strategies to handle the cultural differences of the teachers they operate. For this study majority of the teachers were from similar cultural background.

2.9.1 Communication

Open and honest communication is required of managers and teachers to create trust between all stakeholders of the school. Micromanagement of teachers is required especially where a few managers are controlling large number of teachers. This provides opportunities of splitting and grouping teachers according to how closely related they are

with each other (Wiseman, 2012). In a school, teachers have different personalities, attitudes, responsibilities and views. Teachers require different leadership and motivation styles to ensure successful schools' operations. There are common elements required to be used by leaders irrespective of the leadership style adopted. These elements are grouped as either hygiene factors or motivational factors. The overall goal of the leader is to create job satisfaction among the teachers. This strategy aims and increasing productivity of the human resources to a school (Saari and Judge, 2004). Motivators increase the efficiency of teachers. For example, Hertzberg provided five motivators in the workplace: recognition, achievement, advancement, responsibility and the work itself. He differentiated motivators and hygiene factors by suggesting that motivators aim at achieving job satisfaction in the long run but hygiene factors are focused on short term satisfaction of the teachers (Rakiro, 2013). Job satisfaction and teachers' motivation .In addition to increasing productivity, job satisfaction reduces teacher turnover and eliminates counterproductive behavior. There is a positive correlation between job satisfaction and teacher performance. Improving the welfare of teachers boosts their morale and increases their output. Dissatisfaction among the teachers affects the performance of public schools and has an impact on the students' performance in that school. Leadership is a factor that has influence in the morale of the teachers. Teacher-centered leadership behavior contributes more to job satisfaction and improved performance compared to the job-centered leadership behavior. The roles of leaders and their subordinates need be clearly established to avoid conflicts in the performance of duties (Wiseman, 2012). Managers have been concerned about the morale of teachers for a long period especially at the international scene. The morale of teachers is affected by

many factors and managers are concerned about effects of low teacher morale on performance of their jobs. Teacher morale also affects their turnover rate in a school. High teacher turnover has a very high cost to the school especially when recruiting new teachers. In addition, there is a higher cost of productivity when teacher turnover increases. Keeping teacher morale high is one of the best things you can do to instill loyalty and maintain productivity (Lydiah & Nasongo, 2009).

2.9.2 Factors affecting Teachers' Motivation

There are several depended factors that affect teacher motivation and they relate to the individual teacher or the workplace environment. Such factors include; teacher training program, compensation, schools' policies and practices, recognition, performance and fail to recognize other factors affecting teachers. Teachers like being treated differently and that better payment is not the only factor that teachers consider as a motivator (Dörnyei, 2001).

2.10 Summary of Literature Review

This sub-section should focus on the areas of agreement and disagreement between studies and point out the study gap/gaps so that the proposed study is contextualized in light of the either inconsistencies between theoretical or methodological gaps that previous studies have not addressed. From the research findings it is found out that teachers referred motivation by money more than any other forms. Kinicki & Kreitner (2008) proposed that institutions should focus on achieving long-lasting motivation for their employees by employing both monetary and non-monetary rewards. Merchant (2007) found out that monetary rewards are often linked to performance during a specific time period and this agrees with this study. Rakiro (2013) observed that in spite of a

group-based reward being preferable it is hard to see the individual impact. Improving teachers' morale leads to improvements of students' performances in a school. The results of boosting teacher morale are increased loyalty to the jobs allocated, high rate of attendance at work, and improved productivity (Abbott& Cohen, 2009). Teachers tend to become efficient when they have high morale and they reduce costs related to low morale. Achieving a high level of teacher morale is attained through several methods. The school management must be interested in the welfare of their teachers and appreciating every effort being made by them towards achieving the school s' goals. Personal experience with all teachers is required to improve understanding about their specific needs.

Teachers are motivated to work in environments that meet their needs and they will perform better in schools with better mechanisms of satisfaction (Cooper, 2002). Rewards systems adopted by various schools must match the specific economic conditions in the counties they are established. It can be argued that rewards are the benefits that teachers accrue from the school. When creating the employment contract between the teachers and the school; the package of rewards may provide a clear understanding about the benefits to be obtained for each activity done (Abbott& Cohen, 2009). Stating that, the management may change the reward strategies according to prevailing conditions in each school or department. Management uses different strategies to motivate their teachers by the use of different reward strategies.

They use of monetary and non-monetary strategies to improve performance of teachers. Monetary rewards include promotions, increment in wages, paid leaves, teachers' allowances and others. Non-monetary rewards include thanksgiving for improvement in

workplaces, recognition by top management, staff-trip, free accommodation in the school, delegation of responsibilities in schools, provision of meals and others. Management improves teacher morale and encourages workers to improve their performance when they create good reward incentives within a school.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter focuses on the procedure for conducting the research study and gives an overview of the study area, study design, target population, sampling procedure and sampling size, data collection procedure, validity and reliability and administration of the instruments, data analysis and ethical issues and finally summary.

3.2 Study Area

This study was conducted in Bureti Sub-County, Kericho County. This is because as a teacher in Bureti Sub-County; the existence of glaring disparity in Biology performance amongst the schools in the Sub-County has puzzled the researcher. This was attributed to many factors which influence teachers' performance in their duties amongst them was teacher-motivation.

Kericho County is located within the west highlands of the Kenyan Rift Valley. The capital of the county is Kericho town. The district is home to the best of Kenyan tea, known for its brightness, attractive colour, brisk flavour and textures of fragrant leaves. The county is also home to some of the world's best long distance runners, many having won gold medals in international events for example Joginder Singh, Kenya's famous Rally Driver, Joyce Chepchumba, a successful woman marathoner and an Olympic medallist.

Kericho County is home to Kenya's biggest water catchment area, the Mau Forest. With a high altitude and virtually daily rains, Kericho is the centre of Kenya's large tea industry,

and its town square is even known as Chi Square. Some of the largest tea companies in Kenya including Unilever Kenya, James Finlay and Williamson tea are based here. It is also home to the popular Ketepa brand. Much of the tea is exported, with the UK being the largest market. Temperatures range from a minimum of 16°C to a maximum of 20°C. The average rainfall ranges between 1,400 mm and 2,000mm per annum.Bureti Sub-Countyhas evenly distributed rainfall throughout the year and moderate temperature. Farmers plant tea, maize, some are mixed farmers, horticulture practice of bananas, pineapples, Irish potatoes and growing of tomatoes in green houses is also carried out. The residents of Bureti Sub-County are mainly Kipsigis who are part of the Kalenjin community. Bureti Sub-County has a total of 46 secondary schools. The main concern of the researcher was the Biology subject academic performance of students in national examinations which had glaring disparity amongst schools.

Figure 3.1: Map of the Study Area

(Source : Google ,2015)

3.3 Research Design

Orodho (2003) defines research design as the scheme outline or plan that is used to generate answers to research problems. Burns and Grove (2010, p. 19) define research design as a blueprint for conducting a study with maximum control over factors that may interfere with validity of the findings.

Descriptive survey research design was employed in this study because the study collected data from teachers and Principals to determine current status of teacher-motivation with respect to students' performance in Bureti Sub-County. Descriptive survey research design is a self-report study which requires the collection of quantifiable information from the sample. Descriptive survey research design is employed as it describes the nature of a situation as it exists at the time of the study and to explore the causes of particular phenomena (Walker, 2005). Descriptive survey research design seeks to tell "what exists" or "what is" about a certain educational phenomenon. Descriptive Survey research design seek to obtain information that describes existing phenomena by asking teachers about their perceptions, attitudes, behaviour, values to motivation. The design is used to describe a population which is too large to be observed. The aim is to collect information from a sample of Biology teachers that is representative of all the Biology teachers in Bureti Sub-County as a whole and generalizable. The design also makes use of standardized questions where reliability of the items is determined (Owen *et al.,* 2004). Hence the study used questionnaire to collect information from Biology teachers and interview schedule for the principals.

3.4 Target Population

Target population refers to the general population under study to which the results of the investigation ought to be generalized (Ogula, 2008). Target population or study population refers to the subjects in this study who are the Biology teachers and principals of Bureti Sub-County from which the 52 Biology teachers and 18 principals of selected schools was drawn from.

The principals were chosen because they are the managers in a school set up who decide on the choice of the type of motivation given to teachers which in turn influences performance. The biology teachers were used as the benefactors of the various modes of motivation and thus were in a position to give data on the kind of motivation they receive in schools and the influence it had on their delivery of service and the performance of students in Biology. The accessible population was Principals and biology teachers from eighteen secondary schools selected in Bureti Sub-County. The eighteen schools were used because they are accessible and others are known of teacher- motivation practices.

3.5 Sampling Procedures

A sample according to Schoberb *et al.* (1998) is a subset of a target population, normally defined by the sampling process. Sampling is the process by which researchers select a proportion of the target population, to represent the entire unit. It is more practical and economical to work with samples rather than with large target populations (Polit &Beck, 2013).

Sampling is the selection of a fraction of the total number of units of interest to decision makers for the ultimate purpose of being able to draw general conclusions about the entire body of units (Parasuraman *et al.,* 1988). A conclusion can be made from the sample about the population to achieve the research objective (Saunders *et al.,* 2011). It is, therefore, uncommon for a research to survey the entire population due to time and financial constraints, especially, when the population is very large.

In the selection of schools sample, the researcher classified schools into 4 categories using the 2011 KCSE School mean score namely, high performing schools (8.00-10),

average performing schools (5.00-7.99), below average performing schools (3.50-4.99), low performing schools (1.00-3.49). In each category, a sample is selected using 0.3N (Best & Khan, 1993), where N is total number of schools in each category. The number of schools to be used is determined using the formula n=0.3N where n is sample size and N is target population size (Best &Khan, 1993).

Table 3.1: Sample Design and Procedure

	School	Population Frequency (N)	Sample Ratio (0.3N)	Sample schools
1	Total number of schools	46	0.3	13.8(14)
2	Higher performing Schools	5	0.3	2
3	Average performing Schools	11	0.3	3
4	Below average performing Schools	22	0.3	6
5	Low performing Schools	8	0.3	2
	Totals	46		13

(Source: Bureti Sub-County DEO office)

3.6 Sample Size

From this study, there were forty six schools forming the target population size. Therefore the sample size population was 0.3x46=13.8 which was approximately 14 schools. However, the study used 18 schools because there were few Biology teachers to represent each category of schools in the district, high performing schools, average performing schools, below average performing schools, low performing schools.

To determine the schools to take part in the study from each category, purposeful sampling and random sampling method were used. The researcher used purposive sampling which is predominantly used in qualitative research (Parahoo, 2000). Purposive

sampling involves the researcher selecting individuals who will have knowledge of the phenomena studied or deemed potential information rich cases (Walker, 2005).Therefore the researcher chose purposefully those schools well known to motivate their teachers.

Purposive sampling also is appropriate where the researcher has previous knowledge of the population and has a specific purpose for the study and therefore use personal judgment to select a sample (Fraenkel, Wallen and Hyun, 1993). The schools were purposefully chosen from each category with known ways of teacher- motivation. The names of the schools in each category were written on pieces of paper that were folded and kept in a box then shuffled. The researcher then picked pieces of paper at random from the box, and then constituted the schools that took part in the study per category, but after choosing the schools the Biology teachers were few and four extra schools were constituted. The researcher then administered the questionnaire. The total number of targeted Biology teachers was 0.3x132= 40 teachers from the fourteen schools, Table 1.4 but because of increased number of schools to 18, the number of Biology teachers increased to 52. These teachers were purposefully sampled due to the nature of the research whose focus was performance in biology only. Averages of 3 teachers were chosen from each school. The names of the teachers were written on pieces of paper that were folded and placed in a box then shuffled; this was applicable in schools where there were more than three teachers. The researcher picked 3 names at random from the box in each category of schools. These constituted the teachers who took part in the study in each school. For low performing schools, the researcher picked randomly four teachers from the eight Biology teachers in the low performing schools because the numbers of teachers in these schools were few. Principals in each sample schools were interviewed

and the researcher captured some opinions on motivation during the interview interaction in the principal's office.

The following table shows the total number of schools in each category in the sub-county and total number of Biology teachers in these schools and the sampled Biology teachers who participated in this study.

Table 3.2: Sample Size

	Type of school	**No. of Schools**	**Frequency**		
			Principals	**Total Number of Biology Teachers(N)**	**Sample teachers(n) n=0.3N**
1	Higher performing schools,	5	3	25	8
2	average performing schools,	11	6	52	16
3	Below average performing schools,	22	7	47	14
4	low performing schools	8	2	8	2
5	Total	46	18	132	40

Source: Bureti Sub-County DEO office

3.7 Data Collection Instruments

The type of data collected was primary data which was collected through the use of questionnaire and interview schedule. The preferred tools for this study were questionnaires and interview schedule. These instruments will herein be treated as sub-themes.

3.7.1 Questionnaire

A questionnaire is a convenient tool especially where there is large number of subjects to be handled because it facilitates easy and quick derivation of information within a short time (Gall *et al.,* 2007). The researcher used self-administer questionnaire as it was less expensive in terms of time. The questionnaire was used to collect data from Biology teachers about teachers-motivation and the influence it has on students' achievement. The questionnaire to Biology teachers was design to show the bio-data of the respondent, a self-developed two item questionnaire with open ended responses and 16 item questionnaires with Likert scale questions was given to Biology teachers. The questionnaire was first piloted on Principals and Biology teachers of four secondary schools in the neighbouring Konoin Sub-County, comprising the following category of high performing schools, average performing schools, below average performing schools, low performing schools teachers who were not part of the study sample. The schools were chosen to represent the four categories of schools.

Pilot testing helped to amend ambiguous statements that were not clear to the respondents and thereby increasing and safe guarding the reliability of the instrument.

The questionnaire gathers responses in a standardized way and it is relatively quick to collect information (Johnson &Turner, 2003). The researcher was keen to collect the

teachers' opinions and comments they made during the interaction to validate questionnaire responses through triangulation.

3.7.2 Interview Schedule

An interview gives insight on what the person being interviewed thinks, or appears to be thinking. An interview schedule is the guide an interviewer uses when conducting a structured interview. It has two components: a set of questions designed to be asked exactly as worded, and instructions to the interviewer about how to proceed through the questions. The questions appear in the order in which they are to be asked. The questions are designed so they can be administered verbally, exactly as they are written. The questions need to communicate not only what information is being asked of respondents but also the form or the way in which respondents responds. This interview schedule was used for the 18 secondary school Principals. A self-develop 17 item interview schedule with open ended responses was used for Principals in this study.

3.8 Validity and Reliability of the Research Instruments

Kember &Leung (2008) define Validity of an instrument as the success of the instrument in measuring what it sets out to measure, so that differences in individual scores can be taken as representing true differences in characteristics under study. Validity is the ability of the instruments to produce same results consistently.

Reliability refers to the degree to which the scores obtained with an instrument are consistent (Polit &Beck, 2013).

3.8.1 Validity of the Instrument

Polit and Beck (2013) define the validity of a questionnaire as the degree to which the instrument measures what it is intended to measure. The questionnaire should adequately address all aspects of the issues being studied. Face validity and content validity are the validity issues most frequently reported in the literature (Burns &Grove, 2010).

Face validity basically checks that the questionnaire to measure the concept being tested (Orodho, 2009) and this was assessed by getting my classmates to test-run the instrument to see if the questions were relevant, clear and unambiguous as outlined by Rattray & Jones and (2007).

A content validity test checks that there are enough relevant questions covering all aspects being studied and that irrelevant questions are not asked (Burns & Grove, 2010). The test is based on judgement as no objective methods exist. A panel of experts is used to evaluate the content validity of new questionnaire (Polit &Beck 2013). A questionnaire undergoes a validation procedure to make sure that it accurately measures what it aims to do, regardless of the respondent. Valid questionnaire helps to collect better quality data with high comparability which reduces the effort and increase the credibility of data. A valid questionnaire must have following characteristics, simplicity and viability, reliability and precision in the words, adequate for the problem intended to measure, reflect underlying theory or concept to be measured and capable of measuring change.

The content validity of the instrument was determined in two ways; first, items in the instrument were discussed with the supervisors, colleagues and other academic tutors to determine whether the items were adequate in content and logically arranged. Secondly, content validity of research instruments was determined through piloting in schools in the

neighbouring Sub-County, Konoin Sub-County where the responses of the subjects were checked against research objectives. The questionnaire was submitted to a panel to check that the questions reflected the concepts studied and that the scope of the questions was adequate, in the manner proposed by LoBiondo-Wood and Haber (2010). The judges included course lecturers in research and university supervisors. The instrument was given to colleagues to check and make corrections where necessary.

3.8.2 Reliability

Reliability refers to the degree to which the scores obtained with an instrument are consistent measures (Johnson & Turner, 2003). It also refers to a condition where a measurement process yields consistent scores (given an unchanged measured phenomenon) over repeat measurements.

The reliability of questionnaire was ascertained using Cronbach's coefficient alpha Hopkins (2000).Mugenda and Mugenda (2003) suggested that any value above 0.7 is considered an appropriate threshold. A similar view is held by Cohen and Manon (2007).Cronbach's coefficient alpha estimates the consistency of items included in a questionnaire. A high coefficient indicates that the items are consistently measuring the same underlying construct. Reliability of the questionnaire tends to increase with the number of items, but with rapidly diminishing returns. In other words, questionnaire with 15 items may be considerably more reliable than questionnaires containing only 5 items, but they may have comparable reliability to questionnaire of 30 or more items. For this study, the test gave a value of 0.9 which was high enough for the questionnaire to be considered reliable.

3.9 Data Collection Procedure

According to Parahoo (2014,) a research instrument is a tool used to collect data and is designed to measure knowledge, attitude and skills. Data collection refers to gathering specific information aimed at proving or refuting some facts. In data collection, the researchers must have a clear understanding of what they hope to obtain and how they hope to obtain it. There must be a clear vision of instruments to be used, the respondents and the selected area. Data collection is important in research as it allows for dissemination of accurate information and development of meaningful programmes.

Data collection should be objective, systematic and repeatable (Lacey & Luff, 2001). Walker (2005) maintains that a researcher should use the simplest manner of collecting the data to get answers to the research questions and should not collect any more data than necessary. Enough time was given to teachers to fill the questionnaire depending on how busy they were. Those who were free were allowed to fill the questionnaire immediately. To encourage honest response the researcher assured the respondents of the confidentiality with which the responses were to be taken. The researcher asked them not to write their names on the questionnaire.

Research authorization and permit to conduct this study was granted by the National Commission for Science Technology& Innovation. (NACOSTI), a government agency in the Ministry of Higher Education, Science and Technology (MOHEST) in Kenya. Before commencement of the study, the researcher visited the District Education Office in Bureti Sub-County to seek permission. Data collection was from Biology teachers and Principals from eighteen schools. Data collection was done in two phases. The first phase

was the piloting phase, which was used purposely to determine reliability and validity of the instruments.

The second phase of data collection involved obtaining actual data. This involved setting a week to visit the schools sampled for the research and administering the questionnaires to sampled biology teachers and Principals. The researcher hand delivered the questionnaire and waited for them to be filled before taking them away. The researcher gathered Principal responses using interview schedule. In the interview schedule there were a list of questions and guidelines to the researcher on how the questions are to be asked. These questions were asked and the researcher wrote the responses from the principals. Time taken varied from school to school depending on how the principal response but it was approximately between twenty minutes to half an hour.

3.10 Data Analysis

Stacks and Hocking (1992) noted, that once the data has been collected; the results must be summarized; organized and analysed. Statistics provides the tools to accomplish these goals and understand the results of a research study. According to Parahoo (2014), data analysis is an integrated part of the research design, and it is a means of making sense of data before presenting them in an understandable manner.

Data was subdivided into broad categories for analytical purpose. The data was prepared for analysis through coding; editing and cleaning of the collected data preceded analysis. Data cleaning was the proof reading of the data to identify and correct inconsistent codes. Data was analysed using descriptive statistics and inferential statistics which include use of percentages.

Data obtained from the field in raw form was cleaned, coded and fed into statistical package for the social scientists (SPSS). This is because this program helps in organizing the data and presentation of data through charts in an easy way (Mugenda & Mugenda, 2003).

Inferential statistics were used to analyze the data because inferential statistics are based on the concept of using the values measured in a sample to estimate/infer the values that would be measured in a population; there will always be a degree of uncertainty in doing this. That is, the results of an analysis can be taken using a sample and can be generalize it to the larger population that the sample represents. In order to do this, however, it is imperative that the sample is representative of the group to which it is being generalized. The data collected from the 18 schools can be generalized to other schools in Bureti Sub-County, other Sub-Counties in Kenya and its borders.

To address this issue of generalization, there are tests of significance. ANOVA was used in this study to test for the significance between teacher–motivation and students performance.

Inferential statistics was concerned with making predictions or inferences about a population from observations and analyses of a sample. That is, the results of an analysis can be taken using a sample and can be generalized it to the larger population that the sample represents. In order to do this, however, it was imperative that the sample was representative of the group to which it is being generalized.

3.11 Ethical Considerations

According to Polit and Beck (2010), a study must deal with ethical issues when their intended research involves human beings. Research is viewed as a scientific human endeavour that is organized according to a range of protocols, methods, guidelines and legislation (Lacey&Luff, 2001). Research ethics is that domain of enquiry that identifies ethical challenges with a view to developing guidelines that safeguard against any harm and protects the rights of human subjects in research (Parahoo, 2014). The study assured the participants of the confidentiality of their responses as their identities would not be revealed at any point of the study. Confining to the ethical issues of confidentiality and free will, the study sought voluntary consent of the participants. Permission from the relevant authorities was also sought. The Respondents were informed of the objectives and significance of the study and assured of getting a copy of the study findings in case they needed them.

3.12 Summary

In this chapter, the study area, design of the study, variables, target population, sample procedures, sample size, data collection instruments, validity and reliability of instruments, data collection procedure, data analysis and ethical consideration have been discussed. How research instruments were administers to the pilot group and how a sample population was identified from the target population was also explored.

CHAPTER FOUR

DATA PRESENTATION

4.1 Introduction

This chapter presents the analysis of data collected, interpretation of data and presentation of the findings.This study investigated how teacher-motivation as a factor influences students' performance in Biology in Bureti Sub-County, Kericho County. It begins by presenting bio data of the respondents and the analysis of the data based on the objectives of the study. Both descriptive and inferential statistics were used. For descriptive statistics, frequency, pie chart, bar chart, percentage, mean and standard deviation were used. In inferential statistics analysis of variance (ANOVA) was used to test hypothesis at a significant level of $\alpha = 0.05$ at their appropriate degrees of freedom.

4.2 Bio data of the Respondent

In this section of Bio data, the focus was on the characteristics of the respondents which are presented thematically as sex of the respondent, teaching experience of the respondent, and level of academic achievements of respondent and the teachers ' college or university attended by the respondent. It is also intended to establish nature of the school the respondent works in and the responsibility held by the respondent in the respective school. These characteristics are presented in this study in form of tables and percentages are given in brackets.

4.2.1 Sex of the Respondent

The respondents of this study were both males and females from various categories of schools in Bureti Sub-County, Kericho County. When the item seeking the sex of the respondent was analysed, the findings were as follows. Male biology teachers made up

more than 57% (57.7%) of the total selected population of the study but there were more than 42% (42.3%) female teachers who participated in this study. This shows that majority of the Biology teachers in secondary schools in Bureti Sub-County are males while a few are females. This shows that the Biology being a science based subject has been perceived to be a male dominated discipline. This maybe because Biology, being a science subject has for many years been perceived as a male subject and many females opts for languages and humanities and avoids the sciences. It is however true that preference for science subjects was common in boys' school while girls' schools tended to prefer languages and humanities. However, in 1990s Kenya government has moved to correct this anomaly by taking affirmative action to ensure that all these subjects are taught in all schools. Perhaps, majority of the schools prefer male teachers, especially in Boys' schools, and mixed schools to female teachers because of the perceived many challenges and responsibilities associated with female teachers, like maternity leave, lack of maids to attend to their children, unstable marriages and family conflicts which cause stress to the female teachers as compared to the male teachers. From the study, majority of the selected schools were in rural setting. This is because location of most of schools are off main road and they are no many big towns in Bureti Sub –county except few which are surrounded by the few schools. This study disagrees with research by Davidson etal. (2005) which show that female -male composition of teaching and senior posts is not new: the majority of teachers in England are women yet relatively there are a greater proportion of male teachers in senior positions.This information is summarised in Figure 4.1 below.

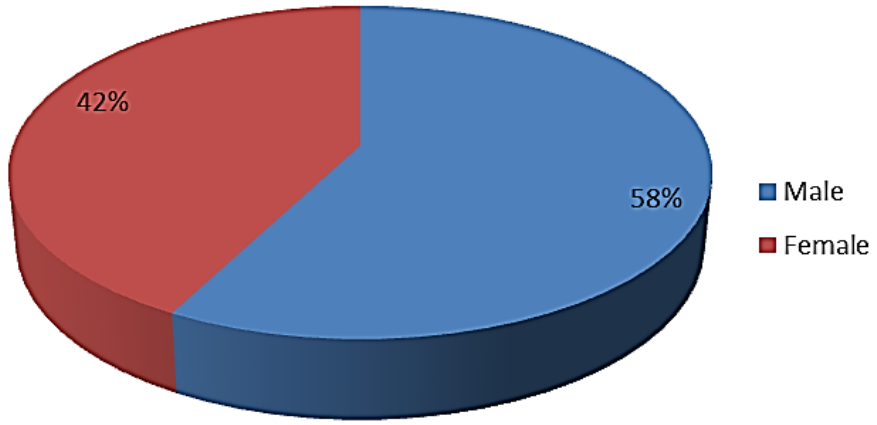

Figure 4.1: Sex of the Respondents

Source: Field data, 2015

4.2.2 Teaching Experience of the Respondent

This section reports the teaching experience of the Biology teachers and their composition. The researcher sought to investigate the number of female and male Biology teachers in each teaching experience category. The percentage of each is given in brackets.

The second item seeking the teaching experience of the respondents and the analysis of the collected data reveals that there are five different durations of teaching experience the teachers have. This span range was from 0 to over 20 years. Those who have taught between 0-2 years were 8(15.4%) of which 3 (5.8%) were male respondents and 5(9.6%) were female respondents,3-6 years there were 22(42.3%) respondents of which 10(19.2%) male respondent and 12 (15.4%) female respondents, 7-15 years there were 12 (23.1%) respondents of which 8(15.4%) were male respondents and 4 (7.7%) female respondents, 16-20years there were 6(11.5%) respondents of which 4(7.7%) male

respondent and 2(3.8%) female respondents, over 20years there were 4(7.7%) respondents of which 3 (1.9%) were male respondents and1 (1.9%) was female respondent. This confirms what was observed till 1980swhere teaching of science subject was male dominated. In this study the teaching of Biology between the periods of 0-6years is regarded as no experience because they didn't have enough exposure in teaching of this subject. This explains the relevance in attending seminars, symposium and short courses like SMASSE. This study regards 7 years and above duration of the teachers concern to have enough exposure such as examiners, SMASSE trainers and have attended many symposiums and other short courses. From this analysis it appears that few 22(42.3%) respondents make the exposed and experienced team, where 15(28.8%) were male respondents and 7(13.5%) female respondents. These are the respondents who have enough experience who can guide and mentor learners of Biology subject, therefore when such teachers are provided with motivation such as recognition or even material rewards they are likely to promote performance. These are teachers who are committed to their teaching profession and regard their choice of profession. The respondents of 0-6 years who are the majority (57.7%) in this study are inexperienced and may still be looking for other green pastures as they teach. These findings agree with study of Ferguson (2011), Gibbons (2002), Stringfield &Teddlie (1991) which show that students taught by more experienced teachers achieve at a higher level, because their teachers have mastered the content and acquired classroom management skills to deal with different types of classroom problems. Furthermore, more experienced teachers are considered to be more able to concentrate on the most appropriate way to teach particular topics to students who differ in their abilities, prior knowledge and back grounds.

From figure 4.2 it is noted that female teachers are more in the recent years. This shows that they have changed their attitude from what they perceived erroneously that science is a male subject. From 0-6 years of teaching experience there are more female than male teachers (32.6%) unlike earlier years of 7years and above where male teachers dominate science teaching (28.9%) this was partly the culture which people view science as a male dominated area .The results also show that the teachers who participated in this study have adequate teaching experience ranging from 7 to over 20 years and hence were expected to produce good results holding all extraneous factors constant. The findings of the study are supported by Nagy and Davis (1985) who found that motivation reduce with years of experience thus teachers with more experienced tends to be more motivated and satisfied than the youth who are less experienced.

The findings of these results are in Figure 4.2 which gives the teaching experience per sex of Biology teachers who participated in the study.

Table 4.1: Teaching Experience of the respondent

Teaching Experience	**Number**	**Gender**	
		Male	Female
0-2 years	8(15.4%)	3(5.8%)	5(9.6%)
3-6 years	22(42.3%)	10(19.2%)	12(23.1%)
7-15 years	12(23.1%)	8(15.4%)	4(7.7%)
16-20 years	6(11.5%)	4(11.5%)	2(3.8%)
Over 20 years	4(7.7%)	3 (5.8%)	1(1.9%)
Total	52(100%)	28(57.7)	24(46.1%)

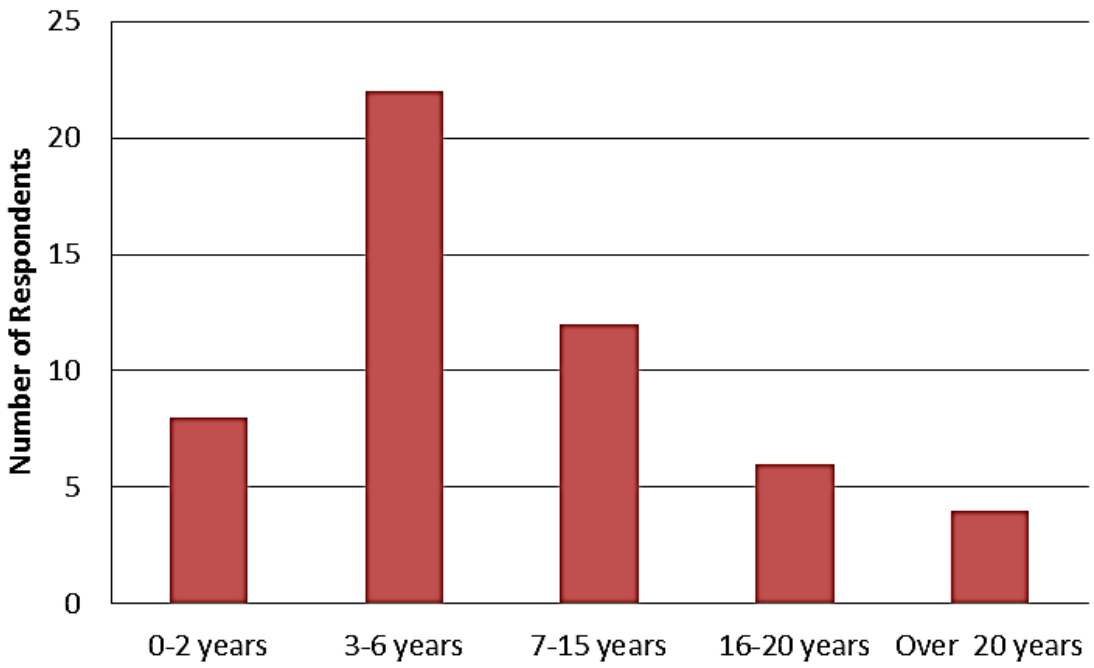

Figure 4.2: Teaching Experience of the respondent

Source: Field data, 2015

4.2.3 Type of the school of the respondent

When the item seeking the type of school of respondents was analyzed, it showed that all the categories of the public schools participated in this study, only mixed day schools were the least (19.2%) and the rest of categories were all equally selected (26.9%).This means that all the categories of schools in the district were well represented in this study. Hence the results will show adequate reflection of Biology performance in Bureti Sub-County. When the schools have been categorized and analysis was done to classify the schools to be rural or urban, the results reveal that majority10 (55.6%) were rural school and few 8 (44.6%) were urban schools.

This shows that most schools in Bureti Sub-County are located in rural areas and hence lack most of the infrastructures the urban schools have. These infrastructures include water, electricity and tarmac roads. The lack of these infrastructures may have demoralized the teachers and hence affecting Biology performance in the district. Therefore the Government, ministry of Education and County of Kericho should strive to ensure that there is equity in distribution of infrastructure in the county. When the infrastructure are equally distributed the teachers will be equally motivated and perform their duties equally hence improvement in performance.

This information is summarized in Table 4.2

Table 4.2: Type of the School of the respondent

Type of School	No. of respondents	Urban	Rural	Total
Boys Boarding	14(26.9%)	3(60%)	2(40%)	5(100%)
Girls Boarding	14(26.9%)	2(40%)	3(60%)	5(100%)
Mixed Boarding	14(26.9%)	0(0%)	2(100%)	2(100%)
Mixed Day	10(19.2%)	3(50%)	3(50%)	6(100%)
Total	52(100%)	8(44.4%)	10(55.6%)	18(100%)

4.2.4 Qualifications of the respondents

This section presents the results of the data collected for the item seeking the qualification of the respondent. The qualification of the respondents reveals that 8(15.4%) were diploma, 32(61.5%) bachelor, 12(23.1%) masters. From this analysis it appears that majority 44(84.6%) of the teachers of Biology who participated in this study are degree holders at bachelors and masters level.

Therefore the teachers in Bureti Sub-County are University graduates while a few 8(15.4%) are diploma holders in Biology. This shows that the teachers who participated in this study were well trained and have gone through a thorough exposure in university education (84.9%),and diploma (15.4%) hence the teachers who participated in this study were experienced and qualified. This demonstrates the fact that the ministry of Education wants to phase out diploma teachers in secondary schools and even there are fewer diploma training colleges. From this analysis it appears that the teaching of Biology in Bureti Sub-County, Kericho County is competently taught by highly qualified teachers of secondary schools. Given this fact, all that is require is for the ministry of Education and respective schools to motivate teachers by rewarding them appropriately so that they can promote performance of students in Biology as a subject in schools. This can be done by the ministry of Education by designing motivation packages for teachers with clear policies. In the school set-up a committee is set amongst teachers to establish best ways of motivating teachers. Besides the analysis the item also sought the teacher training institution attended in the preparation of being a teacher. From this analysis, it was established that respondents underwent teacher preparation in 7 different institutions where 5(9.7%) trained in Kenya science teachers training college,3(5.8%) Kagumo teachers training college as diploma teachers in Biology, Kenyatta University 23(44.6%), 15(28.8%) were trained in Moi University, 3(5.8%) were trained in Mount Kenya University, 2(3.8%) were trained in Egerton University, 1(1.9%) were trained in Maseno University.

From this analysis it appears that the majority (44.6%) was trained in Kenyatta University and maybe because Kenyatta is the oldest teacher Education University in Kenya,

followed by Moi University which introduced the Bachelor of Education including Biology in 1990.This was followed by Mount Kenya University because it is a new outfit. It is also interesting to note that Egerton University and Maseno University graduates were found to be few 3((5.7%) when these Universities have been training teachers from mid-1980.Therefore the results demonstrate that teachers teaching Biology in Bureti,Sub-County, Kericho County, have wide experiences derived from big variety teacher preparation institution ranging from diploma to University. Consequently, performance of students in Biology should be good because of these varying characteristics and teachers are better placed because of content, competence, exposure as are able to share ideas.

This information is summarized in Figure 4.3 Academic level of the Respondent and Figure 4.5 Teacher Preparation College or University attended by the Respondent

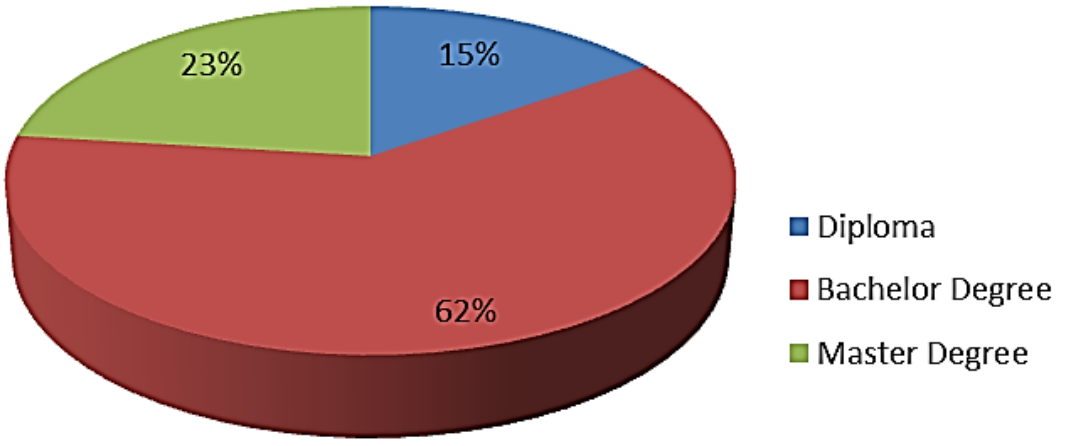

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Figure 4.3: Academic level of the Respondents

Source: Field data, 2015

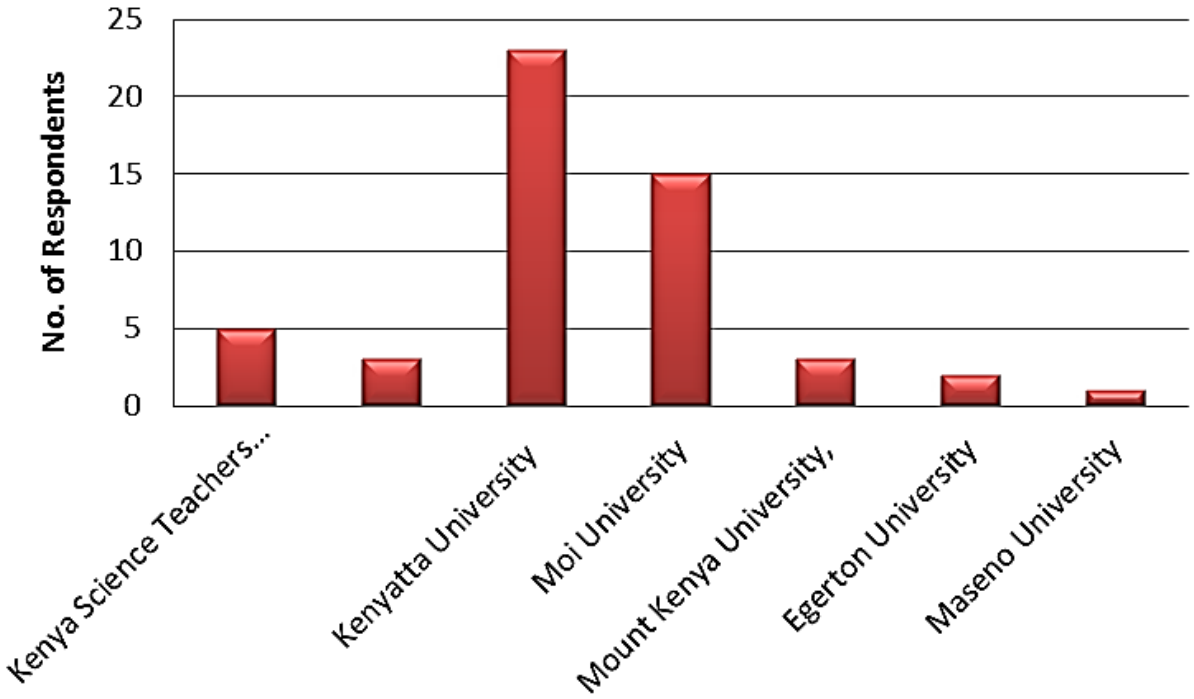

Figure 4.4: Institutions of Learning of the respondent

Source: Field data,2015

4.2.5 Responsibility of the respondent in the schools

When the item seeking the responsibilities held by teachers was analyzed, the findings clearly indicate that most of the Biology teachers (61.1%) who participated in the study were class teachers and few are biology teachers (15.4%) with no extra responsibilities apart from teaching. Each of the teachers having extra responsibilities shows that they can have closer interaction with the students. These responsibilities are elements of teacher–motivation and from this analysis it seems that there is insufficient and inadequate delegation of responsibilities to teachers in majority of the schools. From the analysis of the responsibility of respondents of this study, other than the teaching of Biology they are not well exposed to other forms of responsibilities. Teachers need to be in charge of games, dormitory, music festival and drama, patron of clubs and societies so

that they can be more exposed in various field of teaching profession. In conclusion, the analysis of Bio data demonstrates that teachers of Biology in Bureti district need more motivation to perform better in the subject so that they are motivated. This study agrees with the Dawley, 2008 study which shows that increasing responsibility for an employee tends to also increase motivation. This is because increased responsibilities make the employee feel more appreciated and skillful. This implies that the teacher would feel that he/she is in charge of an area and is fully the authority in charge.

The summary of the findings are given in Table 4.3 The responsibility of the respondent in school.

Table 4.3: Responsibility of the respondent in school

Responsibility delegation	**Frequency**
Assistant teacher	8(15.4%)
Class teacher	25(48%)
Head of Biology subject	12(23%)
Head of department	7(13.5%)
Total	52(99.9%)

4.2.6 Motivation of the respondents

When an item seeking whether the Respondents have any motivation extended to them by the school and if so what type of motivation did they get was analyzed, the findings were that, majority (88.5%) of teachers who participated in this study indicated that they were motivated, only(11.5%) indicated that there was no motivation in their schools.

This is in contrast with Evans (1998) who found that teachers suffer more than other professional groups from occupational lack of motivation. In contrast the study by Analoui (2000) concludes that the deteriorating standard of professional conduct was due to low teacher –motivation. This study agrees with studies done by Anderson &Erickson (2003) and Bennell and Akyeampong (2007) who pinpointed out that teacher- motivation is a key factor and determinant of learning outcomes. Hence high teacher-motivation leads to positive educational outcome. The disparity in performance maybe due to varying forms of motivation given to teachers and varying perception of teachers to the kind of motivation the school provides. This means that schools reward teachers as a form of motivation but the teachers may not appreciate it as a form of motivation. This was also seconded by the interview schedule for the principals who revealed that the majority of the schools motivate their teachers in their own small way they could afford. The difference may be due to how teachers appreciate this type of motivation. The summary of the findings are given in Figure 4.6

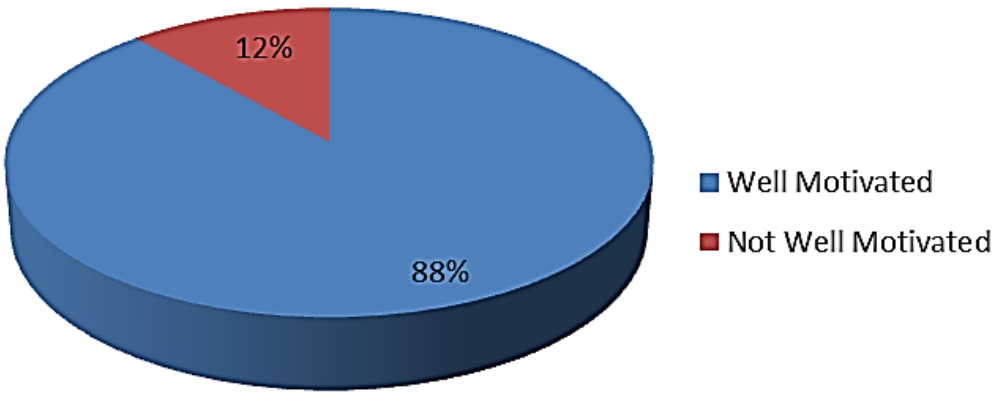

Figure 4.5: Level of Motivation

Source: Field data, 2015

4.2.7 Ways in which Teachers of Biology are motivated

This study sought to investigate the ways in which biology teachers were being motivated in Bureti Sub-County. The analysis of an open ended question seeking various ways in which teachers were motivated was analyzed. It showed that teachers who participated in this study appreciate monetary rewards (26.9%) and low or no house rent (21.2%). This concurs with the findings of Kasaija (1991) who established that both monetary and non-monetary rewards are motivators. Abdulla *et al.* (2011) study agrees with this assertion and stresses that professional allowances have great significance in motivating lecturers to do their work effectively. Mumanyire (2005) agrees that the most important motivator to the teacher is money which can be in form of salaries, allowances, wages, bonuses, duty allowances and other monetary rewards. However, a study by Glass (2011) in USA found that the most important motivator for teachers was non-monetary. In this case, teachers felt highly motivated by Job enrichment i.e. being given greater responsibilities by increasing the range and complexity of tasks they are asked to do and giving them the necessary authority.

Recognition or appreciation by the school and staff –tour was rated the least (11.5%) and (9.7%) respectively. This means that what the school provides might not be what teachers preferred. All 18 principals who participated in this study believed that staff-tour was a very important form of motivation, such that those who could not sponsor staff-tour were blaming it on lack of funds. This finding was contrary to that of Bernaus & Gardner (2008) who found that teachers were highly motivated by recognition in Bellaterra, Spain.

From the results, it is evident that Biology teachers (11.5 %) who participated in this study did not appreciate staff-trip as a priority. This maybe because of the view that monetary reward is more appropriate as it may be channeled to other projects. Given that this staff-trip come during holidays or half-terms, some teachers view it as a waste of time which could be spent to do something else. This shows that what teachers earned is not enough and the amount offered by the school for the trip could be used to meet other needs. This agrees with Dodson & Dickert (2004) who stated that low salary will oblique teachers to second job to make ends meet for them and their families. Therefore sponsoring for a trip, teachers may viewed it to be another potential source of income if they were given to them in cash form. However, Bogler & Somech (2004) found that teachers in Iowa, USA did not appreciate field trips and excursions as types of motivation. This was attributed to the fact that most arranged their own private excursions with their families.

Very few teachers who participated in this study (9.7%) value recognition without attachment with money but from table 4.3 many teachers who participated in this study rated recognition accompanied with money to have the highest mean (mean= 4.2,SD= 1.05) . This was contrary to the findings of Kasaija (1991) who established that both monetary rewards are the highly appreciated motivators.

The findings revealed that recognition attached with money had the highest mean (mean=4.29,SD=1.05) whereas type of administration had the lowest mean(mean=2.58,SD=1.47).This shows that Biology teachers who participated in this study liked recognition accompanied by monetary rewards in whichever way the school deem fit but forcing them or a dictatorship kind of leadership is not appreciated by

teachers .Teachers' trip also was among the lowest rated (mean=3.40,SD=1.30) by teachers who participated in this study. This also agrees with the results in table 4.7.

From these findings, teachers have varying attitudes towards the different types of motivation Majority (26.6%) wish to have monetary rewards than recognition hence teachers who participated in this study seem to value material rewards than psychological rewards.

The information is summarized in Figure 4.6 and Table 4.4

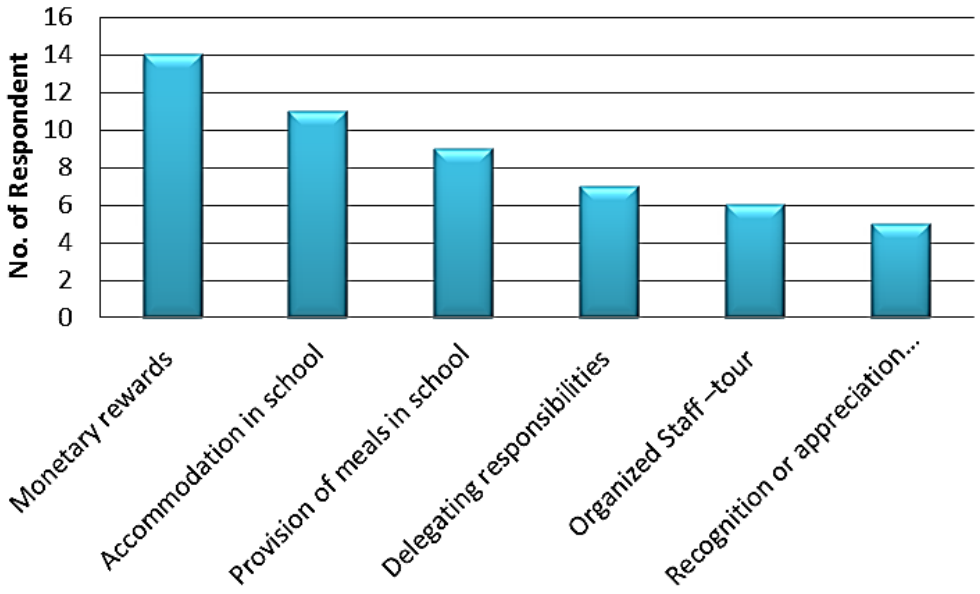

Figure 4.6: Ways in which Respondents feel Motivated

Source: Field data, 2015

Table 4.4: Teachers Perception on Motivation

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Mean	SD
I work harder when school recognize my good performance with money	1(1.9)	5(9.6)	2(3.8)	14(26.9)	30(57.7)	52(100)	4.29	1.05
I am happy because our head teacher recognizes extra work I do in the school.	4(7.7)	0(0)	2(3.8)	21(40.4)	25(48.1)	52(100)	4.21	1.09
I do much better when school charge low or no house rent	1(1.9)	3(5.8)	5(9.6)	18(34.6)	25(48.1)	52(100)	4.21	0.98
School sponsors us for workshop hence encourage me to teach better.	4(7.7)	2(3.8)	3(5.8)	24(46.2)	19(36.5)	52(100)	4.00	1.14
I work better when school provides lunch	2(3.8)	2(3.8)	6(11.5)	26(50.0)	16(30.8)	52(100)	4.00	0.97
Students motivate me to teach	8(15.4)	5(9.6)	3(5.8)	23(44.2)	13(25.0)	52(100)	3.54	1.38
I am encouraged to do better when school provides material tokens like cups , hot pots, suitcase etc	7(13.5)	5(9.6)	12(23.1)	10(19.2)	18(34.6)	52(100)	3.52	1.41
No team work or co-operation because the school doesn't not organize for trip	5(9.6)	7(13.5)	17(32.7)	8(15.4)	15(28.8)	52(100)	3.40	1.30
I do extra work without being motivated	9(17.3)	4(7.7)	13(25.0)	17(32.7)	9(17.3)	52(100)	3.25	1.33
School administration used a lot of force to make me teach	10(19.2)	3(5.8)	10(19.2)	13(25.0)	16(30.8)	52(100)	2.58	1.47

Source: Field data,2015

4.2.8 Perception of Biology Teachers towards Motivation

Schools provide various forms of motivation with a hope that teachers perceive them to be motivation. This study therefore sought to investigate perception of Biology teachers towards motivation given by schools. When items seeking perception of teachers toward kinds of motivation provided by schools were analyzed, the findings revealed that the overall perception of teachers who participated in this study rated recognition by monetary rewards to be the highest motivation (mean=4.54, SD=0.64). On the other hand, staff –tours was rated the least (mean=4.19, SD=0.99) (Table 4.5). This was in agreement with Bennell& Akyeampong (2007) who found that teachers in sub-Saharan Africa appreciated monetary rewards as motivators.

From the interview schedule, the principals viewed staff-tour to be the highest motivator such that those who were not able to sponsor their teachers felt that they were not motivating their teachers to their expectations. Therefore teachers who participated in this study value recognition by monetary rewards of whichever amount given by the school. This demonstrates the capitalist attitude that has gripped the teaching profession where teachers value money more than the professional life. This agree with findings of Merchant, (2007), who found that people value money and therefore money is a very important form of reward which can be in the following categories ; performance based, salary increases, short term incentives and long term incentive.However, this finding was contrary to that of Bernaus & Gardner (2008) who found that teachers were highly motivated by job recognition as compared to monetary rewards in Bellaterra, Spain.

Table 4.5: Perception of teachers on ways of motivation

Statements	SD	D	N	A	SA	Total	Mean	S.D
Recognition	0(0)	1(1.9)	1(1.9)	19(36.5)	31(59.6)	52(100)	4.54	0.64
Provision of meals	0(0)	0(0)	1(1.9)	24(46.2)	27(51.9)	52(100)	4.50	0.54
Accommodation	0(0)	2(3.8)	4(7.7)	13(25.0)	33(63.5)	52(100)	4.48	0.80
Increased monetary rewards	0(0)	2(3.8)	2(3.8)	21(40.4)	27(51.9)	52(100)	4.40	0.75
Delegating responsibilities	0(0)	1(1.9)	8(15.4)	22(42.3)	21(40.4)	52(100)	4.21	0.78
Staff tour	2(3.8)	0(0)	9(17.3)	16(30.8	25(48.1)	52(100)	4.19	0.99

Source: Field data,2015.

4.2.9 Influence of Teacher- motivation on Performance in Biology

This study sought to investigate how teacher motivation influences performance in biology. The first analysis involved determination of mean score in biology KCSE results for teachers who indicated that they were motivated and those who indicated that they were not motivated. The results are represented in table 4.6.

Students taught by motivated teachers performed well in KCSE performance in Biology. The values in table 4.6 revealed that teachers who indicated to be motivated had higher means score high (mean=6.55, SD=1.68) and those of unmotivated have low mean score (mean=4.00, SD=1.98). Secondly, to find out whether the differences noted was significant or due was to chance, the data was tested using one way analysis of variance (ANOVA). The hypothesis Ho, there is no significant difference in performance between

students taught by motivated teachers and students taught by unmotivated teachers was tested. The findings are presented in Table 4.7.

The values in Table 4.7 indicates that the difference noted in the means are indeed significant at $\alpha = 0.05$ level of significant (F=11.807, sign (P value =0.001, P value). Since the value (0.001) is less than the level of significant (0.05). This means that there is indeed statistically significant difference in performance between motivated and unmotivated teachers. Consequently the null hypothesis was not accepted. Indeed there is significant difference in Performance between the two groups. This agrees with study of Cheptoek (2000) which established that job satisfaction influences job performance among non- academic staff at Islamic University in Uganda and also study of Dörnyei (2001), which found that students will work harder at a task when they are handled by the teachers who are well taken care of in terms of working incentives and remuneration and their performance at the same level irrespective of gender. Hence, it means that teacher motivation influences KCSE performance in Biology. However, Ramachandran *et al.* (2005) found that teacher motivation did not have any correlation with students' performance in New Delhi, India.

The details of the results are presented in table 4.6.

Table 4.6: KCSE Mean Score

Group of Teachers	N	Biology Mean score in KCSE	Standard Deviation
Motivated	46	6.55	1.68
Not Motivated	6	4.00	1.98
Total	52	6.25	1.88

Source: Field data

Table 4.7: ANOVA Results

KCSE mean score					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	34.613	1	34.613	11.807	.001
Within Groups	146.578	50	2.932		
Total	181.191	51			

Source: Field data,2015

4.3 Summary

From this study it is evident that there are more male Biology teachers than the female Biology teachers who are qualified and experienced. The selection of categories of schools for this study was well represented and the majority of teachers who participated in this study were motivated. There exists teacher-motivation in many schools in Bureti Sub-County. However, teacher-motivation varies from school to school. This accounts for the disparity in the academic performance in schools which participated in this study. The study further reveals that there is varying perception of teachers who participated in this study to the various forms of teacher -motivation. The study also indicates that there is significant difference in performance between students taught by motivated teachers unlike those taught by unmotivated teachers.

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CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusions and recommendations

5.2 Findings and Conclusions

Generally this study has established the following findings based on the following objectives:

1. To investigate whether secondary schools in Bureti Sub-County district motivates their teachers.
2. To investigate ways in which teachers are motivated in secondary schools in Bureti Sub-County.
3. To investigate the perception of teachers towards motivation given by secondary schools in Bureti Sub-County.
4. To determine the influence of teacher- motivation on performance of students in Biology in secondary schools in Bureti Sub-County, Kericho County.

   The findings of the study were as follows:

5.2.1Objective 1: Teacher- motivation in Bureti Sub-County

The study reveals that majority of the Biology teachers who participated in this study were motivated. It is interesting that there is existence of teacher-motivation in the majority of schools in the Bureti Sub-County and yet there is disparity in Biology performance despite being taught by qualified, competent and exposed teachers. There were varying forms of teacher-motivation in Bureti Sub-County. The disparity maybe

because of how these teachers perceived these kinds or forms of teacher-motivation provided by the schools and varying forms of teacher-motivation in Bureti Sub-County.

5.2.2 Forms and Perception of Teacher Motivation in Bureti Sub-County

This study established that there are varying ways of teacher-motivation in the schools which participated in this study. These include monetary rewards, recognition, staff-trip, accommodation, responsibility, provision of meals. Amongst these, teachers value monetary rewards than any other form of motivation. Recognition and staff-tour were rated the least despite the principals of the 18 schools imagining that staff-tour is a very important motivator which most schools yearn for. It is interesting that staff –tour and recognition is rated as the least and yet principals view this to be the most important. This could be because staff-tour came during the holiday or half –term ,the time of which teachers could have used to do other jobs, or it could be because of the view that this money which is used in the trip could be used for their projects at home.

5.2.3 Influence of Teacher- Motivation on Performance of Students in Biology in Secondary Schools in Bureti Sub-County

From the findings it is evident that there is strong relationship between teacher motivation and students' performance in KCSE. Therefore, if teachers are motivated they derive pleasure from their job, perform their teaching duties effectively, as a result, produce good student results.

5.3.1 Conclusion

From this study it can be concluded that teachers value monetary rewards and have least value for staff-trip and recognition.In addition, although there are diverse techniques that

could be used to motivate teachers, the efficacy and applicability of the technique depends on the school in which it operates.

The study has also confirmed that there is a significant difference between teachers' that are motivated and those not motivated in Bureti Sub-County, Kericho County. The findings also revealed that students taught by teachers that are motivated perform significantly better than students those taught by teachers that are not motivated and this findings agrees with findings of Saari &Judge (2004).

5.3.2 Recommendation

From previous research findings and from this present study, several recommendations can be made for consideration by the government, Teachers Service Commission, schools management, Parents Teachers Association, parents and teachers. There is need to improve Institutional teacher reward systems in every institution to improve students' performance.

- Therefore the ministry of Education should develop a uniform motivation packages for teachers and should improve teachers' motivation by putting in place clear policies on reward systems and ensuring regular promotion of the teachers.
- The school management should put in place clear ways of working hand in hand with teachers to see their rewards are as a result of their hard work and satisfy their expectations by giving them opportunity for growth and development .The principals of the various schools need to have a meeting with their staffs so as to harmonise the reward areas and what teachers like to be rewarded. This can be done by the school by setting up reward committee amongst the teachers, who in turn can get views from teachers on reward areas and reward system. After

collecting the teachers opinions, the committee can then have a meeting with the principal to discuss how best to implement basing on the financial status of the respective schools.

- The school principals and their Board Of Management need to revalue the purpose of organise staff-trip in terms of timing and other possibilities.
- The schools in Bureti Sub-county should focus on more of intrinsic motivation than extrinsic motivation.

5.3.3 Suggestions for Further Research

The fact that this study is limited to Bureti Sub-County and few selected secondary schools limits the generalization of its findings. The following are the areas for further research.

There is need:

a) Effects of school managements' use of non-monetary rewards on teachers towards students' performance in Kenya Certificate of Secondary Education in Bureti Sub-County.
b) Study on why teachers do not prefer organised staff –tour as motivation.
c) Effect of recognition of teachers as a way of motivation on achievement of students.
d) Study on why teachers prefer monetary rewards than other rewards.

REFERENCES

Abbott, M., & Cohen, B. (2009).Productivity and efficiency in the water industry. *Utilities Policy, 17*(3), 233-244.

Abdulai, A., & Hazell, P. B. (1996).The role of agriculture in sustainable economic development in Africa. *Journal of sustainable agriculture*, *7*(2-3), 101-119.

Abdulla, J., Djebarni, R., & Mellahi, K. (2011). Determinants of job satisfaction in the UAE: A case study of the Dubai police. *Personnel review*, *40*(1), 126-146.

Adair, J. (2010). *Effective motivation: how to get the best results from everyone*. Pan Macmillan.

Adair, J. E. (2006). *Leadership and motivation: the fifty-fifty rule and the eight key principles of motivating others*. Kogan Page Publishers.

Adams, J. S. (1963). Towards understanding of Inequity. *Journal of Abnormal and Social Psychology*, *67*, 422 – 436.

Adams, O., & Hicks, V. (2000, December).Pay and non-pay incentives, performance and motivation. In *WHO's workshop on a Global Health Workforce Strategy, Annecy, France*.

Adelabu, M. A. (2005). Teacher motivation and incentives in Nigeria.*London: DFID*.

Ahmed, M. (2012).Challenges and Realities of Falling Standard of Primary Education in Nigeria. *International Journal of Innovative Research and Development, 1*(9), 271-284.

Aiken, J. H. (1997). Striving to teach justice, fairness, and morality. *Clinical L. Rev.*, *4*, 1.

Akpan, I. U. (2013). The Influence of Motivation of Teachers' and Their Incentives in AkwaIbom State, Nigeria.*Int. J. Modern Mgmt. Sci*, *2*(2), 87-93.

Akyeampong, A. (2007) *Review of Secondary Education in Ghana*, Accra: World Bank.

Analoui, F (2000). What motivates senior managers? The case of Romania. *Journal of Managerial Psychology*, Volume 15, Number 4, pp: 324-340. University of Bradford, Bradford, UK

Anderson, J. B., & Erickson, J. A. (2003).Service-Learning in Preservice Teacher Education.*Academic Exchange Quarterly*, *7*(2), 111-115.

Ashton, J., & Newman, L. (2006). An unfinished symphony: 21st century teacher education using knowledge creating heutagogies. *British Journal of Educational Technology*, *37*(6), 825-840.

Axelsson, A., & Bokedal, S. (2009). Reward Systems-Motivating different generations. A case study of Volvo Car Corporation.

Bandura, A. (1999). A sociocognitive analysis of substance abuse: An agentic perspective. *Psychological Science*, *10*(3), 214-217.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual review of psychology*, *52*(1), 1-26.

Bandura, A. (2002). Social cognitive theory: An agentic perspective. *Annual review of psychology*, *52*(1), 1-26.

Banu, D. P. (1986).Secondary school students' attitudes towards science.*Research in Science & Technological Education*, *4*(2), 195-202.

Bassett-Jones, N., & Lloyd, G. C. (2005). Does Herzberg's motivation theory have staying power?.*Journal of Management Development*, *24*(10), 929-943.

Bennell, P. (2004). Teacher motivation and incentives in sub-Saharan Africa and Asia.*Knowledge and Skills for Development, Brighton*.

Bennell, P., & Akyeampong, K. (2007).*Teacher Motivation in Sub-Saharan Africa and South Asia*. London: DfID.

Bennell, P., & Akyeampong, K. (2007).*Teacher Motivation in Sub-Saharan Africa and South Asia*. London: DfID.

Bennell, P., & Akyeampong, K. (2007). *Teacher Motivation in Sub-Saharan Africa and South Asia* (No. 71). London: DfID.

Bennell, P., Hyde, K., & Swainson, N. (2002).The impact of the HIV/AIDS epidemic on the education sector in sub-Saharan Africa.*Sussex, Centre for International Education, University of Sussex*.

Bennell, P.S., Bulwani, G. and Musikanga, M. (2003), *Secondary Education in Zambia: Centre for Internal Education.* Sussex University, Brighton.78

Bernardes, A. T. (2003). Cross-over, thresholds, and interactions between science and technology: lessons for less-developed countries. *Research Policy*, *32*(5), 865-885.

Bernaus, M. & Gardner, R. C. (2008).Teacher motivation strategies, student perceptions, student motivation, and English achievement. *The Modern Language Journal*, *92*(3), 387-401.

Bigley, G. A., & Steers, R. M. (2003).*Motivation and work behavior*. New York: McGraw-Hill/Irwin.

Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and teacher education,20*(3), 277-289.

Braton J. J. G (1994). *Human Resource Management Theory and Practice*.McMillan. (1st Ed.)

Burns, N., & Grove, S. K. (2010).*Understanding nursing research: Building an evidence-based practice*. Elsevier Health Sciences.

Carlson, N. R., Buskist, W., Enzle, M. E., Heth, C. D., & Alder, G. (2002). Psychology: The science of behaviour.

Carron, G. (1996). *The quality of primary schools in different development context*. UNESCO, Paris, International institute of educational panning.

Cheptoek, M. (2000).Job satisfaction and job performance amongst non-academic staff at Islamic University in Uganda.*Unpublished (Masters of education), dissertation, Makerere, University, Kampala, Uganda*.

Chesterfield, R. A., Enge, K. I., & Rubio, F. E. (2002).Cross-cultural cognitive categorization of students by Guatemalan teachers.*Cross-cultural research*, *36*(2), 103-122.

Clark, J. L. (1994). *Improving the Quality of Learning: A Framework for Target-Oriented Curriculum Renewal in Hong Kong.Revised*.

Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review*, *26*(6), 673-682.

Cohen, L. and Manon, M.K. (2007). *Research Methods in Education* (6th ed.). London: Routledge Flamer.

Cohen, A. D., & Dörnyei, Z. (2002). Focus on the language learner: Motivation, styles, and strategies. *An introduction to applied linguistics*, 170-190.

Coombs, P, H. (1985). *The word crisis in education.From the eighties*.New York, Oxford University press.

Cooper, M. J. (2002). Employee Perceptions of Award and Incentive Programs.*Journal of Promotion Management*, *8*(1), 35-51.

Czerniak, C. M., & Lumpe, A. T. (1996).Relationship between teacher beliefs and science education reform.*Journal of Science Teacher Education*, *7*(4), 247-266.

Darling-Hammond, L. (1999).*Teacher quality and student achievement: A review of state policy evidence*. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington.

Darling-Hammond, L. (2008). Teacher learning that supports student learning. *Teaching for intelligence*, *2*, 91-100.

Darrow, A. A., & Armstrong, T. (1999). Research on Music and Autism: Implications for Music Educators. *Update: Applications of Research in Music Education*, *18*(1), 15-20.

Davidson, J., Powney, J., Wilson, V., Hall, S., & Mirza, H. S. (2005). Race and sex: teachers' views on who gets ahead in schools?. *European journal of teacher education*, *28*(3), 311-326.

Dawley, D. D., Andrews, M. C., & Bucklew, N. S. (2008). Mentoring, supervisor support, and perceived organizational support: what matters most?.*Leadership & Organization Development Journal*, *29*(3), 235-247.

Deci, E. L. & Ryan, R. M. (2011).*Self-Determination*. John Wiley & Sons, Inc..

Dewey, J. (2007). *Experience and education*.Simon and Schuster.

Dickinson, A., & Balleine, B. (1994).Motivational control of goal-directed action.*Animal Learning & Behavior*, *22*(1), 1-18.

Doré, T., Makowski, D., Malézieux, E., Munier-Jolain, N., Tchamitchian, M., & Tittonell, P. (2011).Facing up to the paradigm of ecological intensification in agronomy: revisiting methods, concepts and knowledge.*European Journal of Agronomy*, *34*(4), 197-210.

Dörnyei, Z. (2000). Motivation in action: Towards a process-oriented conceptualisation of student motivation. *British Journal of Educational Psychology*, *70*(4), 519-538.

Dörnyei, Z. (2001). *Motivation strategies in the language classroom*. Ernst KlettSprachen.

Dzubay, D. (2001). Understanding Motivation & Supporting Teacher Renewal. Quality Teaching and Learning Series.

Ehrenberg, R. G., & Brewer, D. J. (1994). Do school and teacher characteristics matter? Evidence from *High School and Beyond*.*Economics of Education Review*, *13*(1), 1-17.

Elfers, C., Herzog, O., Miene, A., & Wagner, T. (2008, February).Qualitative abstraction and inherent uncertainty in scene recognition.In*Logic and B probabilty for scene interpretation, Dagstuhl Seminar Proceedings, Wadern*.

Elishiba, N. K., & Donald, K. K. (2010). Gender and poverty reduction: A Kenyan context. *Educational research and Reviews*, *5*(1), 024-030.

Enochs, L. G., Scharmann, L. C., & Riggs, I. M. (1995).The relationship of pupil control to preservice elementary science teacher self–efficacy and outcome expectancy.*Science Education*, *79*(1), 63-75.

Eshiwani, G. S. (1993). *Education in Kenya since independence*. East African Publisher

Evans, L. (1998) *Teacher Morale, Job Satisfaction and Motivation, London*: Paul Chapman Publishing

Farrel, J, P. (1993). *Teaching the developing countries*.The World Bank. Washington, D.C.

Ferguson, P. (2011). Student perceptions of quality feedback in teacher education.*Assessment & Evaluation in Higher Education*, *36*(1), 51-62.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1993).*How to design and evaluate research in education* (Vol. 7). New York: McGraw-Hill.

Frey, B. S., & Jegen, R. (2001).Motivation crowding theory.*Journal of economic surveys*, *15*(5), 589-611.

Friedman, I. A. (1991). High and low-burnout schools: School culture aspects of teacher burnout. *The Journal of Educational Research*, *84*(6), 325-333.

Fullan, M. (1982).*The meaning of educational change.* New York: Teachers College Press.

Fullan, M. (1993).*Change forces: Probing the depths of educational reform* (Vol. 10). Psychology Press.

Fullan, M. (2008). *What's Worth Fighting for in Headship?*.McGraw-Hill Education (UK).

Gall, M. D., Gall, J. P., & Borg, W. R. (2007).Collecting research data with questionnaires and interviews.*Educational research: An introduction*, 227-261.

Gavinda, R. & Varghese, N. U. (1993).*Quality of primary schooling in India.A case study of Madhya Pradesh, India, Paris;* UNESCO International institute of education planning. Htm://en.winpedia.org.wiki/

Gawel, J. E. (1997). Herzberg's Theory of Motivation and Maslow's Hierarchy of Needs.ERIC/AE Digest.

Gibbons, P. (2002). *Scaffolding language, scaffolding learning: Teaching second language learners in the mainstream classroom*. Portsmouth, NH: Heinemann.

Glass, J. E. (2011). *The influence of teacher motivation in the context of performance-based compensation.* Unpublished PhD thesis

Glewwe, P., & Kremer, M. (2006).Schools, teachers, and education outcomes in developing countries.*Handbook of the Economics of Education*, *2*, 945-1017.

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., ... & Toulmin, C. (2010). Food security: the challenge of feeding 9 billion people. *science*, *327*(5967), 812-818

Goldhaber, D. D., & Brewer, D. J. (2000). Does teacher certification matter? High school teacher certification status and student achievement.*Educational evaluation and policy analysis*, *22*(2), 129-145.

Goldsmith, M. M. (1966). *Hobbes's science of Politics*.Columbia University Press.

Gratz, D. B. (2009).*The peril and promise of performance pay: Making education compensation work*. R&L Education.

Gretchen, W. (2006.) "*Taking Race Out of the Equation: School Reassignment and the Structure of Peer Effects*." Unpublished manuscript, Harvard University.

Hagerty, M. R. (1999). Testing Maslow's hierarchy of needs: National quality-of-life across time.*Social Indicators Research*, *46*(3), 249-271.

Hall, A. (2005). Capacity development for agricultural biotechnology in developing countries: an innovation systems view of what it is and how to develop it. *Journal of International Development*, *17*(5), 611-630.

Hanushek, E. A. (2003). The Failure of Input-based Schooling Policies*.*The economic journal*, *113*(485), F64-F98.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (1999).*Do higher salaries buy better teachers?*(No. w7082).National bureau of economic research.

Hardy, I., & Smith, E. (2006).Contesting tertiary teaching qualifications: an Australian perspective.*Teaching in Higher Education*, *11*(3), 337-350.

Harrison, M., Klugman, J., & Swanson, E. (2003). Are Poverty Reduction Strategies Undercutting the Millennium Development Goals? An Empirical Review.*Washington: World Bank (September 17)*.

Hertzberg, F. (1959).*Work and the nature of man*. Cleveland: World Publishing.

Hopkins, W. G. (2000). Reliability from consecutive pairs of trials (Excel spreadsheet).*A new view of statistics*.

Horton, R. L., & Hutchinson, S. (1997). Nurturing scientific literacy among youth through experientially based curriculum materials. *Washington, DC: National Network for Science and Technology, Cooperative Extension Service Children, Youth & family Network CREES-USDA*.

Huang, F. L.& Moon, T. R. (2009). Is experience the best teacher? A multilevel analysis of teacher characteristics and student achievement in low performing schools.*Educational Assessment, Evaluation and Accountability*, *21*(3), 209-234.

Huling-Austin, L. (Ed.). (2000). *Quality mentoring for novice teachers*.Rowman & Littlefield.

Ingersoll, R. M. (2003). " Why Schools Have Difficulty Staffing Their Classrooms with Qualified Teachers?. *Educational leadership*, *60*(8), 30-33.

Johnson, B., & Turner, L. A. (2003).Data collection strategies in mixed methods research.*Handbook of mixed methods in social and behavioral research*, 297-319.

Kamoh, N. M., Ughili, L. S., & Abada, A. A. (2013). Enhancing the Teacher Profession: Key to Revamping the Education Sector In Nigeria. *Academic Research International*, *4*(1).

Kang, N. H. (2008). Learning to teach science: Personal epistemologies, teaching goals, and practices of teaching.*Teaching and Teacher Education*, *24*(2), 478-498.

Kaplan, A., & Maehr, M. L. (2007).The contributions and prospects of goal orientation theory.*Educational Psychology Review*, *19*(2), 141-184.

Kasaija, I. (1991). *Effects of monetary and non-monetary rewards on motivation among post primary institutions in Hoima and Masindi districts*. Unpublished (Masters of education) dissertation, Makerere University, Kampala, Uganda.

Kember, D., & Leung, D. Y. (2008).Establishing the validity and reliability of course evaluation questionnaires.*Assessment & Evaluation in Higher Education*, *33*(4), 341-353.

Kenya National Examination Council (KNEC) (2009).*"The year 2009 Kenya Certificate of Secondary Education",* (KCSE) Examination Report Self.

Kenya National Examination Council (KNEC) (2011).*"The year 2011 Kenya Certificate of Secondary Education",* (KCSE) Examination Report Self.

Khalifa, M. H. E., & Truong, Q. (2010).The relationship between employee perceptions of equity and job satisfaction in the Egyptian private universities.*Eurasian Journal of Business and Economics*, *3*(5), 135-150.

Khan, T. (2007).Teacher Job Satisfaction and incentive.*A case study of Pakistan*.

Kinicki, A., & Kreitner, R. (2003).*Organizational behavior: Key concepts, skills & best practices*. McGraw-Hill/Irwin.

Kinuthia, W. (2009).Educational development in Kenya and the role of information and communication technology.*International Journal of Education and Development using ICT*, *5*(2).

Klein, J. T. (Ed.). (2001). *Transdisciplinarity: Joint problem solving among science, technology, and society: An effective way for managing complexity*. Springer.

Kline, R. (2002). A model for improving rural schools: Escuela Nueva in Colombia and Guatemala. *Current Issues in Comparative Education*, *2*(2), 170-181.

Krajcik, J. S., Czerniak, C., & Berger, C. (1999).*Teaching children science: A project-based approach*. Boston: McGraw-Hill.

Kressler, H. (2003). *Motivate and reward: Performance appraisal and incentive systems for business success*. Palgrave Macmillan.

Lacey, A., & Luff, D. (2001).*Qualitative data analysis*. Sheffield: Trent Focus.

Laczko-Kerr, I., & Berliner, D. C. (2003). In Harm's Way: How Undercertified Teachers Hurt Their Students. *Educational Leadership*, *60*(8), 34-39.

Lai, E. R., & Waltman, K. (2008). Test preparation: Examining teacher perceptions and practices. *Educational Measurement: Issues and Practice*, *27*(2), 28-45.

Laurillard, D. (2013). *Rethinking university teaching: A conversational framework for the effective use of learning technologies*.Routledge.

Lawal, O. A. (2002).Social-psychological considerations in the emergence and growth of terrorism.*The psychology of terrorism: Programs and practices in response and prevention*, *4*.

Lawler, E. E. (1969). 3. Job design and employee motivation. *Personnel Psychology*, *22*(4), 426-435.

Lawrenz, F., & Cohen, H. (1985). The effect of methods classes and practice teaching on student attitudes toward science and knowledge of science processes. *Science Education*, *69*(1), 105-113.

Lee, C. L., Lu, H. P., Yang, C., & Hou, H. T. (2010). A Process-Based Knowledge Management System for Schools: A Case Study in Taiwan. *Turkish Online Journal of Educational Technology-TOJET*, *9*(4), 10-21.

Leithwood, K. A., & Riehl, C. (2003).*What we know about successful school leadership* (pp. 1-14). Nottingham: National College for School Leadership.

Lewis, G. B., & Frank, S. A. (2002). Who wants to work for the government?.*Public administration review*, *62*(4), 395-404.

Lo Biondo-Wood, G. & Haber, J. (2010). *Nursing Research: Methods and Critical Appraisal for Evidence- Based Practice* (7th ed.). Mosby Elsevier, St. Louis.London, Kogan.

Lopez Gunn, E., & Ramón Llamas, M. (2008, August). Re-thinking water scarcity: Can science and technology solve the global water crisis?.In *Natural Resources Forum* (Vol. 32, No. 3, pp. 228-238). Blackwell Publishing Ltd.

Luthans, F., & Stajkovic, A. D. (1999). Reinforce for performance: The need to go beyond pay and even rewards. *The academy of management executive*, *13*(2), 49-57.

Lydiah, L. M., & Nasongo, J. W. (2009).Role of the Headteacher in Academic Achievement in Secondary Schools in Vihiga District, Kenya. *Current Research Journal of Social Sciences*, *1*(3), 84-92.

Lydiah, L. M., & Nasongo, J. W. (2009).Role of the Headteacher in Academic Achievement in Secondary Schools in Vihiga District, Kenya. *Current Research Journal of Social Sciences*, *1*(3), 84-92.

Maicibi, N. A. (2003). *Pertinent issues in employees management*. MPK Graphics.

Maritim, E. K. (2009). The distance learning mode of training teachers in Kenya: challenges, prospects, and suggested policy framework. *Open Learning*, *24*(3), 241-254.

Maundu, B. K. (1986). A survey of classroom discipline problems faced by teachers in Selected primary Schools in Kangundo Division of Machakos District. *Unpublished masters Thesis, Kenyatta University, Nairobi Kenya*.

McEnrue, M. P. (2011, October). Government policies to enhance entrepreneurial activity among scientists in Kenya.In*Global Entrepreneurship Conference, Washington, DC* (pp. 6-8).

McMichael, P., & Schneider, M. (2011).Food security politics and the Millennium Development Goals.*Third World Quarterly*, *32*(1), 119-139.

Meir, E. I. (1972). Relationship between intrinsic needs and women's persistence at work.*Journal of Applied Psychology*, *56*(4), 293.

Merchant, K. A. (2007).Evaluating general managers' performances. *Strategic Finance*, *88*(11), 12-16.

Monk, D. H., & King, J. A. (1994). Multilevel teacher resource effects on pupil performance in secondary mathematics and science: The case of teacher subject-matter preparation. *Choices and consequences: Contemporary policy issues in education*, 29-58.

Muchiri, J. W. (2012). *Headteachers' characteristics and their influence on their instructional supervision in public primary schools in Igonji division Imenti South district, Meru Kenya* (Doctoral dissertation, University of Nairobi, Kenya).

Mugenda, O. M., & Mugenda, A. G. (2003).Research methods. *Nairobi: ACTS*.

Mukhwana, W. J., Barmao, C. C. & Jepkorir, M. (2013).Overcoming teacher-related challenges to performance in Biology subject among secondary school students in Eldoret municipality, Kenya.*Journal of Emerging Trends in Educational Research and Policy Studies*, *4*(1), 79-87.

Mumanyire, M. (2005).*Factors affecting teacher motivation in secondary schools in Mukono district.*Unpublished (Masters of education) dissertation, Makerere University, Kampala, Uganda.

Murnane, R. J., & Levy, F. (1996).*Teaching the New Basic Skills. Principles for Educating Children To Thrive in a Changing Economy*. Free Press, 1230 Avenue of the Americas, New York, NY 10020..

Murnane, R. J., & Phillips, B. R. (1981). What do effective teachers of inner-city children have in common?.*Social Science Research, 10*(1), 83-100.

Murnane, R.J. (1987) 'Understanding teacher attrition', *Harvard Educational Review,* 57:177-182.

Musungu, L. L., & Nasongo, J. W. (2008).The head-teacher's instructional role in academic achievement in secondary schools in Vihiga district, Kenya. *Educational Research and Review*, *3*(10), 316-323.

Nagy, S., & Davis, L. G. (1985). Burnout: A comparative analysis of personality and environmental variables. *Psychological Reports, 57*(3f), 1319-1326.

Nambassa, K.M. (2003).*The impact of classroom supervision on the quality of teaching and learning in primary schools in Wakiso District, Uganda*. Unpublished (Masters of education) dissertation , Makerere University, Kampala, Uganda.

Nelson, B. S., & Hammerman, J. K. (1996). Reconceptualizing teaching: Moving toward the creation of intellectual communities of students, teachers, and teacher educators. *Teacher learning: New policies, new practices*, 3-21.

Nelson, J. P., & Lynch, K. A. (1984).Grade inflation, real income, simultaneity, and teaching evaluations.*Journal of Economic Education*, 21-37.

Newton, C., & Tarrant, T. (2012).*Managing change in schools: a practical handbook.* Routledge.

Ngala, F. B., & Odebero, S. O. (2010). Teachers perceptions of staff development programmes as it relates to teachers effectiveness: A study of rural primary schools in Kenya. *Educational Research and Reviews, 5*(1), 001-009.

Nyongesa, S. B. (2014). *A study of instructional practices used by teachers of English in upper classes of primary schools in Kabras Division, Kakamega district* (Doctoral dissertation).

Obanya, P. (2002). *Revitalizing education in Africa*.Stirling-Horden.

Ogomarch, M. (1994). Motivation and the Performance of Primary School Teachers in Uganda: A Case of Kimaanya-Kyabakuza Division, Masaka District. *Organizational Dynamics, 4* (4), 3-21.

Ogula, D. C. N. (2008). *Stakeholder involvement in corporate social strategy: An ethnographic study of the Niger Delta, Nigeria*. ProQuest.

Orodho (2003).*Essentials of educational and social science Research Method*. Nairobi:Masola

Orodho, J. A. (2009). Elements of education and social science research methods. *Nairobi/Maseno*, 126-133.

Owen, N., Humpel, N., Leslie, E., Bauman, A., & Sallis, J. F. (2004). Understanding environmental influences on walking: review and research agenda. *American journal of preventive medicine*, *27*(1), 67-76.

Owoeye, J. S., & Yara, P. O. (2011).School location and academic achievement of secondary school in Ekiti State, Nigeria.*Asian social science*, *7*(5), p170.

Owojori, A.A. and Popoola, J. (2009).*Effect of human resource management on productivity of workforce in the banking industry in Nigeria*.Accessed from http://www.the free library.com on September 2, 2010.

Owojori, A.A. and Popoola, J. (2009).*Effect of human resource management on productivity of workforce in the banking industry in Nigeria*.Accessed from http://www.the free library.com on September 2, 2010.

Oyaya, E. O., & Njuguna, B. M. (1999).Strengthening Mathematics and Science at Secondary Education (SMASSE). In *A paper presented to Kenya National Heads Association Conference, Mombasa: Kenya DTO*.

Parahoo, K. (2000). Barriers to, and facilitators of, research utilization among nurses in Northern Ireland.*Journal of advanced nursing*, *31*(1), 89-98.

Parahoo, K. (2000). Barriers to, and facilitators of, research utilization among nurses in Northern Ireland.*Journal of advanced nursing*, *31*(1), 89-98.

Parahoo, K. (2000). *Nursing Research: Principles, Process and Issues*, 2nd edn.

Parahoo, K. (2014). *Nursing research: principles, process and issues*. Palgrave Macmillan.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988).Servqual.*Journal of retailing*, *64*(1),

Perry, J. L., & Hondeghem, A. (2009).EGPA symposium on public service motivation and performance.*International Review of Administrative Sciences*, *75*(1), 5-9.

Perry, J. L., Mesch, D. & Paarlberg, L. (2006). Motivating employees in a new governance era: The performance paradigm revisited. *Public Administration Review*, 505-514.

Peterson, J. B., & Flanders, J. L. (2002). Complexity management theory: Motivation for ideological rigidity and social conflict. *Cortex*, *38*(3), 429-458.

Podgursky, M. J., & Springer, M. G. (2007). Teacher performance pay: A review. *Journal of Policy Analysis and Management*, *26*(4), 909.

Polit, D. F., & Beck, C. T. (2013).*Essentials of nursing research*. Lippincott Williams & Wilkins.

Polit, D.F. & Beck, C.T. (2013).*Essentials of Nursing Research: Appraising.* New Delhi: Prentice Hall Private Limited

Proctor, E. K. (2007). Implementing evidence-based practice in social work education: Principles, strategies, and partnerships.*Research on Social Work Practice*.

Rainlall, S. (2004).A review of employee motivation theories and their implications for employee retention within organizations.*The Journal of American Academy of Business, 9*, 21-26.

Raizen, S. A. & Michelson, A. M. (Eds.). (1994*). The future of science in elementary schools. San Francisco:* Jossey-Bass.

Rakiro, L. A. (2013). *Effects Of Institutional Teacher Reward Systems On Students' Performance In Kenya Certificate Of Secondary Education In Rongo District, Kenya* (Doctoral dissertation, University of Nairobi).

Ramachandran, V., Pal, M., Jain, S., Shekar, S., & Sharma, J. (2005). *Teacher motivation in India*. Discussion Paper,(Azim Premji Foundation, Bangalore, 2005).

Rattray, J., & Jones, M. C. (2007).Essential elements of questionnaire design and development. *Journal of clinical nursing*, *16*(2), 234-243.

Rice, J. K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes*. Economic Policy Institute, 1660 L Street, NW, Suite 1200, Washington, DC 20035.

Richardson, J. C., & Swan, K. (2003). Examing social presence in online courses in relation to students' perceived learning and satisfaction.

Rivers, J. C., & Sanders, W. L. (2002). Teacher quality and equity in educational opportunity: Findings and policy implications. *Teacher quality*, 13-23.

Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005).Teachers, schools, and academic achievement. *Econometrica*, *73*(2), 417-458.

Robbins, S. P., & Judge, T. A. (2012).*Organizational Behavior 15th Edition*. Prentice Hall.

Rowan, B., Correnti, R., & Miller, R. (2002). What Large-Scale Survey Research Tells Us About Teacher Effects on Student Achievement: Insights from the Prospects Study of Elementary Schools.*The Teachers College Record*, *104*(8), 1525-1567.

Ruthland, S. K. & Bremer, C. D (2002) 'Alternative Teacher Certification Procedures and Professional Development Opportunities for Career and Technical Education Teachers' Washington D.C.: ERIC Clearinghouse on Teacher Education

Rutter, M., & Maughan, B. (2002).School effectiveness findings 1979–2002.*Journal of school psychology*, *40*(6), 451-475.

Ryan, R. M. and Deci, E. L. (2002), 'Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being', *American Psychologist,* **55**, 68–78. . San Diego: Academic Press.

Saari, L. M., & Judge, T. A. (2004).Employee attitudes and job satisfaction.*Human resource management*, *43*(4), 395-407.

Sachs, J. D., & McArthur, J. W. (2005). The millennium project: a plan for meeting the millennium development goals. *The Lancet*, *365*(9456), 347-353

Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011).*Research methods for business students, 5/e*. Pearson Education India.

Schober, J. E., Farrington, A.& Lacey, A. (1998). *Presenting and disseminating research*. NHS Executive, Trent.

Schonfeld, I. S. (2000). Short research paper: An updated look at depressive symptoms and job satisfaction in first-year women teachers. *Journal of Occupational and Organizational Psychology*, *73*(3), 363-371.

Schweisfurth, M. (2011). Learner-centred education in developing country contexts: From solution to problem?.*International Journal of Educational Development, 31*(5), 425-432.

Shumba, O. (1993). Attitudes towards Science: An Exploratory Survey of Pupils Preparing for National Examinations.

Skinner, B .F. (1938).*About Behaviorism*. New York: Vintage Books.

Spielberger, C. D., & Sydeman, S. J. (1994).*State-Trait Anger Inventory and State-Trait Anger Expression Inventory. In The use of psychological testing for treatment planning and outcomes assessment (*ed. M. E. Maurish.), pp. 300–321.Lawrence Erlbaum Associates: New Jersey.

Stacks, D. W., & Hocking, J. E. (1992).*Essentials of communication research*. HarperCollins College Div.

Steel, P., & König, C. J. (2006).Integrating theories of motivation. *Academy of Management Review, 31*(4), 889-913.

Stone J.R. (1988). *Human resource management*.Brisbane Jacaranda (3rd Ed).Wiley Ltd.

Stringfield, S.& Teddlie, C. (1991). School, classroom, and student level indicators of rural school effectiveness. *Journal of Research in Rural Education, 7*(3), 15-28.

Stronge, J. H. (2007). *Qualities of effective teachers*.ASCD.

Summers, A. A., & Wolfe, B. L. (1977). Do schools make a difference?.*The American Economic Review*, 639-652.

Supovitz, J. A. (2006). *The case for district-based reform: Leading, building and sustaining school improvement*. Harvard Education Pr.

Thaxton, M. (2007).Integrating Population, Health, and Environment in Kenya.*Population Reference Bureau, Washington, DC http://www.prb.org/pdf07/phe-kenya.pdf (Accessed on 29 December 2008)*.

Torrington, D. *et al.*, (2002). *Human resource management*.Prentice Hall, Pearson Education Limited.

Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to the employee-organization relationship: does investment in employees pay off?.*Academy of Management journal*, *40*(5), 1089-1121.

Tylecote, A. (1994). Long waves, long cycles, and long swings. *Journal of Economic Issues*, 477-488.

Ubom, I. U., & Joshua, M. T. (2004).Needs satisfaction variables as predictors of job satisfaction of employees: Implication for guidance and counseling.*Educational Research Journal*, *4*(3), 74-83.

Udoji, J. O. (1995). *Under Three Masters: Memoirs of an African Administrator*. Spectrum Books Limited.

Verplanken, B. & Holland, R. W. (2002). Motivated decision making: effects of activation and self-centrality of values on choices and behavior. *Journal of personality and social psychology*, *82*(3), 434.

Vroom, V. H. (1964). Work and motivation, 1964.*NY: John Wiley & sons*, 47-51.

Walker, W. (2005).The strengths and weaknesses of research designs involving quantitative measures. *Journal of Research in Nursing*, *10*(5), 571-582.

Wambugu, P. W., & Changeiywo, J. M. (2008). Effects of mastery learning approach on secondary school students' physics achievement. *Eurasia Journal of mathematics, Science & technology education*, *4*(3), 293-302.

Wandiba, S., (1996). *Incompetence Lowers Academic Excellence in Western Kenya*. Kenya Times, Nairobi: Kenya. May 28, pp: 12.

Wayne, A. J., & Youngs, P. (2003). Teacher characteristics and student achievement gains: A review. *Review of Educational research*, *73*(1), 89-122.

Westerback, M. E. & Long, M. J. (1990). Science Knowledge and the Reduction of Anxiety About Teaching Earth Science in Exemplary Teachers as Measured by the Science Teaching State-Trait Anxiety Inventory. *School Science and Mathematics*, *90*(5), 361-374.

Westerback, M. E. (1982). Studies on attitude toward teaching science and anxiety about teaching science in preservice elementary teachers.*Journal of Research in Science Teaching*, *19*(7), 603-616.

Willcoxson, L. E. (2006). "It's not Fair!": Assessing the Dynamics and Resourcing of Teamwork. *Journal of Management Education, 30*(6), 798-808.

William, T. (2009).*Introduction to biotechnology*.Pearson Education India.

Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in organizational behavior*, *20*, 77-140.

Wilson, S. M., Floden, R. E., & Ferrini-Mundy, J. (2002). Teacher Preparation Research An Insider's View from the Outside. *Journal of teacher education*, *53*(3), 190-204.

Wiseman, D. L. (2012).The intersection of policy, reform, and teacher education.*Journal of Teacher Education*, *63*(2), 87-91.

Wozney, L., Venkatesh, V., & Abrami, P. (2006).Implementing computer technologies: Teachers' perceptions and practices. *Journal of Technology and teacher education*, *14*(1), 173-207.

Wright, N. (2001). Leadership,'BastardLeadership'and Managerialism Confronting Twin Paradoxes in the Blair Education Project. *Educational management administration & leadership*, *29*(3), 275-290.

Wright, N. (2001). Leadership,'BastardLeadership'andManagerialism Confronting Twin Paradoxes in the Blair Education Project. *Educational management administration & leadership*, *29*(3), 275-290.

Wu, V., & Short, P. M. (1996).The relationship of empowerment to teacher job commitment and job satisfaction. *Journal of Instructional Psychology*.

Yager, R. E., & Penick, J. E. (1986).Perceptions of four age groups toward science classes, teachers, and the value of science. *Science Education, 70*(4), 355-363.

Yang, M., Badger, R., & Yu, Z. (2006).A comparative study of peer and teacher feedback in a Chinese EFL writing class.*Journal of Second Language Writing, 15*(3), 179-200.

Zemke, R., & Zemke, S. (1999). Putting Competencies to Work.*Training, 36*(1).

LIST OF APPENDICES

Appendix I: Letter of Seeking Authorization to Collect Data

Edna MarusoiCheptonui
University of Eldoret
P. O. Box 1125 – 30100,
Eldoret - Kenya

Dear Sir/Madam

RE: RESEARCH DATA COLLECTION

I am Master of Philosophy student at University of Eldoret, school of Education and I am doing a research entitled: Influence of teacher- motivation on students' performance in biology of selected schools in Bureti District, Kericho County, Kenya.

This is an area of great concern to students, teachers, and Education stake holders in the county. I would like to visit your school between JUNE 2013 and JULY 2013 to collect data which will enable me complete the said research.

Kindly contribute towards the attainment of this goal by being honest and giving your answers.

Herein find a letter of introduction from the University.

Thank you in advance.

MARUSOI EDNAH C.

Appendix II: Interview Schedule for Head teacher

Some schools strive to improve the working conditions of teachers in an effort to encourage them to improve their commitment to their teaching duties. Others have developed a reward system to motivate their teachers.

Kindly give honest responses.

The information you will give will be used only for the purpose of this research and will be treated as confidential.

Demographic information

Type of school

Boys school (BS), Girls school (GS), Mixed boarding school (MS), Mixed day school (MDS)

BS ☐ GS ☐ MBS ☐ MDS ☐

or any other,specify_____

Sex

Female ☐ Male ☐

Teaching experience in years

0-5 ☐ 6-10 ☐ 11-15 ☐ 16 -20 ☐ over 20 ☐

No of years in current station

0-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ over 20 ☐

Headship experience in years

0-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ over 20 ☐

Headship experience in current station in years

0-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ over 20 ☐

SECTION I: GENERAL INFORMATION

1. How will you rate the performance of your school in 2011 KCSE examination

   Excellent ☐ Good ☐ Satisfactory ☐ Low ☐ Poor ☐

2. What was the school mean grade in 2011 KCSE examination?

3. How has biology as subject been performing in your school

   Excellent ☐ Above average ☐ Average ☐ Poor ☐

SECTION II: MOTIVATION OF TEACHERS

1. What are some of the ways by which your school has tried to improve the conditions under which your teachers work?

   _____

   _____

   _____

2. If we zero down to the teaching of biology, do you think the motivation/ appreciation of teachers have impacted positively on the teaching of biology? Explain.

_____

_____

3. What are the challenges that face your school as you strive to improve the schools performance through motivation of teachers?

_____

_____

_____

SECTION III: PERCEPTION OF THE SCHOOL PERFORMANCE

1. What is average KCPE mark with which most of your students were admitted with?

2. Suggest some of the best ways teachers can be motivated.

_____

_____

3.Suggest some of the recommendations on teacher -motivation that should be adopted to improve academic performance in Bureti District.

_____

_____

_____

Appendix III: Questionnaire for Biology Teachers

You can greatly contribute towards the attainment of this goal by being honest and giving your answers. Your answers will assist the study to obtain information on how teachers should best be motivated so as to discharge their teaching duties effectively and hence improve students' performance. The information so obtained shall be exclusively confidential; you do not have to write your name and the name of your school in this questionnaire.

Please respond to all questions to the best of your knowledge and ability.

BACKGROUND INFORMATION

Sex:

Female ☐ Male ☐

Teaching experience in years

0-2 ☐ 3-5☐ 6-8 ☐ 10-15☐ over 15☐

Nature of your school:

Boys boarding school (BBS), Girls boarding school (GBS), Mixed boarding school (MBS), Mixed day school (MDS).

BBS ☐ GBS☐ MBS ☐ MDS☐

Responsibilities

Head of subject (HOS) Head of department (HOD)

Assistant Teacher ☐Class teacher ☐ HOS ☐ HOD ☐

Highest Academic level Diploma Bachelor degree Master degree

College/ University attended_____

SECTION A: Teacher motivation

Some schools strive to improve the working conditions of teachers in an effort to encourage them to improve in their commitment to their teaching duties. Other have developed a rewarding system to motivate their teachers

1. Does your school reward good performance as a way of motivation once KCSE results are released.

   Yes ☐ No ☐

   If your response to No.1 above is yes. Then outline way(s) in which your school rewards good performance.

   _____

   _____

   _____

   _____

   _____

If the response to No (1) above is No. In what way would you suggest the teachers be appreciated/rewarded for good performance?

_____
_____
_____
_____
_____

2. You as a biology teacher, do you think the reward/appreciation system or lack of it has impacted in the way biology is taught and performed in your school? Explain

SECTION B: FACTORS WHICH INFLUENCE BIOLOGY PERFORMANCE

3. Rate the following influences in students' performance in Biology using:

Strongly Agree (SA), Agree (A), Neutral (N), Disagree (DA), Strongly Disagree (DA)

SA=5, A =4, N=3, DA= 2, SDA=1

ITEM	SA	A	N	DA	SDA
Motivation by monetary rewards					
2.Provision of meals					
3.Accomadation					
4.Recognition					
5.Delegating responsibilities					
6.Staff- trip					

WAYS OF TEACHER-MOTIVATION IN THEIR TEACHING DUTIES.

4. Rate how the following types of motivation influence your teaching and performance in Biology using SA,= 5, A = 4 N=3, DA = 2, SD = 1

ITEM	SA	A	N	DA	SDA
1. I work harder when school recognize my good performance with money					
2. I work better when school provide lunch					
3. I do much better when school charge low or no house rent					
4. I am encourage to do better when school provides material tokens like cups , hot pots, suitcase etc					
5. No team work or co-operation because the school do not organize for trips					
6. School sponsor us for workshop hence encourage me to teach better.					
7. I am happy because our head teacher recognizes extra work I do in the school.					
8.I do extra work without being motivated					

9.School administration used a lot of force to make me teach					
10.Students motivate me to teach					

SECTION C: WAYS OF MOTIVATING TEACHERS

Suggest three best ways teachers can be motivated in your school so as to improve Biology performance

_____

_____

_____

Appendix IV: Education Management Information System (EMIS)

SCHOOL	NO. OF STUDENTS	BOG BIOLOGY TEACHERS	NO. OF TSC BIOLOGY TEACHERS	2011 BIOLOGY SCHOOL MEAN	2011 OVERALL SCHOOL MEAN
LITEIN HIGH	1070	2	6	9.34	9.472
TENGECHA GIRLS	613	2	2	9.11	9.26
SACRED HEART	208	2	2	8.94	8.862
TENGECHA BOYS	1229	3	2	8.38	8.776
AIC LITEIN GIRLS	620	0	4	7.84	8.431
CHEBWAGAN	551	0	5	7.83	6.921
KORONGOI	529	0	4	6.45	6.878
KABARTEGAN	510	1	2	5.97	6.685
EMMANUEL J.C	163	1	0	6.14	6.60
KAMINJEIWET	127	0	1	5.69	6.364
CHELILIS GIRLS	560	1	4	5.99	5.822
CHEBORGE GIRLS	282	0	1	4.51	5.801

SOSIT	384	0	4	4.85	5.762
CHEBORGE BOYS	305	0	1	5.41	5.667
KAPSOGUT	305	0	2	5.35	5.659
KAPKATET	345	0	2	5.05	4.826
TEBESONIK	207	0	2	4.94	4.679
KAPSOGERUK	223	0	2	4.32	2.917
KELUNET	139	0	1	4.13	4.65
KAMANAMSIM	142	1	0	4.73	4.50
GETARWET	429	0	3	4.8	4.50
KAPKISIARA	363	0	3	4.67	4.493
CHEPLANGET MIXED	462	0	4	4.92	4.489
TULWET	323	0	4	3.47	4.14
AROKYET	151	0	2	4.08	4.619
CHEMOIBEN	201	0	1	3.72	4.17
CHEPTENDENIET	379	1	1	4.78	4.063
RORET MIXED	152	0	1	3.45	4
KAPCHELACH	212	0	2	4.1	3.97
KIPTEWIT	492	3	2	3.66	3.875

MOMBWO	289	0	2	3.92	3.873
KAPTELE	398	1	0	3.65	3.785
KABUSIENDUK	184	1	1	3.45	3.75
MABASI	228	1	0	3.83	3.73
KUSUMEK	166	0	1	3.38	3.588
KAPSINENDET	316	2	1	3.45	3.564
KAPKARIN	351	1	2	3.00	3.539
KAPMENJEIWA	247	1	1	3.76	3.364
SIONGI	155	1	0	3.23	3.348
LITEIN EAST	68	1	0	2.2	3.306
CHEBITET	196	1	0	2.55	3.143
KABITUNGU	191	0	2	2.55	2.904
NGESUMIN	141	1	0	2.941	2.885
RERESIK	169	1	0	1.86	2.88
TEPKUTWET	131	1	0	2.21	2.68
NGORORGA	84	1	0	1.81	2.7

Source: District Education officer (DEO) office Bureti.

Appendix V: Bureti KCSE Result Analysis 2008 -2011

SCHOOL	2008	2009	2010	2011
LITEIN HIGH	9.065	8.619	9.222	9.472
TENGECHA GIRLS	5.691	6.207	7.397	9.26
SACRED HEART	8.744	8.261	8.065	8.862
TENGECHA BOYS	6.821	7.632	7.75	8.776
AIC LITEIN GIRLS	7.013	7.657	8.093	8.431
CHEBWAGAN	4.643	5.406	6.0	6.921
KORONGOI	5.691	6.207	6.235	6.878
KABERTEGAN	4.446	5.185	5.89	6.685
EMMANUEL J.C	-	-	6.857	6.60
KAMENJEIWA	2.556	3.353	3.222	3.364
CHELILIS GIRLS	4.633	5.147	4.942	5.822
CHEBORGE GIRLS	4.913	4.917	5.083	5.801
SOSIT	4.210	4.887	5.358	5.762
CHEBORGE BOYS	5.288	5.441	5.667	5.667
KAPSOGUT	5.269	5.632	5.545	5.659
KAPKATET	4.400	4.978	4.548	4.826
TEBESONIK	3.090	3.977	4.567	4.679

KAPSOGERUK	-	-	4.65	2.917
KELUNET	3.611	6.529	2.917	4.65
KAMANAMSIM	-	-	2.333	4.50
GETARWET	3.241	3.574	3.494	4.50
KAPKISIARA	3.437	3.977	4.20	4.493
CHEPLANGET BOYS	4.156	4.425	4.262	4.489
TULWET	4.679	3.695	4.14	4.14
AROKYET	3.459	4.259	4.619	4.619
CHEMOIBEN	3.630	3.204	3.932	4.17
CHEPTENDENIET	4.286	4.144	4.766	4.063
RORET MIXED	4.233	4.121	3.833	4
KAPLELACH	-	-	3.838	3.97
KIPTEWIT	3.917	4.368	3.767	3.875
MOMBWO	3.279	3.613	3.547	3.873
KAPTELE	4.824	4.091	4.035	3.785
CHEPLANGET GIRLS	3.344	4.061	3.821	3.756
KAPBUSIENDUK	-	4.176	3.191	3.75
MABASI	2.941	3.463	3.737	3.73

KUSUMEK	3.000	3.874	3.296	3.588
KAPSINENDET	4.235	3.750	4.059	3.564
KAPKARIN	2.920	3.081	3.25	3.539
KAPMENJEIWA	3.353	2.556	3.222	3.364
SIONGI	-	-	-	3.348
LITEIN EAST	3.265	2.600	3.042	3.306
CHEBITET	-	-	-	3.143
KABITUNGU	-	-	-	2.904
NGESUMIN	2.941	2.778	3.000	2.885
KIBUGAT	-	-	-	1.85
NGORORGA	-	-	-	**1.83**

Source: District Education officer (DEO) office Bureti

Appendix VI: Government Vote Head

Government vote head	Amount
Tuition	3600
R.M.I	400
L.T.T	500
Administration costs	350
E.W&C	1500
Activity	600
Personal emoluments	3015
Medical	300
Total	10,265

Appendix VII: Budget

Description	**Total Cost (Kshs)**
Pilot	9,000.00
Printing services	20,000.00
Photocopying services (thesis and Project)	25,000.00
Stationary and other resources	20,000.00
Data collection	20,000.00
Binding services	15,000.00
Lap -top	45,000.00
Total expenditure	199,000.00

Appendix VIII: Research Permit

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THIS IS TO CERTIFY THAT:
Prof./Dr./Mr./Mrs./Miss/Institution
Ednah Cheptonui Marusoi
of (Address) University of Eldoret
P.O. Box 1125, Eldoret.
has been permitted to conduct research in

Location
Kericho District County

On the topic: The influence of teacher – Motivation on students' performance in Biology: A case Bureti District, Kericho County, Kenya.

for a period ending: 31st December, 2013.

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Research Permit No. *NACOSTI/RCD/14/013/1715*
Date of issue *11th October, 2013*
Fee received *KSH. 1000*

Applicant's Signature

For: Secretary
National Commission for Science Technology & Innovation

Appendix IX: Research Authorization

MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY
STATE DEPARTMENT OF EDUCATION

Telegrams: Elimu Bureti Litein
Telephone: 052. 54292
E-Mail:buretieducation@gmail.com
When replying please quote
Ref.No. and Date

DISTRICT EDUCATION OFFICE,
BURETI SUB-COUNTY.
P.O. BOX 758-20210,
LITEIN

BUR/EDU/1/15/315

13th October 2013

All Principals
Bureti Sub-County

RE: RESEARCH AUTHORIZATION-EDNAH CHEPTONUI MARUSOI

The above named is a student at the University of Eldoret and has been authorized by the National Commission for Science Technology and Innovation to carry out research in "The influence of teacher-motivation on students' performance in Biology" in selected schools in Bureti Sub-County.

Please accord her the cooperation she may require from your school to make her research a success.

Beauter Omao
FOR: DISTRICT EDUCATION OFFICER
BURETI DISTRICT

cc.
The Principal Secretary
Ministry of Education Science and Tech.
P.O Box 30040
NAIROBI