

**EDUCATIONAL RESOURCES AND TEACHERS' PRODUCTIVITY IN
SELECTED SECONDARY SCHOOLS IN AWENDO DIVISION,
RONGO DISTRICT, KENYA**

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BY:

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DECLARATION

I OBONYO EVERLYNE A. do declare that this piece of work herein is original both in substance and style unless otherwise acknowledged and has never been presented to any other institution of learning for any form of academic award.

OBONYO EVERLYNE



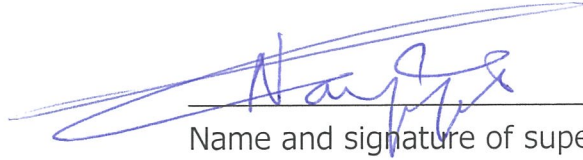
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DECLARATION B

"I/We confirm that the work reported in this thesis was carried out by the candidate under my/our supervision"



Name and signature of supervisor

Dr. Tindi Seje

28th ~~Aug~~ Nov. 2013

Date

APPROVAL SHEET

This thesis entitled "Educational Resources and Teachers' productivity in Selected secondary Schools in Awendo Division, Rongo district, Kenya" Prepared and submitted by_Obonyo Everlyne in Partial fulfillment of the requirements for the degree of Masters in Education Administration and Management has been examined and approved by the panel of oral examination with a grade of PASSED.

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Date of Comprehensive Examination: _____

Grade: _____

Name and Sig. of Director, SPGSR

Name and Sig. of DVC, SPGSR

DEDICATION

This thesis is dedicated to my loving husband Edward, my loving children Eugene and Blessings for their support and patience all through. I can also have to appreciate my brother Collins who encouraged me whenever I was down. My parent's prayers can also not be forgotten at all.

AKNOWLEDGEMENT

The researcher is deeply grateful to those who loved her unconditionally and not only helped her but also encouraged her in all ways to ensure that she finishes writing her thesis.

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Above all, the Almighty God for seeing the researcher through all obstacles that were on the way and renewing her strength just when she thought she was exhausted not forgetting the wisdom and health He has granted her during this period.

Thank you all

ABSTRACT.

This study was designed to find out the relationship between educational resources and teachers' productivity. The study was guided by four specific objectives which included the following objectives: To determine the profile of the respondents in respect to age and gender to determine the level of Educational resources in secondary schools in Awendo Division Kenya, to determine the level of teacher productivity in Awendo Division secondary schools, Rongo District Kenya, to determine the relationship between Educational resources and teachers' productivity in Awendo Division secondary schools. Methodology: The study deals with research design, population, sample, sampling procedure, validity and reliability, data analysis, procedure, ethical concerns and limitations. This was descriptive correlational survey designs. Correlation design was used because the study was interested in relating educational resources and with teachers' productivity. The division has 11 secondary schools and 207 teachers and 560 form four students. The data gathered was collated, encoded into the computer and statistically treated using the Statistical Package for Social Sciences (SPSS). Data on completed questionnaire was edited, categorized or coded and entered into the computer SPSS to summarize them, using simple and complex frequency tables or cross-tabulations. The same package was used to analyze data further, by computing relative frequencies, means, standard deviations and other relevant statistics for the first, second and third objectives. Findings. The study found out that the level of educational resources in Awendo division is generally fair in terms of human, material and physical resources. Under objective one, the study found out that as concerns age, 75% of the respondents were aged between 15 and 20, where as 25% were above 20 years old. Individuals have perceived and acknowledged the purpose and function of resource in effective teaching and learning. Hallack (1990) emphasized that the availability, relevance and adequacy of educational resource items contribute to academic achievement and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor academic performance. Fuller (1985) discovered that students who had used two or more books were almost three times better than those who had no textbooks in school. Conclusion This section gives the conclusion of the study in relation to the study objectives and hypotheses; The study concluded that; The number of boys is bigger than the number of girls in Awendo Division secondary schools though this difference is not that big. Many students in this division in form four are in the age bracket of between 15-20 years. The level of educational resources in Awendo division is generally less sufficient in terms of human, material and physical resources. The level of teachers' productivity is low. There is a strong positive relationship between educational resources and teachers' productivity. Recommendations: Basing on the findings of the first objectives, the researcher recommends that if teachers' productivity is to be improved in Awendo division, then school management and the government should focus more on improving and increasing manpower than focusing on beautifying physical resources. However physical resources are importance but should be improved hand in hand with other resources. Physical resources alone cannot improve students' teachers' productivity however good or adequate they are unless they are supplemented by other resources. Basing on the findings of the second objective/hypothesis, the researcher recommends that if teachers' productivity is to be improved in Awendo Division, then school management and the government should try to do whatever they can to recruit, train and maintain adequate human resources. A similar study can be conducted using management as an intervening factor, since it is assumed that without good management, even resources are prevalent, performance may not be good. Another study may be conducted to find out the relationship between numbers of students in a class and teachers' productivity. A similar study can be done to find out how teachers' work load affect students' performance.

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CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter deals with the background of the study, statement of the problem, purpose of the study, objectives of the study, scope and significance of the study

1.1 Background of the study

This highlights historical, theoretical, conceptual and contextual perspective

1.1.1 Historical Background

Education and training constitutes an investment in human capital that is expected to yield a stream of future returns in the form of income and earnings for the individual and society and economic growth through enhanced productivity (Psacharopoulos, 1995). But the challenge facing education systems in developing countries is to produce the type of education and training that is more responsive to a wide range of local conditions facing the young people. In Kenya for instance, the government's efforts to vocationalize the educational system as a way of addressing the unemployment problem have not been very successful (Nafukho, 2000). Therefore, a broad-based education is required. In the new economic environment, vocational education is expected to produce an educated, skilled, and motivated work force (Mustapha, 1999)

Poor academic achievement in school may be the result of interplay between child factors and the environmental setting. Studies have shown that the effects of poor academic achievement during the early school years often carry over to the adolescent years, with a higher proportion of school dropouts, behavioural problems and even delinquency among this population. This problem of Poor performance in secondary schools throughout the country is a major concern of many parents, teachers, leaders and employers, who are interested in the future of these students, since secondary education forms the basis for higher education for if a student has no firm secondary education base,

the country's final education is likely to be weak and yet it is on education that a country relies for supply of quality manpower to develop. Cutler (1989).

According to Osiffilla (2005) in the and scandivaniah countries in the early 1950's adequate and appropriate educational resources had been lacking leading to poor production among the teaches as learners performance deteriorated later the government beefed up resources provision through government it has had an upheaval contribution to the performance of regular and special needs learners. The government made provision on assistive and adaptative derives to cater for the exceptional and challenged learners.

An adhoc committee on teacher's productivity on the and resource base to improve performance. This was in a bid to improve entry retention and transition. In west Africa a survey on availability of learners performance. According to Ori (1995) there is a strong correlation between availability of adequate and appropriate resources and teacher's productivity in Tanzania and Kenya. The materials human resources and finance need to be provide to improve production of teachers and performance of learners.

In this very event, students' are expected to exhibit high academic integrity in form of good grades from schools and job performance after school. In Kenya, there is a big number of students who complete the primary education level and there are more primary schools than secondary and tertiary institutions. This means that there are many students who compete for the few posts in secondary and tertiary institutions which calls for better results if one is to successfully compete. In addition to this less than half of primary schools candidates obtain poor grades to take them to secondary schools and one wonders why (Arudo, 2008).

1.1.2 Theoretical Perspective

This study was underpinned by reinforcement theories propounded by skinner (1939) and Naylor (1999). Reinforcement theories relate to the idea of *operant conditioning*. They concentrate attention on the link between behavior and consequences. Reinforcement is defined as any effect that causes behavior to be repeated or inhibited which can be

positive or negative. (Naylor,1999, p. 549). Skinner (1939, 1971) carried out several studies and came up with a conditioning model which proposes that if pleasant consequences follow a behavior, the behavior will tend to continue whereas, if unpleasant consequences follow a behavior, the behavior tends to stop (Luthans & Kreitner, 1985). This theory of motivation suggests that internal states of the mind such as needs are misleading, scientifically immeasurable, and in any case hypothetical. Therefore, reinforcement theory rests on two underlying assumptions: first, human behavior is determined by the environment, and second, human behavior is subject to observable laws and can be predicted and changed. Hence, the foundation of the reinforcement theory is the 'law of effect', which states that behavior will be repeated or not depending on whether the consequences are positive or negative.

The Reinforcement theory was used with the assumption that adequate provision of resources (learning/ teaching) resources that act as exemplars imitators ad models act as reinforces and makes learning meaningful realistic and enables individuals to hold to the task to the end which improves production when all are no board the teachers production increases.

1.1.3 Conceptual Perspective

In this study, teachers' productivity (dependent variable) is perceived as the level at which the teacher executes his/her professional expectation in the classroom. Performance according to Robbins & Coulter (2004) is defined as the accumulated results as a product of students' work process and activities. According to Leslie & Lloyd (2000) performance reflects how well a person fulfills the requirements of a task and although often confused with efforts which refer to energy expended, performance is measured in terms of results. For example, a student may exert a great deal of efforts in preparing for an examination and still make a poor grade. In such case the efforts expended is high and the performance is low. Teachers' productivity is the net effect of students' efforts as modified by their

ability; this means that performance in a given situation can be viewed as resulting from the relationship between efforts and abilities.

Under this conceptualization, educational resources are the independent variables while teachers' productivity is the dependent variable. The independent variables are conceptualized into three types of educational resources namely; physical resources, human and material resources. Physical resources were defined in terms of classrooms, administrative block, libraries, laboratories, workshops, gymnasias, assembly halls, special rooms like sickbay, staff quarters, students' hostels, kitchen, cafeteria, lavatory and toilet; human resources were defined in terms of teaching staff, non-teaching staff, bursar, librarian, laboratory attendants, clerks, messengers, mail runners, gatekeepers, gardeners and cooks as well as educational planners and administrators (all these were considered looking at their skills, experiences and quantities or numbers); material resources were defined in terms of textbooks, chalk, charts, maps, audio-visual and electronic instructional materials such as radio, tape recorder, blackboards, television and video tape recorder. All the three types of resources were perceived to have a positive relationship with teachers' teachers' productivity.

1.1.4 Contextual Perspective

Despite the many measures put in place to improve students' performance, poor grades at National Exams are still prevalent (Enamiroro, 2010). The blame is put to all the stake holders in education like teachers, parents, school management and government. This indicates that the problem of poor performance of students affects everybody in society, for even the employers now and again cry for poor performance of employees, attribute it to poor training in institutions of learning. Without pinpointing who is who, the problem needs immediate solutions, if the country is to be transformed from a third world to a medium level of development. The solutions to this problem is to identify the factors that affect students performance at primary level, so that each of these factors can be investigated upon and tested empirically, in order to identify the most impending factors, if workable solutions are to be sought. Although a multitude of studies have been taken in this endeavor, both in Kenya and other countries of the world, over this problem it is still global, hence the need for studies like this one.

Teachers' productivity problems with low grades or desertion are significant predictors of health problems, such as the consumption of drugs, depression, early pregnancy, parenthood, abortion and other social difficulties, such as unemployment and crime, resulting in increased social spending paired with a low quality of life (Ong et al, 2010). This makes it a source of concern and of research interest to educators, government and parents. This is so because of the great importance that education has on the national development of the country. All over the country, there is a great concern about the fallen standard of education in Kenya. Parents and government are in total agreement that their huge investment on education is not yielding the desired dividend. Teachers also complain of students' low performance at both internal and external examination.

There has been a persistent low productivity of teachers in Awendo Division, Rongo District at all levels due to a number of factors. For instance, the Kenya Certificate of secondary Education (KCSE) results for academic year 2008 indicated that students'

performance was still generally poor. Some of the reasons given for increased failure rate are lack of enough teaching/learning resources, poor remuneration for teachers, students' negative attitude towards studies and the increased number of students compared to the number of teachers among other factors. However the lack of enough teaching/learning resources seems to take a lion's share and that is why this study set out to investigate its impact on teachers' productivity. The low performance of teachers' in this area is exhibited in form of teachers' absenteeism, teacher's irregularity in lesson attendance, teachers' failure to actively participate in school activities, Teachers' failure to make corrections and adequate revisions with students.

1.2 Statement of Problem

While it is worthy to appreciate the school embracement of the importance of producing students with good grades, the product of their efforts has not been achieved in many schools, as exhibited by the students' poor grade, among others, still show that there is yet a lot to be done. In this study, the researcher believes that educational resources in form of (i) physical (ii) human and (iii) material could have an influence on teachers' productivity. At present, empirical studies documenting the impact of resources on teachers' productivity in the context of Awendo Division, Rongo District are still inadequate. This study was conducted to fill these gaps regarding school related resources on students' performance in Awendo Division secondary schools.

1.3 Purpose of the study

1. To establish the correlation between educational resources and teachers' productivity.

1.4 Research objectives

This study sought:

1. To determine the profile of the respondents in respect to age and gender
2. To examine the level of Educational resources in secondary schools in Awendo Division Kenya.
3. To assess the level of teacher productivity in Awendo Division secondary schools, Rongo sub county Kenya.
4. To establish if there is a significant the relationship between Educational resources and teachers' productivity in Awendo Division secondary schools.

1.5 Research questions

1. What is the profile of the respondents in respect to age and gender,
2. What is the level of Educational resources in Awendo Division secondary schools, Rongo District Kenya?
3. What is the level of teachers' productivity in Awendo Division secondary schools, Rongo District Kenya?
4. Is there a significant correlation between Educational resources and teachers' productivity in Awendo Division Secondary schools, Rongo District Kenya?

1.6 Hypothesis

Ho1; There is no significant relationship between the level of Educational resources and level of teachers' productivity in Awendo Division Rongo sub county.

1.7 Scope

Geographical scope; The region covered is the upper region of Awendo Division Rongo sub county where random sampling was used.

Content scope; The study sought to find the relationship between educational resources and teachers' productivity.

Theoretical scope; This study was underpinned by reinforcement theories propounded by skinner (1939) and Naylor (1999).

Time scope; The research covered a period between 2012 -2013 August.

1.8 Significance of the study

This study findings will benefit:

Kenya Ministry of Education to design policies that aid in proper distribution of resources to all schools.

The district supervisors will be able to make follow up of the policies designed by the government to see to it that resources are equally distributed and used effectively.

In Kenya, this study acts as a stepping stone towards inter and intra generational distribution.

All the stake holders; It also creates awareness among the various stakeholders about this mishap for further research and recommendations aim at finding lasting solutions to the problem.

1.9 Operational Definitions of Key Terms

Educational Resources; Human, material and physical resources

Human Resources in Education: The teaching and non-teaching staff educational planners and administration.

Material Resources: Teaching and learning materials such as textbooks, exercise books, maps, instructional materials such as radio, TV, tape recorders, e.t.c.

Physical Resources: Classrooms, administrative blocks, libraries, workshops, assembly halls, dormitories, kitchen, toilet, latrines, special rooms.

Teachers' Productivity: Teachers' performance in class

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

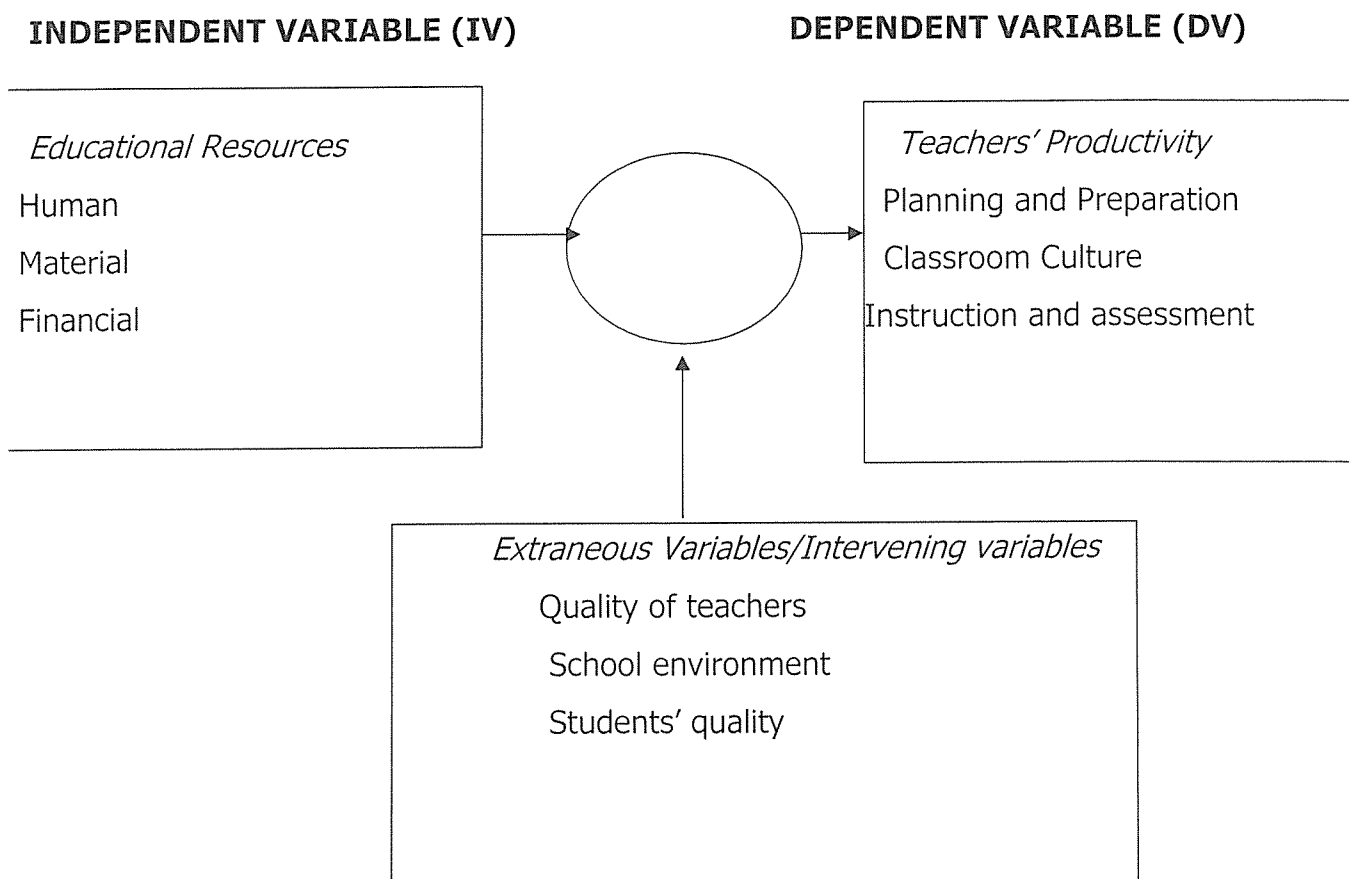
This chapter covers theoretical review, the conceptual frame work and related literature.

2.1 Theoretical Perspective

This study was underpinned by reinforcement theories propounded by skinner (1939) and Naylor (1999). Reinforcement theories relate to the idea of *operant conditioning*. They concentrate attention on the link between behavior and consequences. Reinforcement is defined as any effect that causes behavior to be repeated or inhibited which can be positive or negative. (Naylor,1999, p. 549). Skinner (1939, 1971) carried out several studies and came up with a conditioning model which proposes that if pleasant consequences follow a behavior, the behavior will tend to continue whereas, if unpleasant consequences follow a behavior, the behavior tends to stop (Luthans & Kreitner, 1985). This theory of motivation suggests that internal states of the mind such as needs are misleading, scientifically immeasurable, and in any case hypothetical. Therefore, reinforcement theory rests on two underlying assumptions: first, human behavior is determined by the environment, and second, human behavior is subject to observable laws and can be predicted and changed. Hence, the foundation of the reinforcement theory is the 'law of effect', which states that behavior will be repeated or not depending on whether the consequences are positive or negative.

In application of the reinforcement theory to the study of education resources and teachers productivity. Reinforcement by use of adequate resources for varied learners can improve productivity. Regular learners needs learners need textbooks chairs and desks as the special needs learners need specialized facilities like adaptive resources like mobility devices and assistive devices like magnifiers, canes, talking books and watches for them to improve in their performance and teacher's productivity.

2.2 Conceptual Framework



Source; Researcher designed

Figure 1 showing the relationship between Educational Resources and Teachers' Productivity

As the figure shows, educational resources positively influences teachers' productivity. However, other extraneous variables such as teacher quality, school environment

and quality of the students may as well affect this relationship.

Educational Resources

Corkroft (1981) maintains that..."In both primary and secondary schools, there should be a supply of reference books for teachers related to the teaching of different subjects. This should include publication of the professional teachers guide which relates to textbooks which serve as additional resources for the teachers" The use of teaching aids helps to

facilitate the teaching and learning of concepts increases the efficiency on information process, giving meaning to words, helps focus on students interest and assist the teacher to relate abstractness to concreteness, hence the pose of teaching aids is also important. Walberg & Thomas (1972) in their own contribution reported that children learn best when they can actively explore an environment rich in adequate materials. Scopes (1973) asserts that "...in many cases, in fact certain strategies and methods are precluded if necessary materials are not available and in other cases the limitation of materials, impose a group structured plan "Thus the availability of resources in schools assists in achieving the education goals and objectives though students' involvement.

OECD/UNESCO-UIS (2003) report further indicated that with references to the index of the quality of the schools' physical infrastructure, principals' perceptions did not give any general indication of a greater impact of deficiencies of the physical infrastructure on learning in less developed countries. There was hardly any correlation between the mean index of the quality of the schools' physical and teachers' productivity in the selected countries. While all these studies were on the impact of physical resources and teachers' productivity, none of them was in the context of this study, a gap this study came out to fill.

Keith & Janet,(2003) identified that most colleges in poor countries have poor physical facilities and infrastructure, few learning materials, and underutilized space as a result of periods of neglect. They are nevertheless frequently the only post-secondary institution in an area with a concentration of educational professionals, and thus the only source of advice and support to practicing teachers. Impoverished facilities compromise the effectiveness with which training can be conducted and have a depressing effect on morale. Relatively small investments could transform at least some of these institutions into much more vibrant, accessible and attractive professional development nodes with outreach capabilities.

Teacher productivity

The need for better attainment of education was realized far back in 1990, at the World Conference on Education for All in Jomtien, Thailand when some 150 organizations agreed to "universalize primary education and massively reduce illiteracy by the end of the decade"(UNESCO 2009). In 2000, ten years later, the international community met again in Dakar, Senegal, and took stock of many countries being far from having reached this goal. They affirmed their commitment to achieving Education for All by the year 2015, and identified six key measurable education goals. The six goals are: to expand early childhood care and education; provide free and compulsory primary education for all; Promote learning and life skills for young people and adults; Increase adult literacy by 50 per cent; achieve gender parity by 2005, gender equality by 2015; and improve the quality of education.

According to Jean-Claude Guillemard 2010, the principal actors in Education for All (EFA) are governments and civil society (i.e. NGOs) at the national level. The International strategy for Education for All (EFA) education includes:

Planning for Education for All (EFA) at national/regional level (National educational plans)

Communication and advocacy through provision of messages on social justice and equitable opportunity combined with stories of the impact of education on the lives of individuals and communities. Financing education where by the Dakar forum proclaimed "no National Education for All plan should be delayed for lack of financial resources". The International and regional mechanisms include: The Education for All (EFA) High level Group and the EFA Working Group informed by the annual Education for All Monitoring Report produced by an independent group of experts on a thematic basis. The Collective consultation of NGOs on Education for All; this mechanism aims to facilitate civil society participation in the Dakar Follow up. The CCNGO/EFA organizes regional civil society forums. The Global Campaign for education (GCE) initiated by 3 important NGOs: Oxfam, education International and Action Aid. GCE lobbies for the right to education and participates in the international co-ordination mechanisms of the High Level Group and EFA Working Group.

The NGO Liaison Committee is the communication and liaison channel on EFA matters to the NGOs in official relationship with UNESCO. The flagship programmes under the leadership of an international Agency (i.e. UNESCO; UNICEF, UNHCR...) assist countries to achieve their EFA goals and they provide special focus for one aspect of EFA such as persons with disability in terms of advocacy, advice and monitoring of progress. Education is one of Government's key sectors and has continued to receive priority in resource allocation. Over the last five years the budget allocation to the education sector has been increasing steadily from Shs633.43b in 1005/2006 to 1.1 trillion. Part of this money is meant for construction of class rooms because other schools do not have enough class rooms and students are taught under trees (Wamakuyu F. & Baguma A. 2010)

2.3 Related Literature

2.3.1 Physical resources and teachers' productivity

Physical resources include classrooms, lecture theatres, auditoriums, typing pools, administrative block, libraries, laboratories, workshops, gymnasia, assembly halls, special rooms like sickbay, staff quarters, students' hostels, kitchen, cafeteria, lavatory and toilet (Adeogun & Osifila, 2005). Theoretical availability of adequate and quality physical educational resources is positively correlated with students' performance and the quality of education students attain (Cutler, 1989). Several studies have been conducted to correlate physical resources and students' performance; for example, Edward (1991), found that as school's condition improved in USA, from one category, for example, from poor to fair students' standardized achievement scores rose an average of 5.45 percentage points; Hallack (1990) emphasized that the availability, relevance and adequacy of educational resource items contribute to academic achievement and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor teachers' productivity. Fuller (1985) adds that students who had used two or more books were almost three times better than those who had no textbooks in school.

Claus & Girrbach (1985) under the Saginaw Schools Project in Canada is another study that noted the relationship between students' achievement and building facilities. This project

was guided by the belief that schools can influence and control variables that contribute to school learning, the Saginaw Public Schools launched a "grassroots" project involving 31 schools. Lorton & Walley (1979) posited that learning experiences are richest when the environment (physical resources) around them meets their needs through its adequacy and effective utilization. Walberg & Thomas (1972) in their own contribution reported that children learn best when they can actively explore an environment rich in adequate materials.

An ad hoc committee set up in December 2002 to identify the causes of poor performance in the WASSCE Nigeria, found that the most important factors include among others unplanned school plant, inadequate provision and maintenance of infrastructure (Adeogun & Osifila, 2005). Hence, the interplay of nature and nurture on quality education and student teachers' productivity is an important issue that cannot be overlooked by the stakeholders in education industry. Newton (1997) professed that the magnitude of instruction are more scientific base; make instruction more powerful; make learning more immediate and finally make access to education more equal Adeogun (2001) discovered a very strong positive significant relationship between instructional resources and teachers' productivity. According to him schools endowed with more resources performed better than schools that are less endowed. This collaborated the study of Babayomi (1999) that private schools because of the availability and adequacy of teaching and learning resources performed better than public schools. Adeogun (2001) discovered a low level of instructional resources available in public schools and stated that our public schools are starved of both teaching and learning resources. He expresses that effective teaching cannot take place within the classroom if basic instructional resources are not present.

Loxley (1984) revealed that inadequate supply of textbooks in schools is having a toll on teaching and learning activities in many of the countries in the world. According to him, the World Bank data recorded the number of student to a textbook as ratio 20: 1. Sodimu (1998) in his findings reported that based on the high cost of textbooks, many students have been unable to buy books that will help to promote the quality of education they receive in Lagos state public secondary schools. He even stressed that parents

believed so much in government funding the education in public schools to the extent that they become non-chalant towards equipping their wards with textbooks. Textbooks as indicated by Oni (1995) are indispensable to the quality education and students' teachers' productivity in all the schools in the world.

Nkuuhe (1995) highlighted some of the bad influence as, teachers' abdication of teaching responsibility to textbooks at the expense of original teaching method; textbooks does not give room for flexibility, instead there are mechanical division of the curriculum and no provision made for individual differences among students.

Lorton & Walley (1979); Hallack (1990) discovered that learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor teachers' productivity.

Individuals have perceived and acknowledged the purpose and function of resource in effective teaching and learning. Hallack (1990) emphasized that the availability, relevance and adequacy of educational resource items contribute to academic achievement and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor academic performance. Fuller (1985) discovered that students who had used two or more books were almost three times better than those who had no textbooks in school.

Anderson (1999) discovered that teachers who regularly monitor and supervise their students' learning by checking students' work and helping individual student to overcome errors and learning difficulties are likely to have student who exhibit higher level of achievement. Bajah (1979), Oni (1995) and Adesina (1990) discovered that human resources played the important role in the teaching-learning situation than any other factor of production and that the quality of education hinges upon the qualities of teachers available. Edward (1991), found that as school's condition improved from one category, for example, from poor to fair students' standardized achievement scores rose an average of 5.45 percentage points. The Saginaw Schools Project in Canada is another study that noted the relationship between students' achievement and building facilities. Guided by the belief that schools can influence and control variables that contribute to school learning, the

Saginaw Public Schools launched a "grassroots" project involving thirty one schools. A school improvement survey was administered to staff to identify and then solve problems. Goals listed in each school building plan were attained at a 70 to 100 percent levels. Goals related to students' achievement in reading and mathematics was also encouraging. During the five-year project, students' achievement in both Maths and reading rose in the highest achievement category and dropped in the lowest achievement category (Claus and Girrback (1985). Lorton and Walley (1979) posited that learning experiences are richest when the environment (physical resources) around them meet their needs through its adequacy and effective utilization. Walberg and Thomas (1972) in their own.

Adeogun (2001) discovered a very strong positive significant relationship between instructional resources and teachers' productivity. According to him schools endowed with more resources performed better than schools that are less endowed. This collaborated the study of Babayomi (1999) that private schools because of the availability and adequacy of teaching and learning resources performed better than public schools. Adeogun (2001) discovered a low level of instructional resources available in public schools and stated that our public schools are starved of both teaching and learning resources. He expresses that effective teaching cannot take place within the classroom if basic instructional resources are not present.

Keith & Janet,(2003) identified that most colleges in poor countries have poor physical facilities and infrastructure, few learning materials, and underutilized space as a result of periods of neglect. They are nevertheless frequently the only post-secondary institution in an area with a concentration of educational professionals, and thus the only source of advice and support to practicing teachers. Impoverished facilities compromise the effectiveness with which training can be conducted and have a depressing effect on morale. Relatively small investments could transform at least some of these institutions into much more vibrant, accessible and attractive professional development nodes with outreach capabilities.

OECD/UNESCO-UIS (2003) report further indicated that with references to the index of the quality of the schools' physical infrastructure, principals' perceptions did not give any general indication of a greater impact of deficiencies of the physical infrastructure on

learning in less developed countries. There was hardly any correlation between the mean index of the quality of the schools' physical and teachers' productivity in the selected countries. While all these studies were on the impact of physical resources and teachers' productivity, none of them was in the context of this study, a gap this study came out to fill.

2.3.2 Human resources and teachers' productivity

Human resources in education are the students, teaching staff, non-teaching staff, bursar, librarian, laboratory attendants, clerks, messengers, mail runners, gatekeepers, gardeners and cooks as well as educational planners and administrators (Adeogun & Osifila, 2005). Existence of enough and quality human resources is theorized to have a positive correlation with performance (Keith & Janet, 2003). Several studies exist showing the relationship between human resources and teachers' productivity at different educational level; for example Anderson (1999) discovered that good teachers regularly monitor and supervise their students' learning by checking students' work and helping individual student to overcome errors and learning difficulties, leading to high and better student achievement. However, studies investigating the type of skills needed and the level of experience, as well as other human resource qualities are still needed especially in poor countries like Kenya, hence the need for this study.

The December 2002 adhoc committee in WASSCE Nigeria, found that include among the factors that contribute towards students' poor performance, rapid student population growth, teachers' qualification and experience, teaching-learning process, student-teachers relationship, student-teacher ratio and school management, teacher relationship, play a vital role (Adeogun & Osifila, 2005).

Giwa & Illo (2000) expressed the problems militating against schools inspection as shortage of manpower and quality of the personnel available for the work. According to them, in most Africa countries the roles of inspectors tend to be ineffective due to severe resources constraints. In the findings, they realized the number of inspectors and monitoring officers who are newly employed with no practical experience on the job are being posted to the inspectorate unit of the Ministry of Education. They stated that to inspect and supervise schools effectively requires regular school visits of well experienced

officers with adequate provision of resources to forestall ineffectiveness in performing their duties. Fagbamiye (2004) posited that government should reduce its responsibilities to monitoring of what transpires in the schools to ensure quality. All these authors collectively emphasize the importance of human resources in improving teachers' productivity. They however look at human resources in the general perspective of education industry, so there is a need to approach this relationship from a micro perspective of education, hence the need for this study.

According to Keith & Janet, (2003), education output in Ghana would have to increase three or four times if all children were to be enrolled at primary level and taught by trained teachers. This assertion indicates the importance of human resources in improving performance of learners, since education output is always defined in terms of how many students have passed. This study wanted to establish how human resources in terms of adequate and skilled teachers influence education output in terms of students who have performed well or succeeded in their education.

In almost all countries, the demand for qualified teachers is ever increasing. This implies that educators have identified the need for and role of teachers in improving performance of learners. Crouch & Lewin (2001) showed that projections of teacher demand in South Africa substantially rising. This is the same case in Kenya and it is the reason why many licensed teachers have gone back to school to acquire more skills and fill the demand which is ever increasing. Also, the Millennium Development Goals (MDG) relating to education cannot be met unless the supply of teachers is adequate to keep pupil-teacher ratios within reasonable limits, and the quality of their training is sufficient to result in minimum acceptable levels of pupil achievement (Keith & Janet, 2003). Therefore improvements in efficiency and effectiveness are needed that can lower costs and expand output within sustainable budgets. Like wise the supply of these teachers is highly needed if education achievements of learners are to be improved. It is thus evident that national planning must directly address questions of teacher supply and demand, quality, curriculum and deployment. To be plausible such policy needs to have clarity about its goals (what are the skills and competencies newly trained teachers should possess?), methods (how are

these to be acquired?), costs (what resources are needed?) and timescale (how long will it take to achieve the desired outcomes?) (Keith & Janet, 2003).

Other studies that found a significant relationship between human resources and students' performance reviewed include that of Adeogun & Osifila, (2005), in which it was found that human resources (teaching and non teaching staff) has positive significant effect on students' teachers' productivity in Nigeria. Earlier findings of Bajah (1979), Oni (1995) and Adesina (1980) who discovered that human resources play the most important role in the teaching - learning situation than any other factors of production in the school system. Also, Anderson (1999) discovered that teachers who regularly monitor and supervise their students' learning by checking students' work and helping individual students to overcome errors and learning difficulties are likely to have students who exhibit higher level of achievement.

2.3.3 Material resources and teachers' productivity

Material resources include textbooks, charts, maps, audio-visual and electronic instructional materials such as radio, tape recorder, television and video tape recorder (Adesina, 1980). These material resources are theorized to have a positive relationship with students' performance (Crouch & Lewin, 2001). Several studies have been conducted to establish the relationship between material resources and teachers' productivity, although such studies in the context of Gatundu are still lacking. For example, Adeogun & Osifila (2005) found a significant relationship between material resources and students' teachers' productivity in Five Nigerian secondary schools. Their findings were in agreement with the findings of Alani (1987), Oni (1995) and Aghenta (1999) who found that the quality of education received by the learners in school, to a very large extent is determined by the level of availability of the material resources and of course the overall atmosphere in which learning activity takes place.

Where as all these studies were in West African countries, studies of the same kind need to be conducted in poor countries like Kenya, hence a gap for this study to fill.

Clayton & Forton (2001) showed interesting views when they argue that too much of the material resources, for example in a class, distort the learning environment and may

impact negatively students' achievement. These authors found that flexible classroom spaces that allowed for small group activities enhanced the learning environment. Classrooms must fit student's bodies and allow for interpersonal interaction. They also found that classrooms often have excessive furniture, and clustered materials which limit the ability of a classroom space to support this developmental need. This flexibility was found to be critical to student development, learning, and attitude. However, the problem in most poor countries is not too many materials clustered in class rooms, it is actually the lack of them. So this study investigated teachers' productivity of students in schools with adequate learning materials and those with less.

Fulles (1985) discovered that students who have used two or more books were almost three times better than those who had no textbooks in school. Hallack (1990) emphasized that the availability, relevance and adequacy of educational resources items contribute to academic achievement. According to Kilonzo, (2007), provision of quality and relevant education and training are dependent on among other things, interest and attitudes of the learners, the supply of adequate equipment and learning materials all of which have all effects on acquisition of skills. This shows that in addition to interest, adequate and relevant teaching materials if properly used can boost the learning of the student even if when abstract concepts are being taught. Too much theoretical teaching by the teachers at the expense of many simple coordinated classroom activities makes the subjects appear abstract thus students disliked learning. About the subjects it is pointed out that teachers with full of content enhance effective classroom control as compared to those of low content. This was supported by Jackson (1968) as cited in Kilonzo (2007) who argued that classroom teaching requires accurate preparations of materials which can stimulate learners' attention.

Eshiwani (1983) noted that "the factors affecting the students' performance fall into two categories" social and environmental factors on one hand and on the other class size, large classes contribute significantly to poor performance and poor control of the class, the availability of adequate physical facilities as well as equipped libraries, essential equipments and teaching materials are very important. This study wanted specifically to examine the

influence of learning materials on students' performance in Awendo Division, Keiyo district, which all other studies have not contextualized

Corkroft (1981) maintains that..."In both primary and secondary schools, there should be a supply of reference books for teachers related to the teaching of different subjects. This should include publication of the professional teachers guide which relates to textbooks which serve as additional resources for the teachers" The use of teaching aids helps to facilitate the teaching and learning of concepts increases the efficiency on information process, giving meaning to words, helps focus on students interest and assist the teacher to relate abstractness to concreteness, hence the pose of teaching aids is also important. Walberg & Thomas (1972) in their own contribution reported that children learn best when they can actively explore an environment rich in adequate materials. Scopes (1973) asserts that "...in many cases, in fact certain strategies and methods are precluded if necessary materials are not available and in other cases the limitation of materials, impose a group structured plan "Thus the availability of resources in schools assists in achieving the education goals and objectives through students involvement.

The study bridged gaps emanating from the theoretical perspectives since most studies cited herein used different theoretical model, as such, none, used reinforcement theories propounded by skinner (1939) and Naylor (1999) as did this study. Conceptual gap was also bridged in this study since most studies conceptualized teacher productivity in dimensions not similar to the ones adopted herein-planning and preparation, classroom culture, and assessment and evaluation. Temporal was also bridged in this study since most of the studies on resources and teacher productivity that have been conducted, were done in the distant past allowing a lot of time to pass thus justifying the need for another study in the same context, Rongo District.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter deals with research design, population, sample, sampling procedure, validity and reliability, data analysis, procedure, ethical concerns and limitations.

3.1 Research design

This was descriptive and correlational survey designs. Correlation design was used because the study was interested in relating and describing educational resources and with teachers' productivity. It was a survey because it involved quiet a big sample it allowed the researcher to adequately and effectively involve different respondents at one point of time.

3.2 Research population

The target population of this study were all the teachers and secondary school students in Awendo Division Rongo sub county. The division has 11 secondary schools and 207 teachers and 560 form four students. The accessible population comprised of 210 form four students who were required to provide information about the available educational resources in their schools and teachers' productivity.

3.3 Sample size

The researcher used suggestions of Morgan and Krejcie (Cited in Amin 2005), to select form four students. According to Morgan & Krejcie (in Amin, 2005), if the population s 210, then 136 is the adequate minimum sample.

$$\begin{aligned}n &= \frac{N}{1 + N(e^2)} \\ &= \frac{210}{1 + 210(0.05)^2} \\ &= \frac{210}{1 + 210(0.0025)} \\ N &= 136\end{aligned}$$

3.4 Sampling Procedure

Purposive sampling was used to identify only form four students who formed the principal respondents of the study on the basis of their maturity, good orientation with the teachers' productivity and Educational resources in the school. The sample size for respondents was determined by simple random sampling method. Random sampling was preferred as each member of the target population had an equal and independent chance of being included in the sample. Out of the total five schools selected, the researcher drew a total of 136 respondents.

Table 1:
Sample size population

Category	Population	Sample size	Techniques to be used
students	207	136	Random sampling

Source: Field data

3.5 Research Instrument

There was one set of researcher made questionnaire this was directed to students in secondary schools in Awendo Division. Questionnaires were equally distributed to all the five schools. The questionnaire consisted of two parts, section A, profile of the respondents, then B1, The independent variable in this study was educational resources, broken into three components (physical, human and material). Each of these was measured using 11 items in the questionnaire. B2 which was Dependent variable had questions on teachers' productivity, broken into 3 aspects, each of these was measured using 8 items each. Most questions in the questionnaire were closed-ended, based on the 4 point Likert Scale. The following rating scale was used;

Response Mode	Rating	Interpretation
Strongly Agree	4	Very sufficient
Agree	3	Sufficient
Disagree	2	Less sufficient
Strongly disagree	1	Not sufficient

They were closed ended thus provide data that was easy to compute and analyze preference of the questionnaire will be due to empirical data collected above population (mugenda 1999.)

3.6 Validity and Reliability of the Research instrument

Content validity of the Questionnaire was ensured through use of valid concepts and/or words which measure the study variables as cited in literature. The supervisors and Experts helped to evaluate the relevance, wording and clarity of questions or items in the instrument. Supervisors and other staff from faculty of education and other related faculties also were used in this endeavor. A content validity index of 0.7 was used to determine content validity, as per Amin (2005). Construct validity was ensured using factor analysis. Cronbach alpha was used to ensure reliability of the instrument, using SPSS. A Cronbach Alpha stated by Amin (2005) of at least 0.7 was used to determine reliability of the instrument.

$$V = \frac{RQ}{TQ}$$

$$V = \frac{27}{36} = 0.75$$

Where V = validity

RQ = Relevant Question

TQ = Total number of questions

The number of relevant question by the total number of question should be 0.75 for an instrument to be valid.

3.7 Data Gathering Procedures

Before the administration of the questionnaires

1. An introduction letter was obtained from the School of Post Graduate Studies and Research for the researcher to solicit approval to conduct the study from respective heads of primary schools.
2. When approved, the researcher secured a list of the qualified respondents from the school authorities in charge and selected through systematic random sampling from this list to arrive at the minimum sample size.
3. The respondents were explained to about the study and were requested to sign the Informed Consent Form (Appendix 3).
4. Reproduced more than enough questionnaires for distribution.
5. Selected research assistants who assisted in the data collection; briefed and oriented them in order to be consistent in administering the questionnaires.

During the administration of the questionnaires

1. The respondents were requested to answer completely and not to leave any part of the questionnaires unanswered.
2. The researcher and assistants emphasized retrieval of the questionnaires within five days from the date of distribution.
3. On retrieval, all returned questionnaires were checked if all were answered.

After the administration of the questionnaires

The data gathered was collated, encoded into the computer and statistically treated using the Statistical Package for Social Sciences (SPSS).

3.8 Data analysis

Data on completed questionnaire was edited, categorized or coded and entered into the computer SPSS to summarize them, using simple and complex frequency tables or

cross-tabulations. The same package was used to analyze data further, by computing relative frequencies, means, standard deviations and other relevant statistics for the first, second and third objectives. In the fourth objective, level of teachers' productivity was correlated with the respective educational resources using Pearson's Linear Correlation Coefficient, as is deemed appropriate.

3.9 Ethical Considerations

To ensure confidentiality of the information provided by the respondents and to ascertain the practice of ethics in this study, the following activities were implemented by the researcher:

1. Sought permission to adopt the standardized questionnaire on school effectiveness through a written communication to the author.
2. The respondents and schools were coded instead of reflecting the names.
3. Solicited permission through a written request to the concerned officials of the primary schools included in the study.
4. Requested the respondents to sign in the *Informed Consent Form* (Appendix 3)
5. Acknowledged the authors quoted in this study and the author of the standardized instrument through citations and referencing.
6. Presented the findings in a generalized manner.

3.10 Limitations of the Study

In view of the following threats to validity, the researcher claimed an allowable 5% margin of error at 0.05 level of significance. Measures were also indicated in order to minimize if not to eradicate the threats to the validity of the findings of this study.

Extraneous variables which were beyond the researcher's control such as respondents' honesty, personal biases and uncontrolled setting of the study.

Instrumentation. The research instrument to measure the variables were non-standardized therefore validity and reliability test was done to produce credible measure of research variable.

Testing. The use of research assistants brought about inconsistency in administration of the questionnaire in terms of time of administration, understanding of the items in the questionnaire and explanations given to the respondents. To minimize this threat the research assistants were oriented and briefed on the procedure to be done in data collection.

Attrition. Not all questionnaire were returned, completely answered not even retrieved back due to varying circumstances on the part of the respondents such as travel, sickness, refusal and withdrawal to participate in the study. In anticipation to this the researcher reserved more respondents by exceeding the minimum sample. The respondents were reminded not leave any item in the questionnaire unanswered and were closely followed up to the date of retrieval.

The Likert scale with ranges 1-4 was a limitation. The researcher minimized it by ranging the response mode within the range.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the description of respondents, descriptive statistics of variables, the impact of educational resources on students' performance in Awendo Division, Rongo District, as shown by the study objectives. The hypotheses of the study is also tested here and the research questions are answered.

Profile of respondents

Respondents in this study were secondary school students from the five schools in Awendo Division. Students in this study were described by sex, and age. Table 2 shows the description of this information;

**Table 2:
Profile of the Respondents**

Category		Frequency	Percentage (%)
Age	15-20	102	75
	20-above	34	25
Total		136	100
Gender	Male	73	64
	female	63	46
Total		136	100

Source; Field Data 2012

Table 2 above, it is categorically evident that as concerns age, 75% of the respondents were aged between 15 and 20, where as 25% were above 20 years old. This could possibly imply that most of the students' academic progress is fine , moving from one class to another within the right time since it is calculated that when they reach form four, they should be around 18 years old under normal progression.

Gender parity has almost been achieved in this division since the difference in number between the number of boys and girls is not that big. Whereas girls are few at 46 %, the boys are 64% which margin is not that big.

Level of Educational Resources

The independent variable in this study was educational resources, broken into three components (physical, human and material). Each of these components was measured using 11 items in the questionnaire, as described herein; The first component of the independent variable was physical resources in schools, measured using 11 items in the questionnaire, The second component of the independent variable was human resources in schools, The third component of the independent variable was material resources in schools, measured using 11 items in the questionnaire measured using 11 items in the questionnaire. All these aspects were each Likert scaled between one to five, where 1=Very inadequate or not available at all; 2=inadequate; 3=Neither inadequate nor adequate; 4=adequate; and 5=very adequate. Teachers were required to rate the level of availability or adequacy of each of these materials by ticking the right number in the box. Their responses were summarized using SPSS's means and standard deviations as indicated in table 3

Table 3:

Level of Educational Resources

Indicators of Physical resources in a school	Mean	Interpretation	Rank
1. Classrooms,	2.58	Less sufficient	15
2. administrative block	3.39	Sufficient	4
3. libraries	2.81	Less sufficient	10
4. assembly halls	2.04	Less sufficient	26
5. sickbay	1.72	Less sufficient	32
6. staff quarters	3.60	Sufficient	1
7. students' hostels	2.94	Less sufficient	8
8. kitchen	3.57	Sufficient	2
9. canteen	2.78	Less sufficient	11
10. Play grounds	3.07	Sufficient	7
11. lavatory and toilets	1.93	Less sufficient	29
Total	2.77	Less sufficient	
Indicators of human resources in a school	Mean		
1. Qualified teaching staff	1.90	Less sufficient	30
2. non- teaching staff	1.95	Less sufficient	27
3. bursar	2.63	Less sufficient	13
4. laboratory attendants	1.94	Less sufficient	28
5. Clerks (secretaries)	1.73	Less sufficient	31
6. messengers	2.10	Less sufficient	25
7. gatekeepers	2.60	Less sufficient	14
8. gardeners	2.73	Less sufficient	12
9. cooks	2.44	Less sufficient	20
10. administrators	1.52	Less sufficient	33
11. Security guards	2.48	Less sufficient	18
Total	2.18	Less sufficient	
Indicators of material resources in a school	Mean		
1. Good up to date and relevant textbooks	2.45	Less sufficient	19
2. Demonstration charts	2.84	Less sufficient	9
3. Study maps	2.31	Less sufficient	23
4. audio-visual equipments	2.24	Less sufficient	24
5. radios	2.43	Less sufficient	21
6. tape recorder and players	2.57	Less sufficient	16
7. television	2.56	Less sufficient	17
8. video tape recorder and players	2.42	Less sufficient	22
9. Laboratory chemicals and equipments	3.11	Sufficient	6
10. Chalk all the time at school	3.49	Sufficient	3
11. Food/ water	3.12	Sufficient	5
Total	2.69	Less Sufficient	
Overall	2.55	Less sufficient	

Physical resources

The means in table 3 indicate that students rated differently availability of different physical resources in their schools. For example, classrooms, administrative blocks, students' hostels, canteens and play grounds were all rated as neither inadequate nor adequate with means ≈ 3 . However, libraries, assembly halls, sickbay, lavatories and toilets were rated inadequate at mean ≈ 3 . Some resources like kitchen and staff quarters were rated adequate with mean ≈ 4 . To get a summary picture on how teachers rated availability of physical resources in their schools, an average index (PHYSICAL) was computed for all the 11 items in table 4, which turned out to have a mean index of 2.77, confirming that on average physical resources of education in schools of Awendo Division are neither inadequate nor adequate (mean index ≈ 3).

Human resource

The means in table 3 indicate that human resources in Awendo Division secondary schools were inadequate (most means ≈ 2), which falls under inadequate on the Likert scale. For example availability of qualified teachers (mean=1.90), non teaching staff (mean=1.95), laboratory attendants (mean=1.94), secretaries (mean=1.73), messengers (mean=2.10), cooks (mean=2.44) and administrators (mean=1.52), were all rated inadequate in these schools (all means ≈ 2). However, some human resources were found to be fairly adequate, for example bursars (mean=2.63), gatekeepers (mean =2.60) and gardeners (mean=2.73). To get a summary picture on how teachers rated availability of human resources in their schools, an average index (HUMAN) was computed for all the 11 items in table 4, which turned out to have a mean index of 2.18, confirming that on average, human resources in Awendo Division secondary schools are still inadequate.

Material resource

The means in table 3 indicate that material resources in schools were fairly adequate (most means ≈ 3). For example, demonstration charts (2.84), Chalk (3.49), food/water (3.12) and so on, were all rated as neither inadequate nor adequate. But some other materials such as textbooks (2.45), maps (2.31), audio-visual equipments (2.24) and so on, were all rated inadequate. To get a summary on how teachers rated availability of material resources in their schools, an average index (MATERIALS) was computed for all the 11 items in table 4, which turned out to have a mean index of 2.69, confirming that material resources were rated as neither inadequate nor adequate (mean index ≈ 3).

Teachers' Productivity

In this study, teacher productivity formed the dependent variable. Teacher productivity was conceptualized into 3 facets; Planning and preparation (measured using 8 items in the questionnaire), Classroom Culture (measured using Items in the questionnaire) and instructional assessment (measured using 8 items). The students were requested to rate their scores after which they were tabulated as follows;

Response Mode	Rating	Interpretation
Strongly Agree	4	Very sufficient
Agree	3	Sufficient
Disagree	2	Less sufficient
Strongly disagree	1	Not sufficient

Table 4
Level of Teacher Productivity

Planning and Preparation	Mean	Interpretation	Rank
Practice punctuality	3.80	Sufficient	3
Recognizes and encourages the potentials of each student	3.48	Sufficient	6
Identifies errors made by the students and deals with them appropriately	3.36	Sufficient	7
Responds sensitively to the various stages of the emotional, physical, and intellectual development of students	3.11	Sufficient	10
Demonstrates the ability to discuss on an appropriate level the subject matter related to his/her assignments with students.	2.88	Less sufficient	14
Is available to students at appropriate times	2.84	Less sufficient	15
Uses current ideas, concepts, and resources to supplement and enrich the curriculum	2.83	Less sufficient	16
Plans for and creates assessments that measure students' achievement against standards	2.23	Less sufficient	23
Total	3.07	Sufficient	
Classroom Culture	Mean		
Develops readiness for learning	4.22	Very sufficient	1
Assists students in establishing goals for learning	3.91	Sufficient	2
Involves students in learning experiences that leads to optimum performance	3.64	Sufficient	4
Demonstrates a focus to all student's success and growth	3.63	Sufficient	5
Nurtures the development of positive inter-group and intra-group relations	3.24	Sufficient	8
Demonstrates meaningful use of supplemental materials and aids	3.13	Sufficient	9
Acts in a manner that fosters and reflects cooperation and mutual respect	3.10	Sufficient	11
Organizes, arranges, and utilizes resources and equipment in a manner which promotes learning.	2.93	Less sufficient	12
Total	3.47	Sufficient	
Instruction and Assessment	Mean		
Demonstrates current knowledge of curriculum in subject field	2.65	Less sufficient	18
Identifies and clearly communicates lesson objectives to students	2.89	Less sufficient	13

Uses effective questioning and discussion techniques which provide students with opportunities to participate actively	2.37	Less sufficient	21
Collects and shares evidence of students' learning	2.24	Less sufficient	22
Utilizes different types of assessment activities	1.43	Sufficient	24
Conveys assessment results to students in a timely manner	2.57	Less sufficient	19
Provides opportunity for one to one instruction with students	2.79	Less sufficient	17
Assists students with self management skills.	2.43	Sufficient	20
Total	2.42	Less sufficient	
Overall Mean	2.99	Less Sufficient	

Source; Field Data

Table 4 above clearly indicates that the overall level of teacher productivity is less sufficient with an overall mean of 2.99. The components of teacher productivity scored such that; planning and preparation had a mean of 3.07, which is rated sufficient, classroom culture scored a mean of 3.47, which in the decision rule is ranked sufficient, instruction and assessment scored a mean of 2.54 which is rated less sufficient.

As regards the aspect of planning and preparation, the item that ranked highest was teachers' punctuality, with a mean of 3.80, this could be so due to the fact that most teachers stay in the staff quarters that are within the school compounds. Other items that ranked sufficient include; recognizing and encouraging the potentials of each student, (mean=3.48) and identifying errors made by the students and dealing with them appropriately, (mean=3.36). other items that were rated less sufficient include; demonstrating the ability to discuss on appropriate level the subject matter related to his/her assignment with students, (mean=2.88), the teacher is available to students at appropriate times (mean=2.84) among others.

With respect to classroom culture, the overall score was sufficient. The item with the highest rating was the aspect of developing readiness for learning, with a mean of 4.22.

The aspects that scored sufficient include; assisting students in establishing goals for learning, (3.91), involves students in learning experiences that leads to optimum performance (3.64), demonstrate a focus on all students' success and growth,

(mean=3.63), and demonstrates meaningful use of supplemental materials and aid (mean=3.1) among others.

With regard to instruction and assessment, the item with the highest rating was identifying and clearly communicating lesson objectives to students with a mean of 2.89. Other items that ranked less sufficient include demonstration of current knowledge of curriculum in subject field, a mean of 2.65, conveying assessment results to students in a timely manner, a mean of 2.57, providing opportunity for one to one instruction with students, a mean of 2.79 among others.

Pearson's' linear correlation coefficient on the relationship between academic resources and teachers' productivity.

The dependent variable in this study was teachers' productivity conceptualized in terms of planning and preparation, classroom culture, and Instruction and assessment, which the fourth objective was directed to establish the relationship between level of academic resources and level of teachers' productivity. Level of academic resources was divided into three aspects, human, material and physical resources.

The fourth objective of this study was to assess the relationship between a level of academic resources and level of teachers productivity. To determine this the researcher computed and correlated mean indices based on the perceptions of the respondent's on the level of academic resources with that of teachers' productivity. The Pearson's linear correlation coefficient (r) was used to correlate the mean indices and results are shown in table 5

Table 3:
Relationship between level of Educational resources
and level of teachers' productivity

Variables Compared		Mean	r-Value	Sig.	Interpretation	Decision on Ho
level of educational vs resources	Less Sufficient	2.55	0.714	0.00	There is a significant relationship	Rejected
level of teachers' productivity	Less Sufficient	2.99				

Source Field Data

The r-values in table 5 indicate a positive relationship between level of educational resources and level of teachers' productivity ($r\text{-value} > 0$), suggesting that the more the resources are availed in the school, the more the teachers' productivity improves and vice versa. Considering that all the sig. Values in table five indicate a significant correlation between the two variables ($\text{sig. values} < 0.00$). Basing on this analysis the null hypothesis is rejected, leading to a conclusion that educational resources significantly affect teachers' productivity.

To get the final picture on how educational resources affects teachers productivity, three aspects of teachers productivity were regressed against educational resources, results of which are indicated in table 6 below; and the remaining three aspects were not significant however the overall general picture showed a positive and significant effect.

Table 6

Regression Model for Educational resources and teachers productivity

Variables regressed	Adjusted R²	F	Sig.	Interpretation	Decision on Ho
Teachers productivity Vs Educational resources	.110	21.290	.000	significant effect	Rejected
Coefficients	Beta	T	Sig.		
(Constant)	—	32.798	.000	significant effect	Rejected
Material resources	-.329	-4.385	.000	significant effect	Rejected
Physical resources	-.301	-4.277	.000	significant effect	Rejected
Human resources	-.172	-2.200	.023	significant effect	Rejected

Source: Primary data 2012

The Linear regression results in Table6 above indicate that Educational resources significantly affects teachers productivity (F=21.290, sig. =0.000). The results indicate that the three constructs of educational resources included in the regression model contribute over 11% towards variations in all the three aspects of teachers productivity in Awendo Division Rongo Sub county (Adjusted R² =0.110). The coefficients section of this table indicates the level to which Educational resources affect Teachers productivity and this is indicated by Beta values. For example, of all the three aspects in educational resources , Human resources has the biggest impact on Teachers productivity with a beta value of -0.172, suggesting that Human resources contribute over -17% towards variations in teachers productivity. This is followed by Physical resources (Beta=0.301), and lastly Material resources (Beta=-0.329). This implies that for teacher’s productivity to improve and increase, the administrators in Awendo Division Rongo Sub county should come up emphasis Human resources of educational resources, followed by Physical resources and

Material resources should be hardly thought of if they want to boost Teachers productivity in Awendo Division Rongo Sub county.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the findings, conclusions and recommendations following the study objectives and pertinent hypotheses. The areas for further research are also suggested here.

5.2 DISCUSSION

This study set out to find out the influence of educational resources on teachers' productivity in Awendo Division Rongo District. It was guided by 4 questions, that included determining the level of educational resources, levels of teachers' productivity and the relationship between educational resources and teachers' productivity in Awendo Division, Rongo District, Kenya.

Under objective one, the study found out that as concerns age, 75% of the respondents were aged between 15 and 20, where as 25% were above 20 years old. This could possibly imply that most of the students' academic progress is fine , moving from one class to another within the right time since it is calculated that when they reach form four, they should be around 18 years old under normal progression. Gender parity has almost been achieved in this division since the difference in number between the number of boys and girls is not that big. Whereas girls are few at 46 %, the boys are 64% which margin is not that big.

As pertains to objective 2, the study found out that the overall level of teacher productivity is less sufficient with an overall mean of 2.99. The components of teacher productivity scored such that; planning and preparation had a mean of 2.76, which is rated less sufficient, classroom culture scored a mean of 3.47, which in the decision rule is ranked sufficient, instruction and assessment scored a mean of 2.54 which is rated less sufficient.

As regards the aspect of planning and preparation, the item that ranked highest was teachers' punctuality, with a mean of 3.80, this could be so due to the fact that most teachers stay in the staff quarters that are within the school compounds. Other items that ranked sufficient include; recognizing and encouraging the potentials of each student, (mean=3.48) and identifying errors made by the students and dealing with them appropriately, (mean=3.36). other items that were rated less sufficient include; demonstrating the ability to discuss on appropriate level the subject matter related to his/her assignment with students, (mean=2.88), the teacher is available to students at appropriate times (mean=2.84) among others. With respect to classroom culture, the overall score was sufficient. The item with the highest rating was the aspect of developing readiness for learning, with a mean of 4.22.

The aspects that scored sufficient include; assisting students in establishing goals for learning, (3.91), involves students in learning experiences that leads to optimum performance (3.64), demonstrate a focus on all students' success and growth, (mean=3.63), and demonstrates meaningful use of supplemental materials and aid (mean=3.1) among others. With regard to instruction and assessment, the item with the highest rating was identifying and clearly communicating lesson objectives to students with a mean of 2.89. Other items that ranked less sufficient include demonstration of current knowledge of curriculum in subject field, a mean of 2.65, conveying assessment results to students in a timely manner, a mean of 2.57, providing opportunity for one to one instruction with students, a mean of 2.79 among others.

Fulles (1985) discovered that students who have used two or more books were almost three times better than those who had no textbooks in school. Hallack (1990) emphasized that the availability, relevance and adequacy of educational resources items contribute to academic achievement. According to Kilonzo, (2007), provision of quality and relevant education and training are dependent on among other things, interest and attitudes of the learners, the supply of adequate equipment and learning materials all of which have all effects on acquisition of skills. This shows that in addition to interest, adequate and relevant teaching materials if properly used can boost the learning of the student even if when abstract concepts are being taught. Too much theoretical teaching by

the teachers at the expense of many simple coordinated classroom activities makes the subjects appear abstract thus students disliked learning. About the subjects it is pointed out that teachers with full of content enhance effective classroom control as compared to those of low content. This was supported by Jackson (1968) as cited in Kilonzo (2007) who argued that classroom teaching requires accurate preparations of materials which can stimulate learners' attention.

Eshiwani (1983) noted that "the factors affecting the students' performance fall into two categories" social and environmental factors on one hand and on the other class size, large classes contribute significantly to poor performance and poor control of the class, the availability of adequate physical facilities as well as equipped libraries, essential equipments and teaching materials are very important. This study wanted specifically to examine the influence of learning materials on students' performance in Awendo Division, Keiyo district, which all other studies have not contextualized

Corkroft (1981) maintains that..."In both primary and secondary schools, there should be a supply of reference books for teachers related to the teaching of different subjects. This should include publication of the professional teachers guide which relates to textbooks which serve as additional resources for the teachers" The use of teaching aids helps to facilitate the teaching and learning of concepts increases the efficiency on information process, giving meaning to words, helps focus on students interest and assist the teacher to relate abstractness to concreteness, hence the pose of teaching aids is also important. Walberg & Thomas (1972) in their own contribution reported that children learn best when they can actively explore an environment rich in adequate materials.

In the view of the third objective, educational resources were; i) fairly adequate in terms of physical (mean index = 2.71 or ≈ 3); ii) inadequate in terms of human (mean index ≈ 2); and iii) fairly adequate in terms of material (mean index = 2.68 or ≈ 3). Several studies have been conducted to correlate physical resources and students' performance; for example, Edward (1991), found that as school's condition improved in USA, from one category, for example, from poor to fair students' standardized achievement scores rose an

average of 5.45 percentage points; Hallack (1990) emphasized that the availability, relevance and adequacy of educational resource items contribute to academic achievement and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor teachers' productivity. Fuller (1985) adds that students who had used two or more books were almost three times better than those who had no textbooks in school.

Claus & Girrbach (1985) under the Saginaw Schools Project in Canada is another study that noted the relationship between students' achievement and building facilities. This project was guided by the belief that schools can influence and control variables that contribute to school learning, the Saginaw Public Schools launched a "grassroots" project involving 31 schools. Lorton & Walley (1979) posited that learning experiences are richest when the environment (physical resources) around them meets their needs through its adequacy and effective utilization. Walberg & Thomas (1972) in their own contribution reported that children learn best when they can actively explore an environment rich in adequate materials.

Loxley (1984) revealed that inadequate supply of textbooks in schools is having a toll on teaching and learning activities in many of the countries in the world. According to him, the World Bank data recorded the number of student to a textbook as ratio 20: 1. Sodimu (1998) in his findings reported that based on the high cost of textbooks, many students have been unable to buy books that will help to promote the quality of education they receive in Lagos state public secondary schools. He even stressed that parents believed so much in government funding the education in public schools to the extent that they become non-chalant towards equipping their wards with textbooks. Textbooks as indicated by Oni (1995) are indispensable to the quality education and students' teachers' productivity in all the schools in the world.

Nkuuhe (1995) highlighted some of the bad influence as, teachers' abdication of teaching responsibility to textbooks at the expense of original teaching method; textbooks does not give room for flexibility, instead there are mechanical division of the curriculum and no provision made for individual differences among students.

Lorton & Walley (1979); Hallack (1990) discovered that learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor teachers' productivity.

Individuals have perceived and acknowledged the purpose and function of resource in effective teaching and learning. Hallack (1990) emphasized that the availability, relevance and adequacy of educational resource items contribute to academic achievement and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor academic performance. Fuller (1985) discovered that students who had used two or more books were almost three times better than those who had no textbooks in school.

Existence of enough and quality human resources is theorized to have a positive correlation with performance (Keith & Janet, 2003). Several studies exist showing the relationship between human resources and teachers' productivity at different educational level; for example Anderson (1999) discovered that good teachers regularly monitor and supervise their students' learning by checking students' work and helping individual student to overcome errors and learning difficulties, leading to high and better student achievement. However, studies investigating the type of skills needed and the level of experience, as well as other human resource qualities are still needed especially in poor countries like Kenya, hence the need for this study.

Results using Pearson's Linear Correlation Coefficient found that; there is a positive relationship between level of educational resources and teachers' productivity ($r\text{-value} > 0$), suggesting that the more the resources are availed in the school, the more the teachers' productivity improved and vice versa. Considering that all the sig. Values in table five indicate a significant correlation between the two variables ($\text{sig. values} < 0.00$). Basing on this analysis all the null hypothesis are rejected, leading to a conclusion that educational resources significantly affects teachers' productivity. Other studies that found a significant relationship between human resources and students' performance reviewed include that of Adeogun & Osifila, (2005), in which it was found that human resources (teaching and non

teaching staff) has positive significant effect on students' teachers' productivity in Nigeria. Earlier findings of Bajah (1979), Oni (1995) and Adesina (1980) who discovered that human resources play the most important role in the teaching - learning situation than any other factors of production in the school system. Also, Anderson (1999) discovered that teachers who regularly monitor and supervise their students' learning by checking students' work and helping individual students to overcome errors and learning difficulties are likely to have students who exhibit higher level of achievement. According to Keith & Janet, (2003), education output in Ghana would have to increase three or four times if all children were to be enrolled at primary level and taught by trained teachers. This assertion indicates the importance of human resources in improving performance of learners, since education output is always defined in terms of how many students have passed. This study wanted to establish how human resources in terms of adequate and skilled teachers influence education output in terms of students who have performed well or succeeded in their education.

In almost all countries, the demand for qualified teachers is ever increasing. This implies that educators have identified the need for and role of teachers in improving performance of learners. Crouch & Lewin (2001) showed that projections of teacher demand in South Africa substantially rising. This is the same case in Kenya and it is the reason why many licensed teachers have gone back to school to acquire more skills and fill the demand which is ever increasing. Also, the Millennium Development Goals (MDG) relating to education cannot be met unless the supply of teachers is adequate to keep pupil-teacher ratios within reasonable limits, and the quality of their training is sufficient to result in minimum acceptable levels of pupil achievement (Keith & Janet, 2003). Therefore improvements in efficiency and effectiveness are needed that can lower costs and expand output within sustainable budgets. Like wise the supply of these teachers is highly needed if education achievements of learners are to be improved. It is thus evident that national planning must directly address questions of teacher supply and demand, quality, curriculum and deployment.

5.3 Conclusions

This section gives the conclusion of the study in relation to the study objectives and hypotheses; The study concluded that;

1. The number of boys is bigger than the number of girls in Awendo Division secondary schools though this difference is not that big. Many students in this division in form four are in the age bracket of between 15-20 years.
2. The level of educational resources in Awendo division is generally less sufficient in terms of human, material and physical resources.
3. The level of teachers' productivity is low.
4. There is a strong positive relationship between educational resources and teachers' productivity.

5.4 Recommendations

Basing on the findings of the first objectives, the researcher recommends that if teachers' productivity is to be improved in Awendo Division, then school management and the government should focus more on improving and increasing manpower than focusing on beautifying physical resources. However physical resources are importance but should be improved hand in hand with other resources. Physical resources alone cannot improve students' teachers' productivity however good or adequate they are unless they are supplemented by other resources. It is also important to note that availability of abundant physical resources without proper man power to manage them, will negatively impact on students' teachers' productivity, so managers should try to note this, as they distribute their investments in school resources.

Basing on the findings of the second objective/hypothesis, the researcher recommends that if teachers' productivity is to be improved in Awendo Division, then school management and the government should try to do whatever they can to recruit, train and maintain adequate human resources. Of all the human resources needed in the school, administrators should give their priority to quality and experienced teachers. They should also ensure that the teacher pupil ratio is reduced. It is also important to strengthen school

management resources because without proper managers to supervise the teachers, students' teachers' productivity may not improve.

Lastly, basing on the findings of the third objective, the researcher recommends that if teachers' productivity is to be improved, then management and government as well should try to ensure that they increase material resources in schools. Among the most important resources management should focus mainly at good or quality text books for both teachers and students to reference, maps, charts and audio-visual materials. Whereas other materials are also vital but these ones mentioned should be given priority before others.

Suggestions for Further Research

The findings of this study are not conclusive on the problem of teachers' productivity in relation to educational resources, further studies can be conducted to examine the relationship between financial resources and students' teachers' productivity in the same zone. A similar study can be conducted using management as an intervening factor, since it is assumed that without good management, even resources are prevalent, performance may not be good. Another study may be conducted to find out the relationship between numbers of students in a class and teachers' productivity. A similar study can be done to find out how teachers' work load affect students' performance.

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APPENDICES

APPENDIX I: INFORMED CONSENT

I am giving my consent to be part of the research study of Ms. Obonyo Everlyne that will focus on Academic Resources and teachers' productivity in Awendo Division Rongo District Kenya. I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation any time.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initials: _____ Date _____

APPENDIX II: TRANSMITTAL LETTER FOR THE RESPONDENTS

Dear respondent,
Greetings!!

I am a student at Kampala International University (KIU). I am undertaking a research study on **the relationship between Educational Resources and Teachers' productivity of secondary school teachers in Awendo Division Rongo District** as a partial fulfillment of the requirements for the degree of master in education. As I pursue to complete this academic requirement, may I request your assistance by being part of this study? Your responses will be used for research purpose only and your identity kept confidential.

Kindly provide the most appropriate information as indicated in the questionnaires and please do not leave any item an answered. Any data from you shall be for academic purposes only and will be kept with utmost confidentiality.

May I retrieve this questionnaire in 1 week after you have received it? Thank you very much in advance.

Yours faith fully

.....
OBONYO EVERLYNE A.

APPENDIX III: FACE SHEET

SECTION A: BACKGROUND CHARACTERISTICS

Please tick (√) where applicable

1. **Initials** (optional) -----

2. **Sex** male_ Female_

5.Age group

1. 15-20 years _

2. 21 and above years _

Code#.....

Date received by respondents.....

APPENDIX IV: RESEARCH INSTRUMENT

SECTION B

Evaluation of how students rated adequacy of resources in the schools
(Tick where applicable)

Rating	Response Mode	Interpretation
4	Strongly Agree	Very sufficient
3	Agree	Sufficient
2	Disagree	Less sufficient
1	Strongly disagree	Not sufficient

Indicators of Physical resources in a school

- _1. You have enough classrooms.
- _2. You have sufficient administrative block
- _3. The library in your school is sufficient
- _4. Assembly halls are enough
- _5. the sickbay in your school sufficient
- _6. you have enough staff quarters
- _7. you have enough students' hostels
- _8. you have sufficient kitchen
- _9. you have sufficient canteen
- _10. you have sufficient Play grounds
- _11. you have sufficient lavatory and toilets

Indicators of Material resources

- _1. you have good up to date and relevant textbooks
- _2. you have sufficient demonstration charts
- _3. you have sufficient study maps
- _4. you have enough audio-visual equipments

- _5. you have enough Radios
- _6. you have sufficient tape recorder and players
- _7. you have sufficient television
- _8. you have sufficient video tape recorder and players
- _9. you have sufficient Laboratory chemicals and equipments
- _10. you have chalk all the time at school
- _11. you have enough food/ water

Indicators of human resources in a school

- _1. you have enough qualified teaching staff
- _2. you have enough non- teaching staff
- _3. you have sufficient (bursar)
- _4. you have enough laboratory attendants
- _5. you have enough clerks (secretaries)
- _6. you have enough messengers
- _7. you have enough gatekeepers
- _8. you have enough gardeners
- _9. you have enough cooks
- _10. you have enough administrators
- _11. you have enough security guards

Section C; Questionnaire on Teacher productivity

C1. Planning and preparation –your teachers;

- _1. Practice punctuality
- _2. Recognizes and encourages the potentials of each student
- _3. Identifies errors made by the students and deals with them appropriately
- _4. Responds sensitively to the various stages of the emotional, physical, and intellectual development of students

_5. Demonstrates the ability to discuss on an appropriate level the subject matter related to his/her assignments with students.

_6. Is available to students at appropriate times

_7. Uses current ideas, concepts, and resources to supplement and enrich the curriculum

_8. Plans for and creates assessments that measure students' achievement against standards

C2 Classroom culture

_1. Develops readiness for learning

_2. Assists students in establishing goals for learning

_3. Involves students in learning experiences that leads to optimum performance

_4. Demonstrates a focus to all student's success and growth

_5. Nurtures the development of positive inter-group and intra-group relations

_6. Demonstrates meaningful use of supplemental materials and aids

_7. Acts in a manner that fosters and reflects cooperation and mutual respect

_8. Organizes, arranges, and utilizes resources and equipment in a manner which promotes learning

C3 Instruction and assessment

_1. Demonstrates current knowledge of curriculum in subject field

_2. Identifies and clearly communicates lesson objectives to students

_3. Uses effective questioning and discussion techniques which provide students with opportunities to participate actively

_4. Collects and shares evidence of students' learning

_5. Utilizes different types of assessment activities

_6. Conveys assessment results to students in a timely manner

_7. Provides opportunity for one to one instruction with students

_8. Assists students with self management skills.

Thank you for your cooperation

APPENDIX V: THE RESEARCHER'S CURRICULUM VITAE

CURRICULUM VITAE

PERSONAL DETAILS

NAME : OBONYO EVELYNE A
ADDRESS : P. O. BOX 107-40405, SARE AWENDO
CONTACT : 0729005841
DATE OF BIRTH : 28TH DECEMBER, 1974
GENDER : FEMALE
MARITAL STATUS : MARRIED
NATIONALITY : KENYAN
RESIDENCE : AWENDO
NUMBER OF DEPENDANT : 2

VISION

- To explore the academic heights and enhance holistic development

CAREER OBJECTIVES

- To find a challenging position to meet my competencies, capabilities, skills, education and experience.

EDUCATIONAL BACKGROUND

Year	awards	institution
2011-2013	Masters in Special Education	Kampala International University
2008-2011	Bachelor of Education in Special Need Education	Kampala International University
2003-2006	Diploma in Special Needs	Kenya Institute of Special Education (KISE)

1994-1996	Certificate in Primary Teachers Education	Asumbi Teachers Training College
1989-1992	O-Level Kenya Certificates of Secondary Education	Moi Nyabohanze Girls
1981-1987	Kenya Certificate of Primary Education (KCPE)	Asumbi Girls Boarding

PROFESSIONAL EXPERIENCE

October 2011 to date	:	Rongo University College
September 2010-2011	:	Komolorume Primary School (Awendo District)
February 2000-August 2010	:	Sony Sugar Primary School (Awendo District)
January 1998-January 2000	:	Oseno Primary School (Rarieda District)
September 1996-December 1998	:	Malele Primary (Bondo District)

REFEREES:

1. Samuel Nyawade
Komolorume Primary School
Tel: 07214573
2. George Ojwang' Alloys
Shanzu T.T.C
Tel: 0735760681
3. Edward O. Oluoch
Sony Sugar Company
Tel: 0723346966