DETERMINANTS OF STUDENTS' PERFORMANCE IN KENYA CERTIFICATE OF SECONDARY EDUCATION IN NON FORMAL EDUCATION CENTRES IN KIKUYU DISTRICT, KENYA

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DECLARATION

This Research Project Report is my original work and has not been presented for a degree in any other university.

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DEDICATION

I dedicate this work to my husband, Dr. Kamau Gathiaka and my three children; Benjamin, Zipporah and Ivy.

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LIST OF ABBREVIATIONS AND ACRONYMS

ADEA	Association for Development of Education in Africa
CBS	Community Based Schools
CRDA	Children right defense association
EFA	Education for All
FPE	Free Primary Education
GER	Gross Enrolment Ratio
GOK	Government of Kenya
MOE	Ministry of Education
MOEST	Ministry of Education Science and Technology
NFBE	Non-formal basic education
NFE	Non-Governmental Organization
NLP	National Literacy Programme
UNCRC	United National Convention of the Rights of the Child
UNESCO	United Nations Educational Scientific and Cultural Organization

UPE	Universal Primary Education
WCEA	World Conference on Education for All
WGNFE	Working Group on Non-Formal Education

ABSTRACT

The study set out to establish determinants of students' performance in Kenya Certificate of Secondary Education in non-formal education centres in Kikuyu District, Kenya**.** Non-formal schools face a myriad of challenges such as shortage of teaching and learning facilities and resources. Expansion of physical facilities is hampered by inadequate land, some of the target groups feel alienated by available policies, and lack of co-ordinated service delivery leaves these schools unable to compete favorably with the formal secondary schools in terms of performance. Objectives of the study aimed to establish: if adequacy of school facilities in non formal education centers influence students' performance in KCSE, whether academic approaches to teaching influence students' performance, whether time allocated to learning influence students' performance, and if students' attitudes influence their performance in KCSE. The study used descriptive research design. The study sampled 6 schools, 6 headteachers, 32 teachers and 160 students. The schools were selected randomly, using probability sampling. Questionnaires were used to collect data from headteachers, teachers and students. Reliability was determined through split half method with a Pearson's product moment formula for the test – retest was employed to compute the correlation, coefficient. Data analysis was performed using descriptive statistics such as mode, frequency and percentages were used to analyze quantitative data. The study established that students do not have working instruments all the time and that the schools do not provide enough class textbooks neither does it provide geometrical sets to each student. Also, the study established that lessons per week are not enough to cover the entire syllabus. In addition, the study found out that team projects and reports encourage weak students to catch up with the brighter ones. Finally, the study established that, students find understanding the subject matter easy due to efficient teacher – student relationship, also students are able to use what they learn due to proper teacher – student relationship and that teacher – student relationship enhances learning all the topics. The study recommended that The Ministry of education should increase the budgetary allocations for non-formal education centres, for TSC to post qualified guidance and counseling teachers in those centres. In addition; the government should also consider funding in-service training for the teachers in NFEC's, and that quality assurance and Standards Officers should give more attention to the non-formal schools and centres.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Education is a cornerstone of economic and social development. It has become "an indispensable key to" and "sine qua non for" (something absolutely indispensable or essential) personal and social improvement. It affects how well individuals, communities, nations, and the world fare. Basic education is a requirement and a fundamental right of every member of a society irrespective of his/her age, gender, race, religion, economic, political status, family background, geographical location and special needs (Lockheed, Verspoor, and associates, 1991;MOE/ICDR, 1999; UNESCO/DF, 2000; WCEFA, 1990; World Bank, 1999)

The World Conference on Education for all hosted at Jomtien, in 1990 represented a historic initiative to bring about international commitment to a new and broader vision of basic education that emphasizes greater access, equity and achievement in learning. It reset the goal of universal primary education in Africa by 1980 to the year 2000 (WCEFA, 1990; UNESCO, 2000). Consequently, bolder policies and more innovative activities have been pursued to accelerate school enrollments particularly in the poorest countries with special focus on basic education for children, mainly girls (World Bank, 1999). The number of out-of-

school children in developing countries was 160 million in 1980; between 114 and 145 million in 1985 and about 130 in 1990 (World Bank, 1995). Currently in the world, there are 113 million out-of-school children, of which the majorities (60%) are girls (UNESCO, 2014).

Since independence the Government of Kenya (GoK) has remained committed to the provision of quality education and training for its citizens. In implementing education and training programmes, the GoK has made efforts to meet obligations under the Kenyan laws and international commitments including the educations for all (EFA) goals and Millennium Development Goals (MDGs). In January 2003 the GoK introduced Free Primary Education by abolishing school levies and introduced capitation grants (UNESCO, 2009). The Sessional Paper No. 1 of 2005 came up with recommendations to address the challenges facing education and training in Kenya in the 21st Century. To implement the recommendations, the Kenya Education Sector Support Program (KESSP) 2005-2010 was developed and one of the targeted interventions was non-formal education.

The Kenyan government realized that despite the implementation of FPE programmes 750,090 children (boys 351,277, girls 407,813) were out of the formal school system by 2010 (MOE-EMIS' 2010). These out of school children include; orphans, children affected or infected by HIV and AIDS, street children, children with special needs in education and those from Arid and Semi Arid

Lands (ASAL) (MOEST, 2005). Equally, there is little point in expanding access unless there is reasonable quality.

Non-formal education, which is a cost-effective way to reach those who have not benefited from the formal education provisions, comprises any organized and semi organized educational activities for school dropouts, for illiterate rural and urban adults, for youth, and by and large for all age cohort, and both sexes (UNESCO, 2001; Bishop, 1989; Mani, 1984). Non-formal education (NFE) plays a critical role in increasing access to basic education especially in informal settlements and marginalized areas. According to Policy Framework for Education Draft, 2012 NFE is offered in two types of institutions namely non formal education centres which do not follow the formal curriculum, and the non-formal schools which offer formal curriculum, but they are more flexible in other aspects of learning like uniforms and standards of learning facilities.

Currently all regions, except Somalia and Afar, have designed their own non-formal basic education (NFBE) instructional materials (MOE/ICDR, 2010; IIZ/DVV-ETH, 2003, No. 7; 2005, No. 9). Particularly, NGOs have taken initiatives to implement alternative education opportunities for those who have not benefited from the formal program. According to the information obtained from children right defense association (CRDA) Data Base of October, 2001, of the 122 CRDA members engaged in direct and indirect support of education, were involved in NFBE implementation.

Performance in Kenya Certificate of Secondary Education in non formal education centres is dependent on a host of factors. Some of these factors include; instructional materials, motivation of students and teachers, pedagogical approaches as well as time allocated to teaching and learning. According to UNESCO (2007), international, regional and national assessments conducted since 1999 show that poor learning outcomes still characterize many countries worldwide.

The results indicate that majority of the students score below grade C in K.C.S.E. According to the government policy, student with grade C+ and above qualifies to join University for further education. The results of poor performance are as presented in Table 1.1.

Table 1.1: KCSE performance of the non-formal schools in Kikuyu District

Grades (2010-2012)	Frequency (N)	Percentages
KCSE grade above C+	0	0.0
KCSE grade below D+	90	38.8
KCSE grade below D	84	36.2
KCSE grade below D-	41	17.7
KCSE grade below E	17	7.3
Total	232	100

Source: DEO, Kikuyu District 2012

It is in view of this that the researcher sought to address the problem of low achievement by analyzing the following independent variables: the instructional materials, motivation of both teachers and students, pedagogical approaches, teachers' and students' attitudes as well as time allocated to teaching and learning as they relate to performance in Kenya Certificate of Secondary Education in non formal schools and non formal education centres in the Kikuyu district, Kiambu County, Kenya.

1.2 Problem statement

According to Kenya National Examination Council report of years 2010 to 2012, teachers' and examiners' have observed poor performance in KCSE among non formal schools and non formal education centres. Among others, Singh, Granville and Dika (2002) argue that relationships between attitudes and achievement related behaviours are insufficiently documented and require further investigation.

Non-formal schools face a myriad of challenges such as shortage of teaching and learning facilities and resources. Expansion of physical facilities is hampered by inadequate land in rural areas, some of the target groups feel alienated by relevant policies, and lack of co-ordinated service delivery leaves these schools unable to compete favorably with the formal secondary schools in terms of performance (Gates, 2001). Most of the rationales for Non-formal centers that have been reviewed so far, take their starting point from the failure of formal schooling as a

means to achieve both educational and non-educational ends. Precisely, frustrations with the expense, rigidity and perceived poor quality, low coverage, irrelevancy of the formal education programs, are among the reasons for increased attention to non-formal education (Kabui, 2005).

It is against this background that this study sought to identify determinants of performance in non-formal education centers in the rural settlements of Kikuyu District.

1.3 Purpose of the study

The purpose of this study was to investigate the determinants of students' performance in KCSE in non-formal education centres in Kikuyu.

1.4 Objectives of the study

The objectives of the study were:

(i) To determine if adequacy of school facilities in non formal education centers influence students' performance in KCSE

(ii) To determine whether pedagogical approaches to teaching influence students' performance in KCSE in non formal education centers

(iii) To determine whether time allocated to learning influence students' performance in KCSE in non formal education centers

(iv) To establish if students' attitudes influence their performance in KCSE in non formal education centers in Kikuyu District, Kenya.

1.5 Research questions

(i) What is the influence of adequacy of school facilities in non formal education centres on students' performance in KCSE?

(ii) How do pedagogical approaches to teaching affect students' performance in KCSE?

(iii) How does academic time allocated to learning affect students' performance in KCSE?

(iv) What is the influence of students' attitudes on performance in KCSE?

1.6 Significance of the study

Precarious literacy strategies and implementation practices as observed in many developing countries including Kenya could not solve the vicious circle of illiteracy (Kabui, 2005). Consistent practices, which are based on research findings, are a timely demand. This study is an attempt to generate data for the issue under discussion. It is expected to initiate and/or encourage collaborative efforts so as to solve the problems related to the poor performance of students in non-formal education centres. More specifically, this study is significant to:

The study findings may be useful to education policy makers and school administrators in guiding to formulate, improve and implement policies which are

instrumental for improvement of students performance in Non formal centers. This is so because, decisions related to the school, should be based on facts and happenings in schools and not opinions from the periphery. Suggest appropriate interventions and actions for joint efforts so as to bring solutions for observed problems;

The findings may also enlighten teachers and other stake holders on how different factors within the school can affect students performance of the students. Such information is intended to empower the teachers in order to effectively address similar situations in their respective schools to the benefit of the subject and most ultimately the learner.

1.7 Limitations of the study

Limitations of a study are factors that affect the study but which the researcher has no control over (Mugenda & Mugenda, 2003). The findings of this study may be limited in application to Kikuyu district and other metropolitan district with similar characteristics. It will also be difficult to control the attitudes of the respondents as they may give socially biased answers. However, this will be checked through triangulation of results.

1.8 Delimitations of the study

The study was delimited to school-related factors and their effect on students' performance in secondary schools in Kikuyu district. Within the school, a number

of variables interact to influence students' performance in secondary schools. The school-related factors include; resources and facilities for teaching, teacher-related factors, and student-related factors. Other extraneous factors outside the school which could possibly affect student's performance did not form part of this study.

The study was carried in Kikuyu district leaving out other areas elsewhere in the country. This was because had both NFS and NFCs variety in the type of secondary schools. The findings of the study may not be generalized to a rural setup since Kikuyu district is in an urban set up.

1.9 Assumption of the Study

This study assumed that those students who enrolled for NFS did so out of volition and that NFS students might not be performing to their expected levels because of different limiting factors in schools

1.10 Definition of terms

The following terms, phrases or concepts are contextually defined as used in this project.

Basic Education- refers to education intended to meet basic learning needs of children.

Basic learning needs -refer to the knowledge, basic life skills, attitudes and values necessary for the children to survive, to improve the quality of their lives, and to continue learning.

NFBPE Program Implementation practices-include fulfilling beneficiaries needs and demands, scheduling, coordination, facilitations, learning locations, collaborations, areas of study, monitoring, promotion or transference of learners, supply of curricula materials, and budgetary issues of the NFBPE.

Non-Formal Education-is an alternative supplementary and complementary system of the organized and semi-organized education that operates outside the regular routines of the formal education system aimed at serving children who, for various reasons, could not attend formal schools.

Non Formal Education Centers- refers to education centres that follow the basic curriculum and training but with greater flexibility with regards to learning facilities and wearing of uniforms.

Performance- refers to academic achievement of individual pupils in examinations every end of term and year.

Physical Facilities- refers to classrooms, workshops, laboratories, libraries, desks, textbooks, play and sporting fields.

Supplementary Curricula materials- refers to syllabi, Flowchart, Workbook and Minimum Learning Competency.

Teacher Qualification- refers to graduate, approved teacher, untrained graduate, diploma holder, untrained school leaver

Time- refers to the indefinite continued progress of existence and events in the past, present, and future regarded as a whole.

School Facilities- school facilities means school plant facilities, school plant projects, school buildings, common school facilities and the grounds

Academic approaches- refers to mechanisms of impacting and gaining academic knowledge

Students' attitudes- refer to students' predisposition or a tendency to respond positively or negatively towards education

1.11Organization of the study

This study is organized into five chapters. Chapter one; focuses on the background of the study, statement of the problem, purpose of the study, research questions of the study, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study, definition of significant terms and the organization of the study. Chapter two; deals with the literature review and will focus on instructional materials for non-formal education,

pedagogical approaches and performance, and student's attitude towards education. The chapter also will cover the theoretical and conceptual framework. Chapter three; present the research methodology. This describes the research design, the target population, sampling techniques and sample size, research instruments, instruments' validity, data collection procedure and data analysis techniques. Chapter four; comprise of data analysis and discussion of findings while Chapter five; comprised of a summary of research findings, conclusion, recommendations and suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The study looked at the determinants affecting students' performance in non-formal education centers and non-formal schools in KCSE in Kikuyu Constituency. This chapter provides the relevant literature and rationale on the factors that influence students' performance. It also provides literature on non-formal education and non formal education in Kenya, theoretical as well as conceptual frameworks.

2.2 Background of Non-formal education

Non formal education became part of the international discourse on education policy in the late 1960's and early 1970s. There was concern about unsuitable curricular; a realization that educational growth and economic growth were not necessarily in step (MoE 2010), and that jobs did not emerge directly as a result of educational inputs. Many countries were finding it difficult (politically and economically) to pay for the expansion of formal education (MoE 2010).

The conclusion was that formal educational systems had adapted too slowly to the socio-economic changes around them and that they were held back not only by their own conservation, but also by the inertia of the societies themselves (MoE

2010). If we accept social trends, then it followed that change would have to come not merely from formal schooling, but the wider society and from other sectors within it. It was from this point of departure that planners and economists in the World Bank began to make a distinction between informal, non-formal and formal education (Fordham, 1993).

2.2.1 Non-formal education in Kenya

Non Formal Education (NFE) in Kenya is mainly provided and managed by communities and Non Governmental Organization (NGOs). The main challenges relate to the low quality of education provided and the lack of linkages with the formal education system (A policy framework for Education Draft, 2012). It also experiences poor strategic planning, lack of trained personnel, illiteracy, a high turnover of; staff, volunteer and teachers, limited resources allocation and infrastructure. In addition, there is a negative image and this leaves in need of major reform and resourcing. However, the Government has realized that in order to promote equity in accessing education to all citizens, the Non-Formal Education initiative was started. Through this initiative the MOE disburses grants to all schools including those in rural areas to enhance inclusive and equitable basic education. According to the Bill of Rights, basic education is a fundamental human right and it is free and compulsory.

NFE is one of the strategies; the government has employed to meet EFA goals. Benefits of Non-formal initiative are that it has led to high enrolment; TSC has deployed 50 full time teachers in every constituency in nomadic areas leading to improved learning (Source: Demery and Gaddis, 2009 based on the KIHBS dataset of, 2005/06). Multi shift teaching in urban centre has improved learning in schools where there was a shortage of teachers.

2.3 Instructional materials for non-formal education

Instructional materials have been defined by various authors. For example, Obanya (1989) viewed them as didactic materials thing which are supposed to make learning and teaching possible. According to Abdullahi (1982), instructional materials are materials or tools locally made or imported that could made tremendous enhancement of lesson impact if intelligently used. Ikerionwu (Isola, 2010) referred to them as objects or devices, which help the teacher to make a lesson much clearer to the learner. Instructional materials are also described as concrete or physical objects which provide sound, visual or both to the sense organs during teaching (Agina-obu, 2005).

The relevant instructional materials, equipment and resources include text books, teacher's guide, chalk boards, television, computers for interactive computerized lessons among others. In many countries of the developing world, the text book is the major, if not the only media of instruction (Barasa, 2003). It is the main resource for teachers, setting out the general guidelines of the syllabus in concrete

form, providing a guide and foundation to the content, order and pacing of instruction, supplying exercises and assignments for students to practice what they have learned. It is both a source of essential information and the basis for examination and appraisal UNESCO (2005, 2006).

Orodho (2005) stated that student's high performance is influenced by the availability of instructional resources, teaching experience and strategies of the teachers and style of leadership. Kaume (2006) noted that no meaningful teaching and learning can take place without adequate resource materials and facilities such as textbooks, teaching aids and stationery. UNESCO (2007) indicated that availability and use of text books improves the students learning and counteracts socio –economic disadvantages particularly in low income setting. Wanjohi (2004) found out that the teaching resources enhanced retention of what has been learned. Wanjohi's study expressed that other than enhancing communication between teachers and pupils, the resources also facilitate child – centred learning through the discovery method.

Duignan in Gakunga (2004) observes that, the administration style of a school is a crucial component to the academic performance of that school. Effective leadership by the school heads sets an atmosphere of order, creates a climate of high expectation for staff and students, encourages and builds commitment among students to the school goals. Litunya (2006) agrees that, the school administration plays a crucial role in a student's academic performance in school. She argues

that, school administrators have a direct bearing on the achievement of the learners because they have the key role of coordinating, directing and facilitating the learning process. Among the key responsibilities of school administrators, is to ensure availability of resources and facilities in the school. They include; materials, tools and equipment for and text books/reference books.

Materials and tools are an integral part of learning in non formal education centres. Barret (1982) asserts that materials combined with technique are the means through which our impulses, feelings, ideas are transmitted and expressed. Materials oscillate between being the medium for expression and the source of that expression. As such, materials are basic and should be availed in schools to provide opportunity for exploration and manipulation. They include; clay, wood, paper, paint, brushes, boards, pencils, pens, dyes and textiles. Gaitskell (1958) adds that, indeed, lack or limited materials in each form of artistic expression and the variety of the same tends to inhibit expression in performance. Availability of such basic materials and tools in schools also contribute directly to learner motivation because they provide a favorable environment for learning. Gakunga (2004) records that, teaching resources make a difference in the students achievement across categories of schools. Distribution of resources such as textbooks is also a major factor that accounts for scholastic difference in academic performance among schools.

The school administration also has the responsibility of ensuring there is sufficiency of teachers in the school to teach the students. A teacher is the implementer of the curriculum without which the learning process in school will not be complete. Bennett (1963) acknowledges the significant role of a teacher to the success of the program. He states that; “there is no other person, no group, no amount of materials, no physical facility, no community, exceeds in importance the teacher as the single element of greatest potential value in the field school”. Prentice (1995) asserts that, when learners are left alone without guidance, facilitation, stimulation and motivation, they slowly drift to boredom and lack of interest education activities.

Lackney (1999a) argued that school buildings were critical to the teaching and learning process. Lackney also took the viewpoint that “the factors responsible for student achievement were ecological – they acted together as a whole in shaping the context within which learning took place. The physical setting – the school building was an undeniably integral part of the ecological context for learning” (p. 2). The physical factors that had a profound impact on the teaching and learning process were (a) full-spectrum and natural lighting, (b) the reduction and control of noise, (c) the location and sighting of schools, (d) optimal thermal conditions, (e) school size and class size, and (f) the building condition (Lackney, 1999a,). Research had shown that there was an explicit relationship between the physical characteristics of school buildings and educational outcomes (Lyons, 2001).

School facilities and the classroom must be flexible enough to accommodate changing learning patterns and methods.

According to Chan (1996), the learning environment had a direct and an indirect impact on student achievement. Direct impact included: color, lighting, controlled acoustics, and air ventilation (Chan). A good learning environment freed students from physical distress, made it easy for students to concentrate on schoolwork and, induced students in logical thinking. According to Chan, students responded to good and poor learning environments by expressing positive and negative attitudes. With a positive attitude towards their learning environment, students learned with high motivation and undoubtedly were able to demonstrate better performance. When educators disregard the improvement of learning environment, they ignored the physical difficulties of learning (Chan).

Frazier (1993) indicated that people were influenced and affected by their environment. Therefore, there were no exceptions to children being exposed to the environmental conditions in school facilities (Frazier, 1993). Deferred maintenance on school facilities could cause adverse problems and create an environment that affected the health and morale of the students and the staff of the school (Frazier, 1993).

Research studies of Anderson (1999), Berner (1993), Cash (1993), Earthman (1998), Earthman (2002), Hines (1996), and O'Neill (2000) had provided support for research that found that the condition of the school building had a sizeable and

measurable influence upon the achievement of students. There was a growing research literature that had held the belief that there was a relationship between student achievement and the conditions condition of school buildings (Hunter, 2006). The United States Department of Education (2000) found that the environmental conditions in schools, which included the inoperative heating system, inadequate ventilation, and poor lighting, affected the health and learning as well as the morale of students and the staff. Other research studies and literature had focused on lack of science labs, school safety, and class size (Hunter).

Instructional resources which are educational inputs are of vital importance to the teaching of any subject in the school curriculum. Wales (1975) was of the opinion that the use of instructional resources would make discovered facts glued firmly to the memory of students. Savoury (1958) also added that, a well planned and imaginative use of visual aids in lessons should do much to banish aparthy, supplement inadequacy of books as well as arouse students interest by giving them something practical to see and do, and at the same time helping to train them to think things out themselves. Savoury (1958) suggested a catalogue of useful visual aids that are good for teaching history i.e. pictures, post cards, diagrams, maps, filmstrips and models.

He said that selection of materials which are related to the basic contents of a course or a lesson, helps indepth understanding of such a lesson by the students in

that they make the lesson attractive to them, thereby arresting their attention and thus, motivating them to learn. He suggested a catalogue of aids which could be used to teach history. He advocated the use of pictures which will help children in grounding their thoughts and feelings. He said that pictures are used as alternatives to real objects where it is impossible to show students the real objects, and they do serve effectively in tan imagined activities.

It is also very vital to have sufficient and adequate human resources in terms of teacher quality for the teaching of all subjects in the school curriculum. Without the teachers as implementing factors, the goals of education can never be achieved. In order to achieve a just and egalitarian society as spelt out in the Nigerian National Policy of Education (1981), schools should be properly and uniformly equipped to promote sound and effective teaching. Suitable textbooks, qualified teachers, libraries which are adequate should also be provided for schools. Scarcity of these, according to Coombs (1970), will constraint educational system from responding more fully to new demands. In order to raise the quality of education, its efficiency and productivity, better learning materials are needed. Knezewich (1975) also stressed the importance of having appropriate personnel plan and adequate physical facilities to support educational effort.

Several people have written on the importance of instructional resources to teaching, Oluyori (1986) while stressing the importance of instructional technology commented that if the recently introduced system (6-3-3-4) in

accordance with the National Policy on Education is to be a success, then instructional technology has a role to ply. Balo (1971) commented that "Audio-visual materials, as integral part of teaching-learning situations help to bring about permanent and meaningful experience. He said that, they provide first-hand experience where possible or of vicarious one where only that is feasible.

In enumerating the factors that could be responsible for varying intra-and inter-school/academic achievement, Coombs (1970), listed four important factors including the acute scarcity of instructional resources which he said constrained educational systems from responding more fully to new demands'. He claimed that, in order to do their part in meeting the crisis in education, educational systems will need real resources that money can buy, they will need a fuller share of the nations' manpower, not merely to carry on the present work of education, but to raise its quality, efficiency and productivity. They will need buildings, equipments and more learning materials.

On human resources, various educators for example, Ukeje (1970) and Fafunwa (1969) have written extensively on the prime importance of teachers to the educational development of any nation be it simple, complex, developed or developing. From the writings of these educators, one can infer that whatever facilities are available, whatever content is taught, whichever environment the school is situated and whatever kind of pupils are given to teach, the important and vital role of the teacher cannot be over-emphasized. Assuming that necessary

facilities are adequately provided for, the environment is conducive to learning, the curriculum satisfies the needs of the students and the students themselves have interest in learning, learning cannot take place without the presence of the teacher.

Moronfola (1982) carried out a research in Ilorin Local Government Area of Kwara State. She used questionnaires to collect data on the material resources available for the teaching of some selected subjects in ten secondary schools and related these to students' achievements in each of the selected subjects and to the amount of resources available for the teaching of the subjects. Finding showed a significant effect of material resources on the students' academic performance in these subjects.

2.4 Pedagogy approaches to learning and performance

Despite the many constraints placed on them, teachers have significant influence over what and how they teach (Cohen & Hill 2000, Wills & Sandholtz, 2009). Teachers who are using the same curricular materials can enact them in dramatically different ways and afford their students very different experiences (Chavez- Lopez, 2003; Cbval, Grouws, Smith &Ziebarth, 2006; Kilpatrick, 2003). Teachers use their professional discretion (Boote, 2006) to mediate among competing demands while meeting the needs of their students.

The choice of teaching methods depends on many factors such as the level of the class, the ability of the pupils, the nature of the topics, the facilities available in the school Gumo (2003). Many teachers prefer to teach the class as a whole all the time. This approach often may not yield the desired educational results. Weak students do not profit much from being taught in a large class of mixed abilities. Teachers should divide the class into groups of five or six of about the same ability and teach them in groups (Odhiambo, 2007). Waihenya (2000) attributed poor results to poor teaching methods. He further argued that experts attribute this to the fact that many teachers lack proper training or delivery.

UNESCO (2005) indicated that the time students are present in schools and the time actually spent learning specific subjects either in school or homework positively affects performance. Kabui (2005) argued that topics are usually given broad terms with respect to the content areas with little indication of the desired depth and that the teacher is expected to make the interpretations.

Eshiwani (1993) indicates that, teacher characteristics such as; qualification, experience, job satisfaction, professional development and teaching methods have a strong co-relation to student's performance. Gumo (2003) found out that teacher factors have an influence on how they grasp content in their subject area and how they teach, hence student's performance posted in examinations. Such factors include; teacher's academic level, teaching experience, knowledge in the subject and attitude of the teacher towards the subject. Goodlad in Gakunga (2004) noted

that, a teacher's job satisfaction and a teacher's attitude to their subject area, had an influence on the students attitude towards the subject and consequently to how they perform in that subject.

Teaching should combine good mastery of content with methodology to guide students to be in control of media and tools for expression. Being able to motivate learners by using their own existing interesting experiences combined with new ones. Matarasso (2007) adds that, the value teaching to learners is in large measure the teaching method employed. He explains that faulty teaching can create in learners a dislike for the learning, which may remain with them for the rest of their lives. It can also generate negative attitudes such as; a feeling that any learning activity is wasted effort, resentment against original thought in all forms of learning endeavor and a sense of insecurity when called upon to make choices involving aesthetic judgment or taste. Lowenfeld and Brittain (1987) add that, faulty teaching practices, lead to stifling of the education development in learners. Such can be ineffective and even harmful to growing children. They also highlight some faulty teaching practices as follows: The teacher who advocates copying and extreme neatness, the effective teacher who lacks an understanding of education, the teacher who lacks an understanding of pedagogy and the teacher who has developed a formula.

2.5 Time allocated to learning and students performance

Using the economic logic of a production process, the more time spent to produce something (holding the other inputs into the production constant) the greater should be the quantity and/or quality of the output produced. Employing such reasoning, conventional wisdom among many policymakers is that increasing the time that students spend learning offers a simple and obvious way to improve educational outcomes (Cotton & Savard, 1981). However, a search of the previous literature on the relationship between learning time and learning outcomes yielded little research that rigorously tests this conventional wisdom. Previous research consistently indicate that the more time students spend engaged in learning, the higher the expected levels of academic outcomes (Borg, 1980; Brown & Saks, 1986; Cotton & Savard, 1981).

In a recent meta-analysis, Lauer et al. (2006) reviewed 35 different post-1985 studies that focused on whether the voluntary attendance of after-school programs by at-risk students raised their academic achievement relative to a non-attending control group. They found that such studies generally offer statistically significant, but small in magnitude, effects of these programs on the math and reading achievement of at-risk students. For the impact on reading, students who participated in the after-school programs outperformed those who did not by 0.05 of a standard deviation from the mean for the fixed-effects model, and 0.13 standard deviations for the random-effects model. For the impact on mathematics,

students who participated in the after-school programs outperformed those who did not by 0.09 standard deviations for the fixed-effects model, and 0.17 standard deviations for the random-effects model.

The Lauer et al. (2006) findings offered a general representation of the results reported in nearly all the empirical studies reviewed. In short, voluntary extended learning programs tended to exert only a small (if any) impact on the measured academic achievement of those participating in them. Such findings make it difficult to predict whether any change in the amount of learning time at a school site would have a measurable impact on the academic outcomes of students at the site. The study is also hesitant to place a great deal of confidence in these findings due to methodological concerns present in many of these studies. These concerns include the voluntary, and small in scale, nature of the ELT programs observed, and inadequate controls for other factors that drive differences in academic performance besides learning time. The likely result of using data generated from participants who voluntarily decided to extend their learning time is the inherent "selection bias" of attracting higher achieving (or perhaps more driven to succeed) students to participate in ELT programs. This results in uncertainty as to whether their observed higher achievement after the ELT program is due to the program itself, or non-measured personal characteristics that caused students to enroll voluntarily in the program.

Dynaski et al. (2004) offered an experimental (and a quasi-experimental) evaluation of the 21st Century Learning Centers Program. This large and federally funded program provided extended learning opportunities to students who attempted to improve academic outcomes and offer non-academic enrichment activities. The authors' use of an experimental design to assess effectiveness offered a reasonable way to control for the selection bias of those who voluntarily participated in such a program being on average more engaged in learning that those who did not. However, Dynarski and colleagues were able to use an experimental design and address the problem of selection bias through an unplanned oversubscription to the program, which allowed a random assignment of those wanting to participate as the actual participants. The comparison they used was then between this treatment group and those who wanted to participate, but for whom a spot was not available.

Alternatively, Pittman, Cox, and Burchfiel (1986) utilized exogenous variation in the school year to analyze the relationship between school year length and student performance. Such an exogenous variation arose when severe weather led to schools closing for a month in several counties in North Carolina during the 1976-77. During that academic year, students took their standardized test after missing, on average, 20 days of school. The authors made year-to-year and within grade comparisons of individual student test scores for both before and after the shortened school year. Cross-sectional and longitudinal analysis also studied two

cohorts of students impacted by the weather. Pitmna, Cox, and Burchfiel reported no statistically significant differences between the academic performances of students in the shortened school year in comparison to other non shortened years. However, teachers reported that students were more motivated in the year with severe weather, which may have led to increased active learning time in school.

2.6 Students' attitudes toward education

Students/learners are at the center as recipients of the teaching/learning process. Attitudes that they hold either positive or negative, affect how they receive what is taught. Past Kenya National Examinations Council reports have identified the teacher as responsible for the poor performance and also have indicated that teachers were using complex language while teaching concepts. The use of complex language makes it very difficult for the students to understand concepts taught (KNEC 2004, 2009). Earlier research noted that within the school environment, teachers are the greatest influence.

According to Staub and Stern (2002), teacher's beliefs affect the way they present their materials to students. A similar observation was made by Wilson and Cooney (2002) who noted that teachers' beliefs influence what gets taught, how it gets taught and what gets learned in the classroom. It is important that teachers know about their beliefs and their possible impact on student learning. Beliefs in this case are defined as the internal representations to which the holders attributes

truth, validity or explicability and that they are usually stable and highly cognitive (Goldin, 2002: p. 61).

The role of social agents, such as parents and teachers in the development of student's self- perceptions and the value they attribute to academic tasks has been highlighted by researchers. Several authors have obtained results indicating that adolescent's academic motivation level is influenced greatly by their perceptions of the level of support and encouragement provided by parents and teachers. (Grolnick et al, 2002) Grolnick and his group also noted that student' perceptions of the level of support and encouragement provided by parents and teachers may have a greater impact than achievement in explaining effort, academic and career choices.

Kant (2008) comments that, learners attitudes towards a subject, can be influenced by the curriculum and motivated by social forces inside and outside the school. Mbuga (1986) is in agreement, he records that; attitudes towards education among learners are influenced by their social environment way before they join secondary schools. Such social environment include among others; teachers, family, friends, peers, the community, the church and the mass media. He continues to explain that, the acquired attitudes from all these quarters influence the minds of learners more than the administration can ever hope to exert.

According to Fishbein and Ajzen (2010) attitudes are an expression of inner feelings that reflect whether an individual is favourably or unfavourably disposed to some 'attitude object'. Likewise, Thurstone (1928) conceptualized an attitude as a combination of an individual's evaluative judgments about a given object. The relationship between attitude and performance is founded the theory of reasoned action. According to the theory when people are favourably disposed to an object or behaviour in question, they are likely take up the object or behaviour. This is supported by Wentzel (1998) who found that interest in activities increases the likelihood that individual will formulate goals relating to that activity and invest time and effort to achieve them. With regard to academic performance, Fisher (2000) established that attitude towards mathematics affects students achievement. This means that students attitude towards quantitative subjects affect how they approach, persist, and succeed at the subject. Students with positive attitude actually value quantitative subjects, persistence and work hard towards getting better grades (Pokay & Blumenfeld, 1990).

Mbuga (1986) records that; attitudes towards a education among learners are influenced by their social environment way before they join secondary school. Such social environment include among others; family, friends, peers, the community, the church and the mass media. He continues to explain that acquired attitudes from all these quarters influence the minds of learners more than the school can ever hope to exert. In most cases, students require their families

support to purchase supplementary materials and tools to enable them carry out various exercises. If for one reason or the other the family does not purchase the required materials and tools, the students work is greatly affected and so are the expected results. The society's value of education can motivate students to work hard in the subject or discourage them.

Extensive past studies suggest that there is a close relationship between students' attitudes towards academic subject and their overall achievement (Erdogan, Bayram, &Deniz, 2008; Konting, 1990). Literature review on this area reveals that there are two main contributing factors to students' academic achievement that are psychological and sociological factors. Psychological factors refer to the internal elements of individual including emotional and cognitive domains, whereas sociological factors refer to external factors such as socio-environment and friendship. However, both factors are inter-related and dependable.

Most past studies tended to discuss the subject in a specific context. For instance, a study of academic achievement carried out by Ariffin (2007) focused on individual's learning style and how it affects his/her academic achievement. Although learning style has a close link with a person's personality and intellectual capabilities, the selection of learning styles is also influenced by environmental factors such as educational support provided by peers and teachers.

Although previous studies found that there is a positive relationship between student's interest in academic subject and its performance (Arham, Mesir &

Mohammad, 2006; Zainudinet. al., 2007), classroom environment and their existing knowledge on the particular subjects also play major roles (Rhoda et. al., 2011). According to Popham (2005), students' attitudes or interests should be enormously important to educators, because affective dispositions are powerful predictors of students' subsequent behaviour. In a related study, Erdogan, Bayram, Deniz (2008) found that there is a positive relationship between students' attitudes towards modern learning technologies and their academic achievement. Academic achievement increases with the use of modern technologies positively. There is a strong association between individuals' attitudes towards education and their academic performance and commitment. Students who have negative attitudes towards education activities are found to exhibit challenging behaviour including anti-social and off-task behaviour (Awang, Jindal-Snape& Barber, 2013). Ming, Ling and Jaafar (2011) found that streaming in education has a close relationship with students' academic achievement. They also found that students from science classes are more positive about academic performance compared to other students. It should be noted that the current study was carried out in Malaysia where most students are streamed according to their academic achievement. Previous research revealed that there is a link between academic achievement and socio-economic status (Ghazali, 2008). Living in poor and slum areas are found to contribute to the low academic achievement among students. Most low achievers also are from poor families (Farooq, Chaundhry & Berhanu, 2011).

2.7 Summary

Non Formal Education (NFE) plays a critical role in increasing access to basic education especially in informal settlement and marginalized areas. It is therefore imperative that the GoK places more emphasis on Non Formal Education to address the challenges facing the subsector and remedies to address them put in action. Herbert (2000) in their studies indicated that time allocated to learning and teaching was a major factor that influenced performance. However there exists a deficiency in the literature with regard to instructional materials, motivation of students and teachers, pedagogical approaches, teachers and students attitudes towards learning as well as time allocated to learning and teaching in relationship to performance in Kenya, hence the purpose of this study.

2.8 Theoretical framework

The theoretical framework of this study was be derived from the Functionalism, as developed by Emile Durkheim [1858-1917] (1956). It is the oldest and still most dominant theoretical perspective in sociology and other social sciences, including education. This perspective rests on two main premises: the application of the scientific method to the objective social world and the use of analogy between the individual ‘organism’ and ‘society’ (Hurn, 1995). Functionalism assumes that the various institutions in a society always operate so as to support that society as it is. If these institutions do not operate as such, the society will

perish. Functionalists thus believe that in order for a society to remain viable (with all components functioning together) a society must instill similar beliefs and values in each member and each new generation. Education is a component part of any given society and tends to maintain that society in a steady state. A steady state occurs when a constant ratio is maintained among the components of the system, given continuous input to the system. A burning candle is one example of a steady state – once lit the flame is small, but it rapidly grows to its optimal size and maintains this size as long as the candle and its environment exist. A steady state is also self-regulating. In the above illustration, a sudden draft will cause the flame to flicker, but with the ceasing of the draft, the flame regains its normal characteristics (Whawo, 1993).

When applied to the context of this research, it becomes obvious that non-formal education has a role to play in creating a just and egalitarian society because it provides functional education to youth and adults outside the formal education system, including functional literacy, and remedial and vocational education (FRN, 2004, p. 25), all of which are essential to human and national development.

2.9 Conceptual Framework

Good school performance in examination is linked to many factors. Some of the determinants that of this study include physical facilities, teachers qualification,

shortage of teachers, teachers' attitude to learners that impede on performance of students in the NFECS and NFCS in Kikuyu Constituency, Kiambu County.

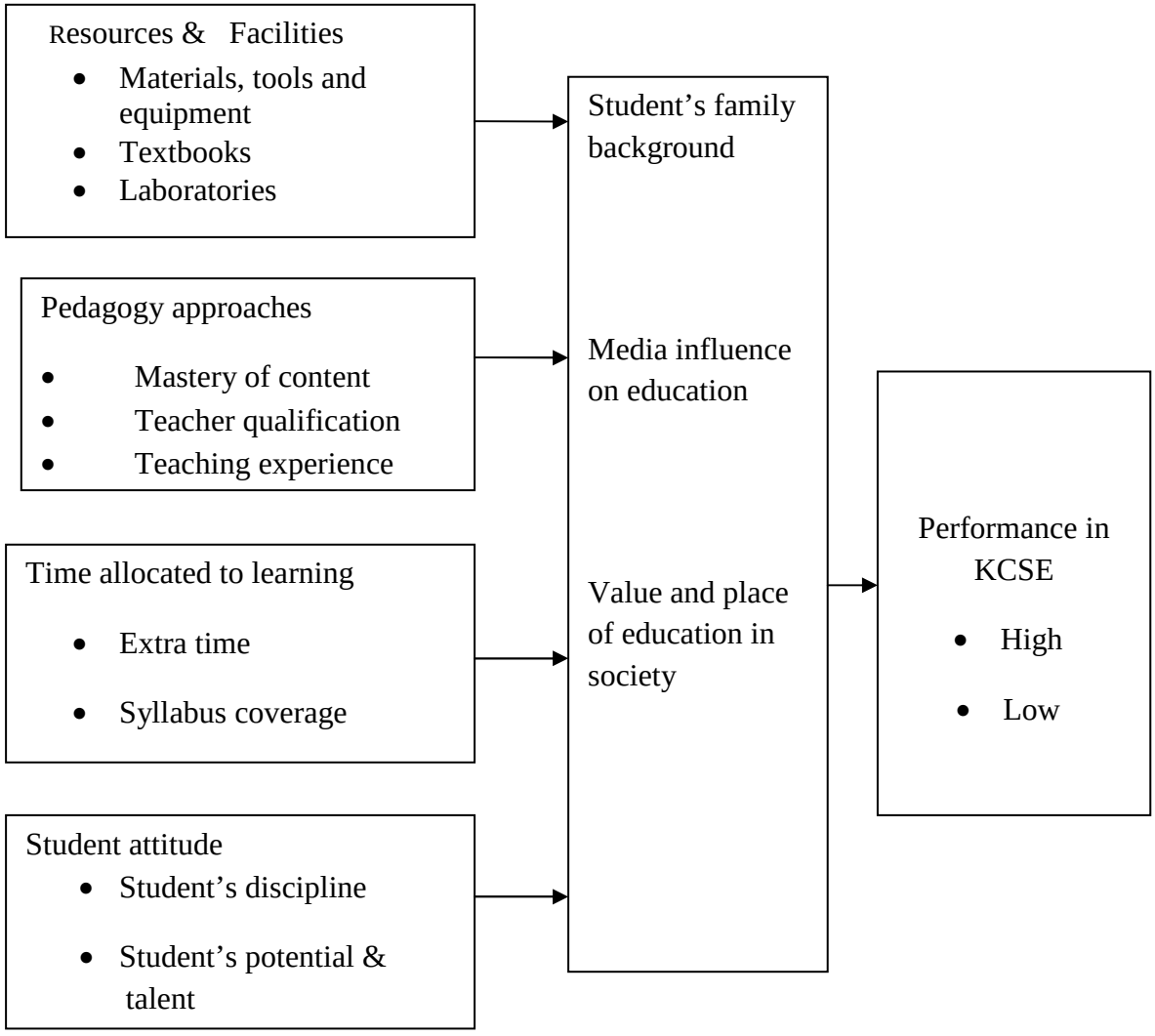

Figure 2.1: Conceptual framework on determinants of students' performance in non-formal education centers

The conceptual framework shows factors within the school environment that interact to influence the learning in NFS and its final outcome in examinations. These factors constitute the different variables to the study. The independent variables comprise of; Resources and Facilities, pedagogical approaches, Time allocated to learning and student attitude influence pupils' academic performance. Resources and facilities are at the center of NFS learning/teaching and therefore there availability and utilization in schools is crucial to students performance.

The framework also highlights intervening variables which are found outside the school environment. They might have an influence on students' performance in NFS; however, the school does not have control over such factors. Therefore they did not form part of this studies investigation. They include; student's family background, mass medias influence, and societal value of education. The interrelationship between these variables within the school setting will have different results within the school (output). All these factors will impact directly on the kind of teaching and learning (process) that goes on in schools whereby positive impact will lead to pupils' good academic performance while negative impact will lead to poor academic performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology chapter is divided into the eight sub sections; research design, target population, sample and sampling procedures, research instruments and techniques, validity of the instruments, instrument reliability, data collection procedures and data analysis techniques.

3.2 Research design

The study adopted a descriptive research design and purposive sampling technique where the researcher collected and analyzed data to answer objectives. Gay (1981) defines descriptive research design as a study where variables that exist have already occurred with non-intervention of researcher. It involved a logical sequence that connected the study's empirical data to its research questions and hypotheses, and ultimately its conclusions. This study included specific design features from broad empirical and theoretical perspectives to help address the aforementioned research questions and hypotheses. The design was suitable since it helped to describe the state of affairs as they exist without manipulation of variables.

3.3 Target population

Mugenda and Mugenda (2003) define population as an entire group of individuals, events or objects having common observable characteristics. The target population included 6 NFEC of Kikuyu district with a total of 160 teachers, 6 head teachers/directors and 800 students (MOE, 2012).

3.4 Samples size and sampling procedure

Sampling is a process of identifying individuals to participate in a study. Ideally the individuals should represent the large group from which they have been selected to allow for generalization on the findings (Mugenda & Mugenda, 1999). In this study simple random sampling was used to ensure that all relevant people in the NFE Centres and NFSs and all divisions in the province stand an equal and independent chance of being interviewed. The sample population consisted of 6 of non-formal schools and centres in Kikuyu district.

Purposive sampling technique targets a particular group of people and produces exactly what is needed in some cases, or some other clearly defined and relatively limited group (Patton, 1990). This technique was used to sample 6 head teachers. Filax (2003) suggest that a sample of 10 percent of the population is adequate though the larger the better hence the researcher opted for a larger sample. The researcher considered sampling 20% of teachers and students giving 32 teachers

and 160 students. The total sample size for this study thus added up to 198 respondents (Filax, 2003).

3.5 Research instruments

The instrument for data collection for this study was a questionnaire which had open-ended and close-ended questions. Orodho (2004) points that a questionnaire has the ability to collect large amount of information in a reasonably quick space of time and the response can be easily analyzed. The respondents had enough time thus giving well thought answers (Kothari, 2008). Mugenda and Mugenda (1999), state that questionnaires ensure anonymity, permit use of standardized questions, have uniform procedures, provide time for the participant to think about the responses and are easy to score. This study used a questionnaire because the population under study was literate and therefore able to read the items and write down their responses. In addition an observation check list was used to assess the availability, condition and the status of facilities such as classrooms, Laboratory facilities, Library facilities, Text books, Toilets and Desks within the non formal centers in the District.

The researcher developed questionnaires for head teachers, teachers and students. The questionnaire for head teacher consisted of two parts. Part A contained close ended questions. It collected personal data of the respondents. Part B collected pertinent information regarding issues in determinants of students' performance in

Kenya certificate of secondary education in non formal education centers. Some items were structured so as to seek information on teachers and student personnel.

The questionnaire for teachers consisted of two parts. Part A contained close ended questions. It collected personal data of the respondents. Part B collected pertinent information regarding issues in determinants of students' performance in Kenya certificate of secondary education in non formal education centers. It contained both structured and matrix questions.

The questionnaire for students also consisted of two parts. Part A contained close ended questions. It collected personal data regarding the student's gender and religion. Part B collected pertinent information regarding issues in determinants of students' performance in Kenya certificate of secondary education in non formal education centers.

3.6 Validity of the instruments

A pilot study was carried out on a small sample of the population in the study. Aim was to determine the accuracy, clarity and suitability of the instrument. A pilot study was conducted in 2 non-formal education centres to determine instrument validity of the questionnaire. Mugenda and Mugenda (2008) say that 10-13% of the sample size can be used for piloting which is a representation of the reality of the whole sample. They further indicate that the sample for piloting should be excluded from the final sample during analysis. Piloting was necessary

because according to Mugenda and Mugenda (1999), it ensures validity, reliability, consistency and comprehensibility of research instruments. The researcher ascertained instrument validity by comparing the pilot study responses to the expected responses. Piloting enhanced research instruments adjustments and rephrasing of statements where necessary before embarking on the actual study. The instrument should be designed to include the entire elements understudy: The content validity of the instrument was determined by discussing the items in the instrument with supervisors (Kothari, 2008).

3.7 Instrument reliability

This is the level of internal consistency or stability over time, a reliable instrument is one that consistently produces the expected results when used more than once to collect data from samples randomly drawn (Kothari, 2008). To establish the reliability of the instrument, a pilot study was conducted whereby the test and retest technique was used. The responses from the instrument were analyzed. After some time, the same instrument was administered to the same sample, and the responses were analyzed. A comparison of the two results was made and the correlation co efficiency calculated. The researcher used this approach to calculate the correlation co-efficient of the pilot study using the simple linear regression formula.

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{\left[n\sum x^2 - (\sum x)^2\right]\left[n\sum y^2 - (\sum y)^2\right]}}$$

Where x = first set of scores; y = second set of scores; Σx = the sum of the first set of scores; Σy=the sum of second set of scores; Σx^2= the sum square of first set of scores; Σy^2=the sum square of second set of scores; Σxy=the sum of cross product of x and y and n=total number of respondents. A Pearson's product moment formula was employed to compute the correlation coefficient in order to establish the extent to which the content of the questionnaires were consistent in eliciting the same responses every time the instrument is administered. For this study, the reliability coefficient was 0.70 at α =0.05 significance level of confidence implying that the study instruments yielded highly reliable and valid data for this research, thus measuring the relationship between independent variables and the dependent variable.

3.8 Data collection procedure

Data collection procedures include the activity of gathering facts or information about a subject in a research study (Mugenda & Mugenda 2008). The researcher obtained a research permit from the National Council of Science, Technology and innovation before going to the field. The researcher also visited the District Education Officer (DEO) and District Commissioner (DC) for Kikuyu District to discuss the research visits to the schools. The researcher visited schools to make appointments with head-teachers. The researcher was administered the questionnaire to the head teachers and teachers in the selected schools on agreed

dates. The respondents were assured of the confidentiality of their identity. Completed questionnaires were collected immediately after they were filled out.

3.9 Data analysis techniques

Data analysis is the process of bringing order, structure and meaning to the mass of information collected. It involves data coding, data entry and other statistical procedures (Orodho, 2008). Once the questionnaires were collected from the respondents, the researcher checked for incompletion error. Analysis was done using statistical package for social sciences (SPSS) version 18.0.

Descriptive data analysis statistics such as percentages means and frequencies were used to report the data. Data was presented in summary form using frequency tables, bar graphs and pie-charts. Qualitative data analysis for open ended questions was done using content analysis.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

Chapter four focuses on data analysis, interpretation and discussion of findings. The findings are based on data collected using questionnaires and observation from head teachers, teachers, and students on the determinants of students' performance in Kenya Certificate of Secondary Education in non-formal education centres in Kikuyu District, Kiambu County, Kenya**.** The purpose of the study was to investigate the determinants of students' performance in KCSE in non-formal education centres in Kikuyu. The study sought to answer the following questions: What is the influence of adequacy of school facilities in non formal education centres on students' performance in KCSE? How do pedagogical approaches to teaching affect students' performance in KCSE? How does academic time allocated to learning affect students' performance in KCSE? And what is the influence of students' attitudes on performance in KCSE?

4.2 Questionnaire return rate

The study collected data from 6 head teachers, 32 teachers and 160 students in non-formal education centres in kikuyu. The researcher collected the questionnaires from the respondents after completion. The return rate of the questionnaire is tabulated on table 4.1.

Table 4.1: Questionnaire return rate

Respondents	Sample size	Questionnaires returned	Percentage
Teacher	32	25	78.1
Pupils	160	115	71.9
Head teachers	6	5	83.3

Data presented in table 4.1 show that the questionnaire return rate was above 70 percent from each category of respondents. Babbie (2007) explains that a response rate of 70 percent is considered to be very good and sufficient for analysis. The questionnaires were, therefore, considered sufficient for analysis.

4.3 Demographic Data

This section presents demographic data of the respondents. The demographic data discussed includes professional qualification, gender and age of the respondents.

This was important so as to understand suitability of the respondents in giving their views.

4.3. 1 Distribution of participants by gender

The study sought to establish the head teachers', teachers' and pupils' gender. The findings are as shown in the table 4.2.

Table 4.2: Distribution of participants by gender

	Head teachers		**Teachers**		**Pupils**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Male	3	60	20	80	63	54.8
Female	2	40	5	20	52	45.2
Total	**5**	**100**	**25**	**100**	**115**	**100**

The study established that the majority (60%) of the head teachers were males. Similarly majority (80%) of the teachers were males. It was also established that most (54.8%) of the pupils were males. This implies that majority of the respondents were male.

4.3.2 Length of working in the current station of the respondents

The study sought to establish the length of time the headteachers and teachers had worked in their current stations and the findings are as shown in Figure 4.2. This

was very important in order to understand the working experience of the respondents.

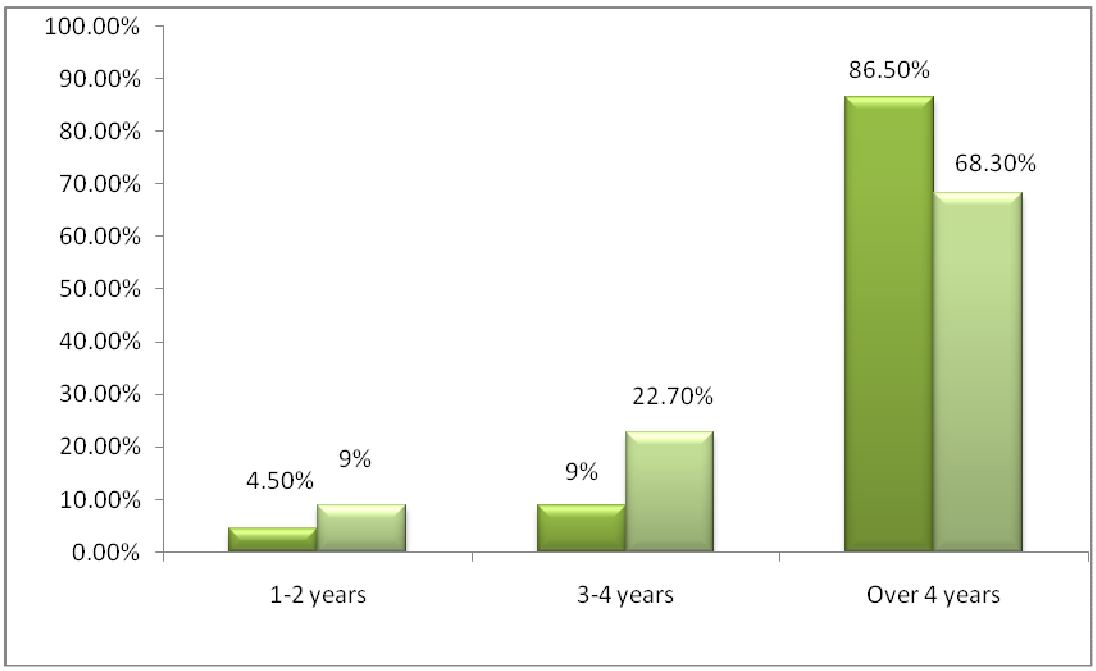

Figure 4.2 Length of working in the current station of the respondents

Figure 4.2 shows that majority (86.5%) of the head teachers had worked in their current station for over 4 years. The findings also established that majority (68.3%) of the teachers had worked in their current station for over 4 years, 22.7% had worked in their current station for 3-4years while 9% had worked in their current station for 1-2 years. This depicts that majority of the headteachers and teachers had worked in their current stations for a long time and thus in a position to understand their students' performance better.

4.3.3 Respondent's professional qualification

The study sought to establish the professional qualification of the respondents which is summarized in figure 4.3.

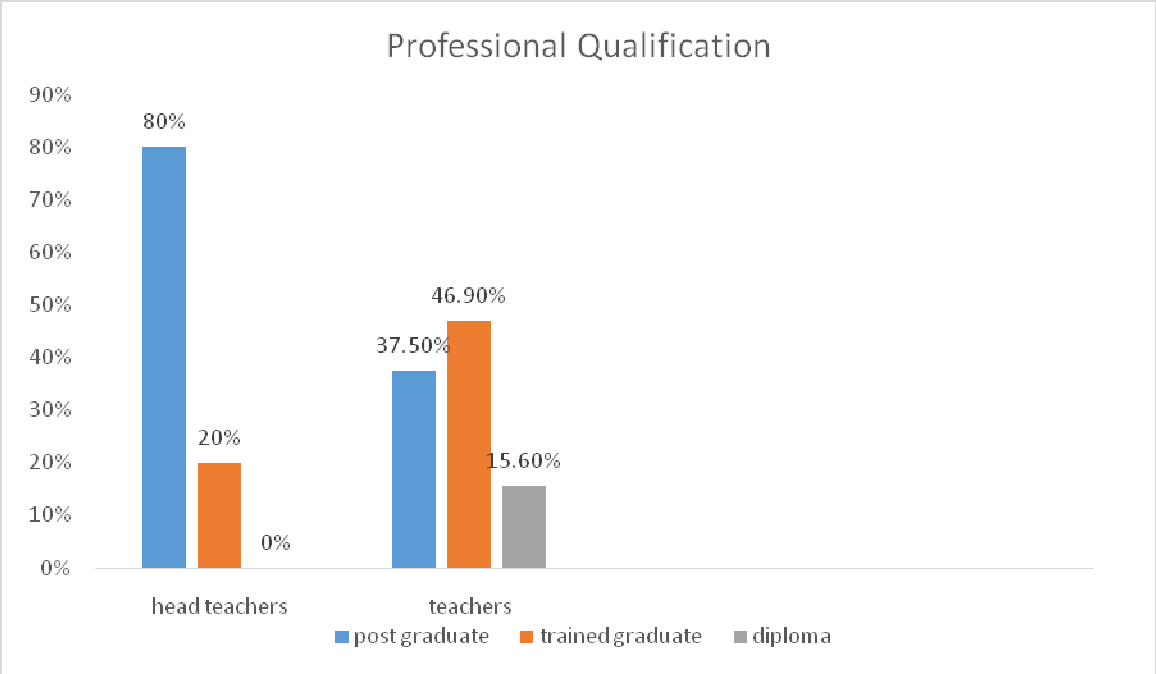

Figure 4.3 Respondent's Professional Qualification

From the findings summarized in figure 4.3, 80 percent of headteachers had postgraduate qualification while 20 percent were trained graduates. In addition, 46.9 percent of teachers were trained graduates, 37.5 have postgraduate qualification while 15.6 percent have diploma qualifications. This implies that majority of headteachers and teachers were well knowledgeable and thus were able to give wide knowledge to the students.

4.3.4 Parents participation in matters pertaining to school affairs

The teachers were to indicate the rate of parents' participation in matters pertaining to school affairs. The response is as shown in table 4.3.

Table 4.3 Parents Participation

Parents Participation	Frequency	Percentage
Good	9	28.1
Fair	16	50
Poor	7	21.9

From table 4.3, 50 percent of respondent (teachers) indicated that parents participated fairly, 28.1 percent indicated good performance by the parents while 21.9 percent indicated that parents participated poorly on matters pertaining school affairs. This is to mean, therefore, that parents were quite concerned on school affairs.

4.3.5 Teachers participation in school management

The study asked the respondents to indicate whether they participated in management of school. The findings are presented in table 4.4.

Table 4.4 Teachers Participation in School Management

Teachers Participation	Frequency	Percentage
Yes	19	59.4
No	13	40.6

From the findings presented in table 4.4, 59.4 percent of the respondents indicated that they participated in management of school while 40.6 percent did not participate. This shows that teachers were averagely involved in matters affecting the school and therefore were in a good position of knowing the determinants of students' performance.

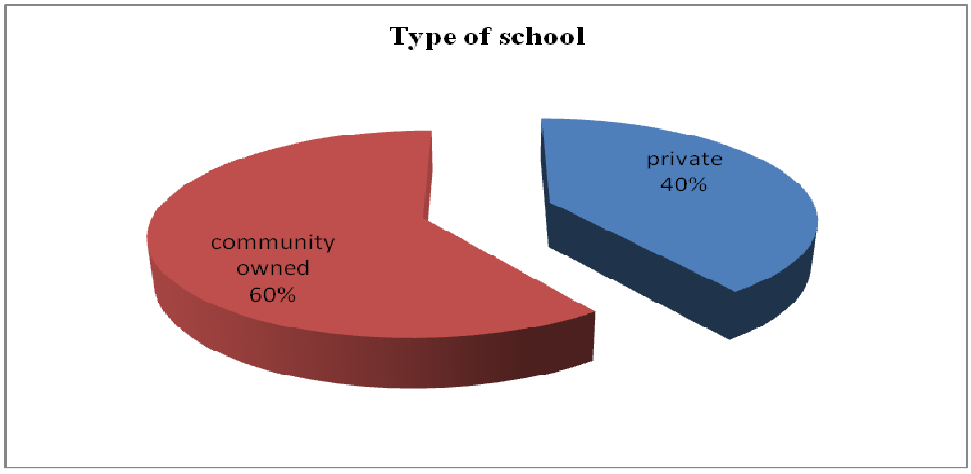

Figure 4.4 Type of School

From the figure above 60% of non-formal schools are community owned while 40% are privately owned. This is to indicate that the government has played its role in making sure that illiteracy is eradicated in the country.

The findings indicated that very few people manage to attain an average of C+ in KCSE in some years none manages to attain the grade. For this reason therefore no student have been admitted in any university by the Joint Admission Board (JAB).

4.4 Influence of adequacy of school facilities in non formal education centres on students' performance

The study aimed at finding out the influence of adequacy of school facilities in non formal education centers on students' performance in KCSE in Kikuyu District, Kiambu County. Findings are presented in subsequent headings

4.4.1 Instructional materials

In order to understand influence of adequacy of school facilities in non formal education centres on students' performance, respondents were kindly requested to rate instructional materials which are more effective. The responses were rated on a five point Likert scale where: 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree the findings of adequacy of instructional materials are summarized in table 4.5.

Table 4.5 Instructional Materials

Instructional materials	Mean	STD
Textbooks	3.33	0.679
Textbook guide	3.51	0.987
Chalk board	4.23	0.879
Computers for interactive computerized lessons	1.82	0.231
Reference books	2.61	0.567
Exercise books	4.12	0.578
Schemes and record of work	3.21	0.478
Wall charts for mathematical formulas	2.16	0.499
Geometrical sets	2.12	0.678
Graph boards	1.22	0.923
Calculators	2.24	0.678

The respondents indicated that the following materials were very adequate; chalkboard (4.23), exercise books (4.12). Instructional materials that were adequate as indicated by respondents were textbook guide (3.51), textbooks (3.33)

and schemes and record of work (3.21). The respondents however indicated the following instructional materials to be inadequate; reference books (2.61) and calculators (2.24). Other materials were deemed very inadequate as per respondents' indication. They include wall charts for mathematical formulas (2.16), geometrical sets (2.12), and computers for interactive computerized lessons (1.82) and graph board (1.22). It is therefore clear that non-formal schools have inadequate instructional materials needed for learning.

4.4.2 Level of agreement with statements on adequacy of school facilities

The respondents were required to indicate their level of agreement on the statements given. They were to indicate on a scale of 1-5 with 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree. The findings are summarized in table 4.6.

Table 4.6 Level of agreement with statements on adequacy of school facilities

Instructional materials	Mean	STD
The school provides enough class textbooks	2.43	0.869
The school provides geometrical set to each student.	2.33	0.758
Students have working instruments all the time.	2.61	0.142
Enough learning aids are provided by the school	2.94	0.253
During lessons all students have exercise books.	4.23	0.358

The respondents strongly agreed that during lessons all students have exercise books (4.23). UNESCO (2007) indicated that availability and use of text books improves the students learning and counteracts socio –economic disadvantages particularly in low income setting. They however disagreed that enough learning aids are provided by the school (2.94), Students have working instruments all the time (2.61), the school provides enough class textbooks (2.43) and that the school provides geometrical set to each student (2.33). According to Wanjohi (2004) found out that the teaching resources enhanced retention of about 80% of what has been learned.

4.5 Pedagogy approaches to learning and performance

The study sought to establish whether academic approaches to teaching influence students' performance in KCSE in non formal education centers and the findings are discussed in subsequent sections.

4.5.1 Teacher Student Relationship

The respondents were required to indicate their level of agreement on the statements given about teacher student relationship. They were to indicate on a scale of 1-5 with 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree. The findings are summarized in table 4.7.

Table 4.7 Teacher Student Relationship

Teacher – Student Relationship	Mean	Standard deviation
Teachers are given necessary skills during training to enable them to motivate their students	3.0	1.003
Teacher – Student Relationship enhances learning all the topics	3.94	0.646
Students find it hard to get a good grade due to low teacher – student relationship	3.03	1.004
Students are able to use what they learn due to proper teacher – student relationship	4.18	0.989
Students find understanding the subject matter easy due to efficient teacher – student relationship	4.67	0.357

Respondents strongly agreed with the statement that students find understanding the subject matter easy due to efficient teacher – student relationship (4.67), students are able to use what they learn due to proper teacher – student relationship (4.18) and that teacher – student relationship enhances learning all the topics (3.94). They were neutral on whether teachers are given necessary skills during training to enable them to motivate their students (3.0) and that students find it hard to get a good grade due to low teacher – student relationship (3.03). According to Battistin, Covizzi and Schizzerotto (2010), schools can control the

average quality of their teachers by providing professional development avenues for the teachers to improve on their instructional skills. Asikhia (2010) argues that the quality of services offered by unmotivated teachers could affect academic achievement.

4.5.2 Pedagogical Approaches

The respondents were required to indicate their level of agreement on the statements given about pedagogical Approaches. They were to indicate on a scale of 1-5 with 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree. The findings are summarized in table 4.8.

Table 4.8: Pedagogical Approaches

Pedagogical Approaches	Mean	Standard
Lecture based lessons are not the best to make students to understand what has been taught	3.08	0.356
Use of models assists students in understanding three dimensional diagrams	3.59	0.765
Homework assignments are best given daily	3.05	0.583
Oral students presentations assist students understand	3.41	0.881
Team projects and reports encourage weak students to catch	4.24	0.879
Question and answer discourage active participation by the	3.0	0.099

Respondents strongly agreed that team projects and reports encourage weak students to catch up with the clever ones (4.24). This agrees with Odhiambo, (2007) findings that teachers should divide the class into groups of five or six of about the same ability and teach them in groups They agreed with the statements that use of models assists students in understanding three dimensional diagrams (3.59) and oral students presentations assist students understand learning most of the time (3.41). They were neutral on whether lecture based lessons are not the best to make students to understand what has been taught (3.08), that homework assignments are best given daily (3.05) and that question and answer discourage active participation by the weak students (3.0).

4.6 Time allocated to learning and students performance

The study sought to establish whether time allocated to learning influence students' performance in KCSE in non formal education centers and the findings are discussed in subsequent sections.

4.6.1 Time Allocated To Learning And Teaching

The respondents were required to indicate their level of agreement on the statements given about time allocated to learning and teaching. They were to indicate on a scale of 1-5 with 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree. The findings are summarized in table 4.9.

Table 4.9 Time allocated to learning and teaching

Time Allocated to learning and teaching	Mean	Standard deviation
Lessons per week are not enough to cover all the syllabus	4.71	0.497
CATs and Examinations take too much time.	2.87	0.241
Teachers spend a lot of time on examples	3.05	0.247
Marking and processing of marks and report forms takes too much time.	2.01	0.242

The respondents strongly agreed that lessons per week are not enough to cover all the syllabus (4.71). They were neutral on whether teachers spend a lot of time on examples (3.05). They disagreed with the statement that CATs and Examinations take too much time (2.87) and that marking and processing of marks and report forms takes too much time (2.01). According to UNESCO (2005) indicated that the time students are present in schools and the time actually spent learning specific subjects either in school or homework positively affects performance. Herbert (2000) in their studies indicated that time allocated to learning and teaching was a major factor that influenced performance.

4.7 Student's attitude towards education

The study sought to establish whether students' attitudes influence their performance in KCSE in non formal education centers in Kikuyu District, Kenya. and the findings are discussed in subsequent sections.

4.7.1 Students' attitude towards education

The respondents were required to indicate their level of agreement on the statements given about student's attitude towards education. They were to indicate on a scale of 1-5 with 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree. The findings are summarized in table 4.10.

Table 4.10 Students' Attitude towards education

Students attitude	Mean	Standard deviation
Students are always under a terrible strain in a class.	2.34	0.269
Students like learning	3.06	0.364
Students minds go blank and they are unable to think	3.15	0.647
Students feel a sense of security when learning	3.11	0.642

Respondents were neutral on whether students like learning (3.06), students feel a sense of security when learning (3.11), students' minds go blank and they are unable to think clearly when they hear of learning (3.15). They disagreed with the

statement that students are always under a terrible strain in a class (2.34).Grolnick et.al (2002) noted that student' perceptions of the level of support and encouragement provided by parents and teachers may have a greater impact than achievement in explaining effort, academic and career choices.

4.9 Chapter summary

The study aimed at investigating determinants of students' performance in Kenya Certificate of Secondary Education in non-formal education centres. The determinants were instructional materials, student-teachers relationship, pedagogical approaches, students attitudes as well as time allocated to teaching and learning

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study and presents conclusions, recommendations and the suggestions for further research in line with determinants of students' performance in Kenya Certificate of Secondary Education in non-formal education centres in kikuyu district, Kiambu County, Kenya. .

5.2 Summary of the study

From the findings it was established that during lessons all students have exercise books (1.23); enough learning aids are not provided by the school (4.04); students do not have working instruments all the time (4.11); the school does not provide enough class textbooks (4.23) and that the school does not provide geometrical set to each student (4.33). Therefore instructional materials used in non-formal education centres are not adequate.

From the study findings students find understanding the subject matter easy due to efficient teacher – student relationship (1.67); students are able to use what they learn due to proper teacher – student relationship (2.18) and that teacher – student relationship enhances learning all the topics (2.36); teachersare not given

necessary skills during training to enable them to motivate their students (3.21); students do not find it hard to get a good grade due to low teacher – student relationship (3.33).

The study also disclosed that team projects and reports encourage weak students to catch up with the clever ones (1.04); use of models assists students in understanding three dimensional diagrams (1.59); oral students presentations assist students understand learning most of the time (2.41); lecture based lessons are not the best to make students to understand what has been taught (3.08); homework assignments are best given daily (3.45) and that question and answer discourage active participation by the weak students (3.48).

The study found out that lessons per week are not enough to cover all the syllabus (1.11). Teachers spend a lot of time on examples (3.05); CATs and Examinations do not take too much time (3.87) and that marking and processing of marks and report forms do not take too much time (4.01).

The study further revealed that students like learning (3.06); students feel a sense of security when learning (3.11), students' minds go blank and they are unable to think clearly when they hear of learning (3.15); students are always not under a terrible strain in a class (4.34).

5.3 Conclusions

The study concludes that during lessons all students have exercise books and enough learning aids are not provided by the school. Students do not have working instruments all the time and that the school does not provide enough class textbooks neither does it provide geometrical set to each student. Therefore instructional materials used in non-formal education centres are not adequate.

The study also concludes that lessons per week are not enough to cover all the syllabus. According to UNESCO (2005) indicated that the time students are present in schools and the time actually spent learning specific subjects either in school or homework positively affects performance. Herbert (2000) in their studies indicated that time allocated to learning and teaching was a major factor that influenced performance.

The study further concludes that students find understanding the subject matter easy due to efficient teacher – student relationship, students are able to use what they learn due to proper teacher – student relationship and that teacher – student relationship enhances learning all the topics. According to Battistin, Covizzi and Schizzerotto (2010), schools can control the average quality of their teachers by providing professional development avenues for the teachers to improve on their instructional skills. Asikhia (2010) argues that the quality of services offered by unmotivated teachers could affect academic achievement.

The study concludes that that team projects and reports encourage weak students to catch up with the clever ones. This agrees with Odhiambo, (2007) findings that teachers should divide the class into groups of five or six of about the same ability and teach them in groups. The study also concludes that use of models assists students in understanding three dimensional diagrams and oral students presentations assist students understand learning most of the time.

The study also concludes that students are not always under a terrible strain in a class. Grolnick et.al (2002) noted that student' perceptions of the level of support and encouragement provided by parents and teachers may have a greater impact than achievement in explaining effort, academic and career choices.

5.4. Recommendations

From the findings and conclusions of the study, the following recommendations were made;

i. The Ministry of education should increase the budgetary allocations for non-formal education centres in order to improve literacy levels among Kenyans

ii. There is need for TSC to post qualified guidance and counseling teachers to support the social, emotional and academic needs of learners in non-formal centres.

iii. The government should also consider funding in-service training for the teachers in NFEC's as a way of improving their instructional competence.

iv. Quality Assurance and Standards Officers should give more attention to the non-formal schools and centres so as to support quality management and curriculum implementation strategies.

5.4.1 Suggestions for Further Research

From the findings of the research, since the study was conducted in one county, a similar study should be replicated in the whole country in order to generate a nationwide perspective touching on determinants of students' performance in KCSE in non-formal education centres.

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APPENDICES

Appendix A: letter of introduction

Sylvia Wangui Kinyua,
University of Nairobi,
P.O. Box 100-00902,
KIKUYU.

The headteacher

————————Secondary school

Dear Sir/Madam,

RE: A RESEARCH STUDY IN YOUR SCHOOL

I am pleased to inform you that I am a postgraduate student at University of Nairobi pursuing a degree in Master of Education Course in the Development of Educational Administration & Planning. As Partial fulfillment of the requirements for award of the degree, I am conducting a research on the determinants that influence students' performance in non-formal education centers.

I kindly request you to allow me to collect data in your school that will enable me to complete this research. Please note that any information you give will be used not for any other purpose apart from this research project. Your assistance will be highly appreciated.

Thank you.

Yours faithfully,

Appendix B: Questionnaire for head teachers / directors

This questionnaire is designed to gather information on the determinants of students' performance in Kenya certificate of secondary education in non formal education centres in kikuyu district, kiambu county, Kenya**.** You are kindly requested to tick (√) the appropriate response or respond as indicated. Do not put your name or any other form of identification. Your identity will be confidential and the information you provide will only be used for the purpose of this study. Please respond to all items. Please tick (√) or answer as appropriate.

1. Year school was established……..
2. Please indicate your gender

   a) Male [ ] b) Female [ ]

3. How long have you worked in the current station?

1-2 years ☐

3-4 years ☐

Over 4 years ☐

4. What is your level of professional qualification?

Post graduate ( )

Trained graduate ( )

S1 or Diploma in education ( )

5. State number of Students the school have ( ) Girls Boys ( )

6. State number of teachers the school have ( ) Female Male ( )

Is your school / Centre

Community owned ☐

Private ☐

Other

(Specify)…….

7. How many students attained C+ and above from this school?

2009 ( )

2010 ( )

2011 ( )

2012 ( )

8. How many students were admitted to the university from this school?

2009 ( )

2010 ( )

2011 ( )

2012 ( )

9. Which of the following instructional materials are more effective in your school?

5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

Instructional Materials					
1. Textbooks					
2. Textbooks guide					
3. Chalkboard					
4. Computers for interactive computerized lessons					
5. Reference books					
6. Exercise books					
7. Schemes and record of work					
8. Wall charts for mathematical formulas					
9. Geometrical sets					
10. Graph boards					
11. Calculators					

SECTION B

Indicate how you agree or disagree with the following statements. Key : The number mean as follows; 5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	Instructional Materials					
1.	The school provides enough class					
2.	The school provides geometrical set to					
3.	Students have working instruments all the					
4.	Enough learning aids are provided by the					
5.	During lessons all students have exercise					
	Time Allocated to learning and teaching					
1.	lessons per week are not enough to cover					
2.	CATs and Examinations take too much					
3.	Teachers spend a lot of time on examples					
4.	Marking and processing of marks and					
	Teacher – Student Relationship					
1.	Teachers are given necessary skills during					
2.	Teacher – Student Relationship enhances					
3.	Students find it hard to get a good grade					
4.	Students are able to use what they learn					
5.	Students find understanding the subject					
	Pedagogical Approaches					
1.	Lecture based lessons are not the best to					
2.	Use of models assists students in					
3.	Homework assignments are best given					

4.	Oral students presentations assist students					
5.	Team projects and reports encourage weak					
6.	Question and answer discourage active					
	Students attitude					
1.	Students are always under a terrible strain					
2.	Students like learning					
3.	Students minds go blank and they are					
4.	Students feel a sense of security when					

Appendix C: Questionnaire for teachers

This questionnaire is designed to gather information on the determinants of students' performance in Kenya certificate of secondary education in non formal education centres in kikuyu district, kiambu county, Kenya**.** You are kindly requested to tick (√) the appropriate response or respond as indicated. Do not put your name or any other form of identification. Your identity will be confidential and the information you provide will only be used for the purpose of this study. Please respond to all items. Please tick (√) or answer as appropriate.

1. a) Name of the

school……

b) Teaching experience in

years…….

2. Please indicate your gender

a) Male [ ] b) Female [ ]

3. How long have you worked in the current station?

1-2 years ☐

3-4 years ☐

Over 4 years ☐

4. What is your level of professional qualification?

Post graduate ( )

Trained graduate ( )

S1 or Diploma in education ( )

3. What type of students do you handle in your classes?

No. of Children……

No. of teachers ……

Qualification of teachers……

No. of trained……..

Untrained……

No. of those who attended in-service courses…….

4. In your opinion, what are the factors that influence students performance in KCSE in your School?.....

5. How do you rate parents' participation in matters pertaining to school affairs in your school?

Good ( )

Fair ( )

Poor ( )

6. Do you as teachers / participate in the management of your school /centre?

Yes ( ) No ( )

7. Are the teaching and learning materials you use for teaching adequate?

Yes ( ) No ( )

If no what substitute is available?.....

SECTION C

Indicate how you agree or disagree with the following statements

Key : The number mean as follows

5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

	Instructional Materials	1	2	3	4	5
6.	The school provides enough class textbooks					
7.	The school provides geometrical set to each					
8.	Students have working instruments all the time.					
9.	Enough learning aids are provided by the school					
10	During lessons all students have exercise books.					
Time Allocated to learning and teaching						
5.	lessons per week are not enough to cover all the					
6.	CATs and Examinations take too much time.					
7.	Teachers spend a lot of time on examples					
8.	Marking and processing of marks and report					
Teacher – Student Relationship						
6.	Teachers are given necessary skills during					
7.	Teacher – Student Relationship enhances learning					
8.	Students find it hard to get a good grade due to					
9.	Students are able to use what they learn due to					

10	Students find understanding the subject matter					
	Pedagogical Approaches					
7.	Lecture based lessons are not the best to make					
8.	Use of models assists students in understanding					
9.	Homework assignments are best given daily					
10.	Oral students presentations assist students					
11.	Team projects and reports encourage weak					
12.	Question and answer discourage active					
	Students attitude					
9.	Students are always under a terrible strain in a					
10.	Students like learning					
11.	Students minds go blank and they are unable to					
12.	Students feel a sense of security when learning					

Appendix D: Questionnaire for students

This questionnaire is designed to gather information on the determinants of students' performance in Kenya certificate of secondary education in non formal education centres in kikuyu district, kiambu county, Kenya**.** You are kindly requested to tick (√) the appropriate response or respond as indicated. Do not put your name or any other form of identification. Your identity will be confidential and the information you provide will only be used for the purpose of this study. Please respond to all items. Please tick (√) or answer as appropriate.

1. What affects your studies in school?

.....……

……

SECTION B

2. Indicate how you agree or disagree with the following statements. key : The number mean as follows

5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree

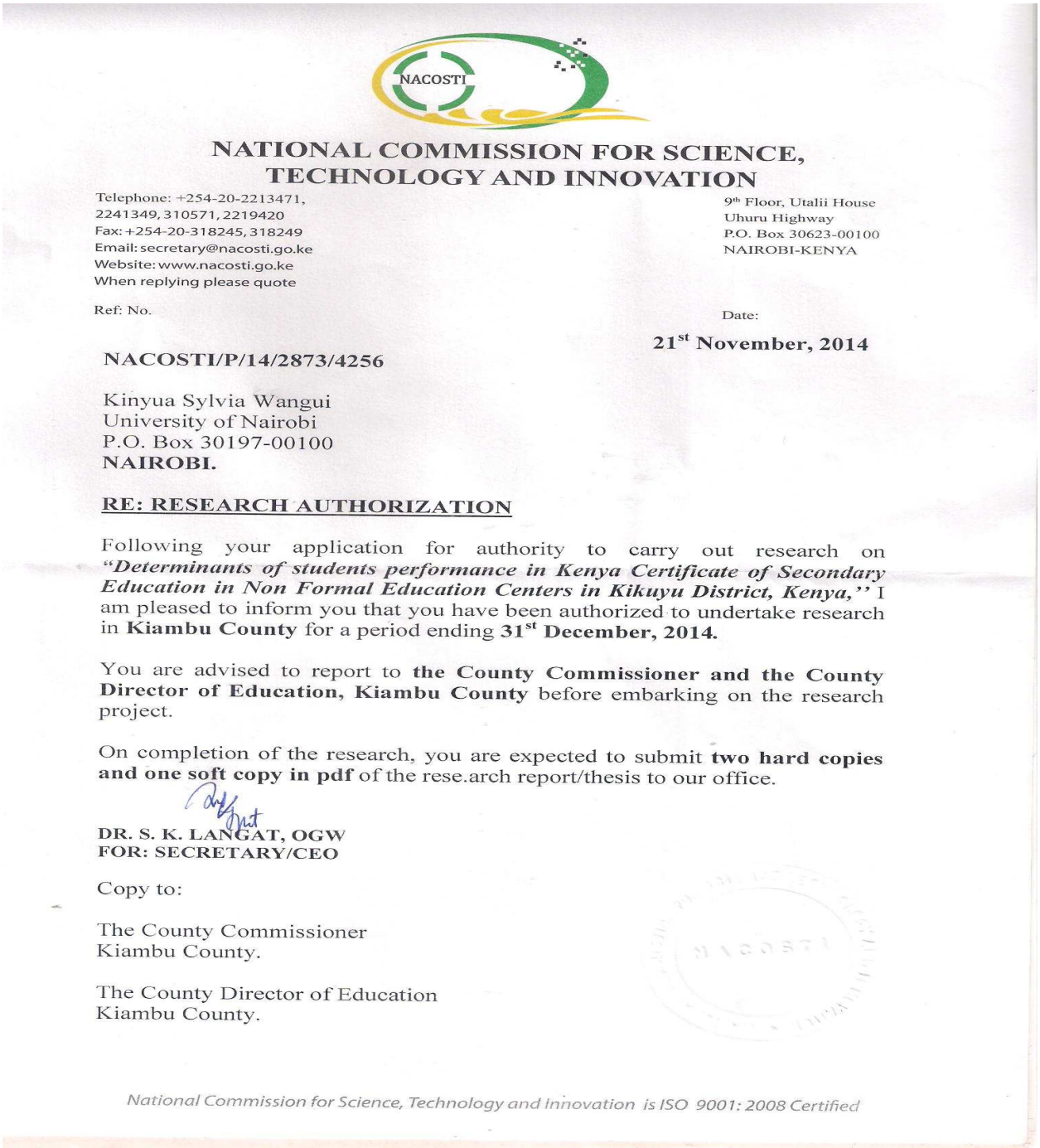
	Instructional Materials					
11.	The school provides enough class					
12.	The school provides geometrical set to					
13.	Students have working instruments all the					
14.	Enough learning aids are provided by the					
15.	The school provides enough mathematical					
16.	During lessons all students have exercise					
Time Allocated to learning and teaching						

13.	lessons per week are not enough to cover					
14.	CATs and Examinations take too much					
15.	Teachers spend a lot of time on examples					
16.	Marking and processing of marks and					
	Teacher – Student Relationship					
11.	Teachers are given necessary skills during					
12.	Teacher – Student Relationship enhances					
13.	Students find it hard to get a good grade					
14.	Students are able to use what they learn					
15.	Students find understanding the subject					
	Pedagogical Approaches					
13.	Lecture based lessons are not the best to					
14.	Use of models assists students in					
15.	Homework assignments are best given					
16.	Oral students presentations assist students					
17.	Team projects and reports encourage					
18.	Question and answer discourage active					
	Students attitude					
3.	Students are always under a terrible strain					
4.	Students like learning					
5.	Students minds go blank and they are					
6.	Students feel a sense of security when					

Appendix E: Observation checklist for researcher

Facility	**Adequate**	**Not adequate**
Classrooms		
Laboratory facilities		
Library facilities		
Text books		
Classrooms		
Committed & Effective teachers		
Toilets		
Desks		

Appendix F: Research Authorization Letter



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

21st November, 2014

NACOSTI/P/14/2873/4256

Kinyua Sylvia Wangui
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Determinants of students performance in Kenya Certificate of Secondary Education in Non Formal Education Centers in Kikuyu District, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Kiambu County** for a period ending **31st December, 2014.**

You are advised to report to **the County Commissioner and the County Director of Education, Kiambu County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the rese.arch report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: SECRETARY/CEO

Copy to:

The County Commissioner
Kiambu County.

The County Director of Education
Kiambu County.

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

Appendix G: Research Permit

THIS IS TO CERTIFY THAT:
MS. KINYUA SYLVIA WANGUI
of UNIVERSITYOF NAIROBI, 100-902
Kikuyu,has been permitted to conduct
research in *Kiambu County*

on the topic: *DETERMINANTS OF STUDENTS PERFORMANCE IN KENYA CERTIFICATE OF SECONDARY EDUCATION IN NON FORMAL EDUCATION CENTERS IN KIKUYU DISTRICT,KENYA*

for the period ending:
31st December,2014

.....
Applicant's Signature

Permit No : NACOSTI/P/14/2873/4256
Date Of Issue : 21st November,2014
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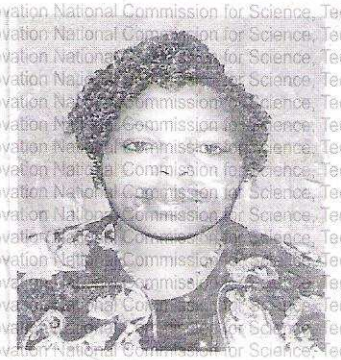

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Secretary
National Commission for Science, Technology & Innovation