RELATIONSHIP BETWEEN INSTRUCTIONAL RESOURCES AND TEACHER EFFECTIVENESS IN EARLY YEARS EDUCATION CENTRES IN SIAYA COUNTY, KENYA

BY

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A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN CURRICULUM STUDIES

SCHOOL OF EDUCATION

MASENO UNIVERSITY

DECLARATION

Declaration by Candidate:

This thesis is my original work and has not been presented for the award of a degree in any other University.

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ACKNOWLEDGEMENT

I am gratefully indebted to my able supervisors Professor Francis Chisikwa Indoshi and Doctor Tony Omusonga Okwach for their invaluable support and constructive comments in the process of preparation and carrying out this study. I thank them for their encouragement, scholarly advice and patience. It is through their committed intellectual support that I was able to come this far.

I cannot forget staff from the Graduate School and Maseno University Ethics Review Committee (MUERC), Maseno University, Siaya County Education Office and Siaya County Center for Early Childhood Education formerly District Center for Early Childhood Education (DICECE) for their support and encouragement.

My profound thanks and appreciation also go to the head teachers who allowed me to use their centers and to teachers in Siaya County who willingly participated in the study.

May Almighty God Bless You All!

DEDICATION

I dedicate this thesis to my Dad, the late Raphael Ogot Abiere (RIP) who instilled in me the virtues of simplicity, determination and hard work and my Mum, Sulmena Ogot, who has stood by me at all times in difficulties and trials.

ABSTRACT

Teacher effectiveness is a predictor of education quality. Research has established that teachers' interaction with instructional resources and the environment contributes immensely to their effectiveness in the learning process especially in early years' education. Despite this fact, early years learning indicators show that learners are not getting much in terms of learning. Recent surveys in Kenya show a third (33%) of early years learners lack basic competencies. In Siaya County, concerns have been raised on the fact that learners joining grade one lack basic competencies indicating they were poorly or not acquired during their early years' education, hence impeding their learning and future development. Early years learning outcome places it 23% below her neighboring counties. This study therefore, purposed to establish the relationship between instructional resources and teacher effectiveness. Objectives were to ; assess relationship between availability of instructional resources and teacher effectiveness , establish relationship between adequacy and instructional resources, examine relationship between relevance of instructional resources and teacher effectiveness, investigate relationship between frequency of use of instructional resources and teacher effectiveness and establish relationship between attitude towards instructional resources and teacher effectiveness. The study is conceptualized on the effect of the interaction between Independent Variable (Instructional resources elements) and Dependent Variable (Teacher effectiveness). Correlational and descriptive survey designs were adopted; target population was 1926 Teachers, 628 Center Managers and 1 Early Years Education County Director. Krejcie and Morgan (1970) sample size estimation table was used to select 320 teachers. Systematic random sampling and purposive sampling techniques was used to select Teachers, Center Managers and county pre-primary education director respectively. Data collection instruments were Classroom Observation Guide (COG), Teacher Questionnaire (TQ) and two interview schedules. Reliability was established by piloting 10% of the population using test-retest method. Chronbach's alpha was used to determine instruments' reliability with COG and TQ coefficients being 0.833 and0.797 respectively thus considered reliable. Face and content validity were ascertained by experts. Analysis was done through descriptive and inferential statistics. These were by means, standard deviations and multiple regressions. Findings indicated that level of availability, level of relevance and teacher attitude towards instructional resources had significant relationships at ($r=0.115$;$p\text{-value}=0.041<0.05$), ($r=0.215$, $p\text{-value}=0.0005<0.05$) and ($r=0.215$, $p\text{-value}=0.005>0.05$) respectively while level of adequacy, frequency of use of instructional resources were not significant at ($r=-0.038$, $p\text{-value}=0.497>0.05$), ($r=0.06$, $p\text{-value}=0.287>0.05$) respectively with regard to teacher effectiveness. The study concludes that instructional resources were not available, inadequate, irrelevant, not frequently used and teachers had neutral attitude towards instructional resources. However, level of availability, level of relevance and attitude have statistically significant relationships with teacher effectiveness while level of adequacy and frequency of use of instructional resources were not statistically significant. This means that provision of instructional resources should focus more on level of availability, level of relevance and teacher attitude. These findings may be useful to center managers, teachers and curriculum developers in making informed decision with regard to the provision and utilization of instructional resources in early years' education.

TABLE OF CONTENTS

CONTENT **PAGE**

LIST OF ABBREVIATIONS AND ACRONYMS

ARNEC	-	Asia-Pacific Regional Network for Early Childhood
BECF	-	Basic Education Curriculum Framework
CBC	-	Competency Based Curriculum
CC	-	County Commissioner
CDE	-	County Director of Education
CEDIS	-	County Director Interview Schedule
CMIS	-	Center Managers Interview Schedule
COG	-	Classroom Observation Guide
DICECE	-	District Center for Early Childhood Education
EARC	-	Educational Assessment Resource Centre
EYE	-	Early Years Education
FPE	-	Free Primary Education
GoK	-	Government of Kenya
ILO	-	International Labour Organization
K.I.C.D	-	Kenya Institute of Curriculum Development
KNEC	-	Kenya National Examinations Council

MOEST	-	Ministry of Education, Science and Technology
MUERC	-	Maseno University Ethics and Review Committee
NACECE	-	National Center for Early Childhood Education
OECD	-	Organization for Economic Co-operation and Development
PISA	-	Programme for International Student Assessment
PPI & PP2	-	Pre-primary one and two
ROK	-	Republic of Kenya
S.C.D.E.	-	Sub-County Director of Education
SGS	-	School of Graduate Studies
TQ	-	Teacher Questionnaire

LIST OF TABLES

TABLE **PAGE**

LIST OF FIGURES

FIGURE **PAGE**

LIST OF APPENDICES

APPENDIX **PAGE**

CHAPTER ONE
INTRODUCTION

1.1. Background to the Study

Globally and locally a teacher remains one of the most important components of the curriculum. As implementers they form the backbone of any country whether developing or developed. The progress and development of a country largely depends on its teachers' community because of their noble and massive contributions in nation building (Dash & Barman, 2016).This notion is strongly supported by Kareem and Ravirot (2014) who stressed that quality of education is determined by teachers. That is why they are considered vital and indispensable as they are the key holders to instructional process. Afe (2003) and Kiadese (2011) in their studies indicated that a teacher is the main cog in any educational system. Therefore a teacher and the teaching profession remain a pillar and all activities within and without the classroom directly or indirectly require their presence. The teacher as an adult has a role to play to mould the tender beings from early ages to the time they become independent and manage on their own.

Audrey (2018) says that teaching is a multifaceted profession therefore they are expected and required to take on roles beyond educator. Being multifaceted the teacher has many roles to play including being the surrogate parent. This notion is supported by Ghamrawi and Jammal (2012) who outlined the extra tasks on teachers listing; parents conferences, bus monitoring, hallway and restroom supervision, staff meetings and other tasks that arise throughout the school year. Lavy (2007) posits how there has been greater attention focused on 'increasing teachers effectiveness' from researchers and policymakers. In addition to that, the method deemed by many to be the most helpful in increasing teacher effectiveness is to change compensation methods for teachers.

On the contrary, Hulleman and Barron (2010) argue that 'the task of teaching is by far not simple, and the skills required are more 'professional than industrial', which suggests that performance related pay system would not be as effective as it is believed to be in improving teacher performance. This means that teacher effectiveness goes beyond the external motivation through incentives and many other things.

All over the world, education systems aim at providing quality education to their learners. This is confirmed by the UNESCO (2006) which asserts that one of the most determining factors for provision of quality education are teachers. This has made governments to come up with strategies to improve on the quality of teachers. Some of the strategies include upgrading of teacher training entry grades, organizing for In-set training for practicing teachers and provision of instructional resources among others.

Adeyemi (2010) opines that teacher performance are the duties performed by teachers at a particular period in the school system in order to achieve school goals. This definition narrows down to a particular period and also duties performed by the teacher thus watering down the role of the teacher in the teaching and learning process as being periodical or seasonal implying that it is not a continuous process. Nadeem (2011) on his part asserts that in all education systems, the performance of teachers is one of the handful factors determining school effectiveness and learning outcome. Unlike Adeyemi, Nadeem seem to take the former's definition as just a percentage of what creates school effectiveness. Nadeem goes further to indicate that poor performance and low enrolment of students are some of the inferences regarding the performance of teachers.

Some scholars have different views on what influences teacher effectiveness. Riaz (2000) found that factors that influence teacher performance include attitude, subject mastery, teaching methods, motivation of teachers, self-development, and student attitude among

others. By indicating attitude as one of the factors that determine teacher effectiveness it means that it cannot be underscored as one of the factors playing a role in determining a teacher's performance. Attitude is individual dispositions whether favorable or unfavorable towards an object which plays a role in determining the way teachers handle teaching process.

Dash and Barman (2016) reiterate that effective teaching is an art and no easy endeavor. It is an art delivered by a teacher to enhance the amount of learning of a learner. To make learning more meaningful, understandable and fruitful to a learner, effectiveness of teaching delivered by a teacher is very essential condition. They go further to say that teaching effectiveness is a very important aspect of education because effective teaching helps learners learning as well as the learner's academic performance or achievement. It has become even more important as the emphasis on quality in lower education levels has been increasing. The role and responsibility of a teacher is multitasked in the present school system, the teacher has additional responsibilities which include planning and executing lessons, assessing students based on specific objectives derived from the set curriculum and communicating to parents, accountability for learners' performance supervisory role classroom management and discipline and extracurricular activity.

Dash and Barman (2016) opine that the teaching profession occupies an important and prestigious place in the society; teachers are considered as the creators of knowledge, scientists, philosophers, advocates, politicians and administrators. A teacher is the principal means for implementing all educational programmes meaning that teacher remains the foundation for any educational programme.

According to Kalhotra (2014) teacher effectiveness refers to the characteristics of the teacher which are effective in causing effective instruction. In addition "Teacher effectiveness is an

area of research which is concerned with the relationship between the characteristics of teachers, teaching aids and their effects on the educational outcomes of classroom teaching".

As indicated by Kalhotra (2014) teaching aids is one of the components of teacher effectiveness, it is important to note that instructional resources are also needed to spice the teaching and learning process. This means that the teacher has to interact with the teaching aids or resources for learning to take place. This is supported by Kadzera (2006) who stresses on availability of instructional resources as stimulators of learning. The same is supported by Romiszowski (1988) who stresses on proper selection of instructional resources which leads to interesting learning and long retention of knowledge. These findings clearly support the notion that availability of instructional resources is paramount and has a role to play in the teaching and learning process. Although these authors have stressed on the availability of instructional resources, they have not expounded on how it will impact on the teacher. However, selection only comes after instructional resources have been made available.

In the quest to provide satisfactory answer on effective teaching Demirel, Yagci and Seferoglu (2005) posit that learning environment not only comprises the teacher but also instructional resources or materials which can be used in transferring knowledge during the teaching learning process. The availability of instructional resources cannot be gain said because of how they impact on the learning of children. Studies have indicated learning as a complex activity involving interplay of student motivation, physical facilities, teaching resources and teacher skills (Lyons, 2012). This is means that the teaching and learning process is basically made up of three components namely material, physical and human resources.

Brewer (2007) and Estes (2004) recognizes that the teacher has a lot to do for instance he/she has to interact with the resources, the curriculum among other things during the teaching and

learning process. For most early childhood educators the true definition of curriculum is that which lies between these two extremes, includes what is taught, how it is taught, and how it is evaluated. 'What is taught' refers to the content of instruction, while 'how it is taught' refers to the instructional methods teachers use to deliver the content to learners. 'How it is evaluated' relates to assessment strategies that educators use before instruction, throughout the instructional process and at the end of an instructional process and at the end of an instructional segment. In other words, curriculum involves everything the child does while in an educational institution, involving every aspect of programme from planned activities and lesson to meals and informal conversation. To put it clearer, every experience – how they work with others, the materials available to them, must be thought of as a curriculum, for each contributes to their understanding of the world and their future attitudes about learning and education.

The vision for education sector in Kenya for 2030 is, "to have globally competitive quality education, training and research for sustainable development. The mission for education sector in Kenya is to; "provide, promote, and coordinate the provision of quality education, training and research for empowerment of individuals to become responsible and competent citizens who value education as a lifelong process" (ROK, 2007).To achieve this vision, strategic areas namely; access, quality, equity, science, technology and innovation have been identified for support based on their impact on the economic, social and political pillars. Therefore, the Vision 2030 education reform process targets include the expansion of teacher education and training, in addition to this proper and provision of instructional resources can go along way in improving learning.

Sessional Paper No 1 of 2005 titled: 'Paper on the Policy Framework for Education, Training and Research for 21st century in Kenya is a policy framework for Education, Training and

Research' provides reforms or new directions on the provision of education and Training at all levels. In the document, the government outlined strategies to improve education thus: access; quality; equity and completion rates. In this paper the government commits to achieve universal primary education and education for all by the year 2005 and 2015 respectively.

Universal Primary Education (UPE) ensures that all children eligible for primary schooling have opportunity to enroll and remain in schools to learn and acquire quality basic education (Teachers Service Commission [TSC], 2005). From January 2003, already the Government has been implementing Free Primary Education resulting in an increased enrolment of children from 5.9 million in 2002 to 7.6 million in 2007. Another 300,000 primary school age children are enrolled in non formal learning centers (Ministry of Education [MOE], 2008). The document points emphasis on quality education at all levels and calls for regular reviews of the curriculum to improve its relevance and incorporate emerging issues among other goals. Some of the suggestions proposed by the document included provision of science equipments in selected schools and in-servicing training for teachers in various domains to enhance their subjects' mastery and intensifying supervision to guarantee quality (MOE, 2008). These recommendations touch on the issue of learning resources in general and in-service courses for the early childhood practitioners for their effective delivery of what is required in the classroom.

For Vision 2030 to fulfill its mandate, teachers are central to any successful implementation of education reforms and change. Kenya presently is experiencing societal changes, so does its needs and aspirations on the education system and schools that are expected to be prepared to cope with these changes and also initiate education changes/ reforms in relation to the changing needs of the society. Society change, school readily change and act accordingly through a teacher. Therefore, quality of teachers is important for improving and sustaining

the quality of teaching and education in general for successful implementation of education reforms.

In view of the above it is important that the content of the early year curriculum as explained by (Republic of Kenya [ROK], 2017) which include Language activities, Mathematical activities, Environmental activities, Psychomotor and creative activities and religious activities. Others are digital literacy, pertinent and contemporary issues are expected to be integrated across all the subjects. Based on the Needs Assessment Study carried by Kenya Institute of Curriculum Development (KICD) and the vision and mission of the Basic Education Framework Curriculum (BEFC) the above activity areas each learner is expected to achieve the seven core competencies which are : communication and collaboration, self efficacy, critical thinking and problem solving, creativity and imagination, citizenship, digital literacy and learning to learn (ROK, 2017). These are expected to be implemented by the teacher and that is why the teacher cannot be wished away.

Republic of Kenya (2013) noted that lack of adequate opportunity for in-service training has denied practicing teachers the opportunity to enhance their skills beyond those acquired during the pre-service training. Mckenzie and Santiago (2004) also noted that in many countries teacher Education programs are of low quality and lack relevance to school needs. United Nations Education, Science and Cultural Organization (UNESCO, 2012) notes that instruments to motivate teachers are limited as there are limited opportunities for their career growth.

Ng'eno (2006) also notes that although resources are available for using in teaching, lack of time is an impediment for their utilization. Teachers are not allowed to access them and utilize them in teaching. Emojong (2008) however, notes that the poor performance of teachers is placed on the poor professional conduct by some teachers. Teaching just like any

other job performance is the product of a combination of an individual's motivation and ability.

There are many factors that influence the teacher`s job performance such as aptitude, attitude, subject mastery, teaching methodology, personal characteristic the classroom environment, general mental ability personality, relation with student, preparation and planning. Effectiveness in presenting subject matter, relation with other staff, self-improvement, relation with parent and community, poise, intellect, teaching techniques, interaction with students, teaching competence demonstrated, motivational skills e among others (Akram, 2014).

Isbell and Exelby (2001) argue that it is imperative for the caregivers and stakeholders to provide developmentally appropriate resources for proper learning. Wolery (2005) on his part says that children learn well when a variety of materials are made available. He goes further to indicate that it is upon the teacher to select the best resources for the learners. Availability of instructional resources and its relationship with teachers' effectiveness in the early years education is unknown even though correlation have been found between instructional resources and learners' performance, the relationship between the two is still unclear. Also little is known about availability of different instructional resources on teacher effectiveness practices

Typically the terms Early Childhood Development (ECD), Early Childhood Education and Care (ECEC) and Early Childhood Care and Development (ECCD) are used to refer to service for children up to the age of six while Early Childhood Education (ECE), Pre-school Education (PSE), Pre-primary Education (PPE) and Kindergarten Education (KE) are used to denote services for children ranging in age from three to six years. Developing countries want to meet EFA Goal 1, but there is a dearth of qualified early childhood educators. Hence many

countries have employed unqualified staff from the community given the absence of sufficient funds to recruit qualified teachers.

Budgetary constraints also adversely impact the ability to provide in-service training to unqualified early childhood educators (Fyfe, 2007). This would enable them to acquire knowledge and skills not only to use instructional resources but also to improvise when need arises. Clearly there is a need for such training and innovative methods have been affected to provide it. Pre-service and in-service training programmes and other forms of continuing support and guidance have been provided to increase the availability and quality of training for early childhood educators (Asia-Pacific Regional Network for Early Childhood [ARNEC], 2011).

In addition, participatory training (where parents and other family/community caregivers are involved) and capacity building programmes to help communities create early childhood programmes have also been offered. For example, Madrasa Resource Centre pre schools in East Africa used para-professionals, community or contract teachers, and such programmes can actually provide training for these potential early childhood educators to equip them with the skills necessary to effectively deliver ECCE programmes in different settings (International Labour Organization[ILO], 2012). On the same note, a Capability Building Program in Indonesia provides important in-service training for early childhood educators; it is assumed that early childhood educators will use / adapt the skills and pedagogical methods introduced during training in their classrooms (Profeta, 2012).

In Kenya, the promulgation of the 2010 Constitution ushered in a new lease of life targeting to promote social and economic development by improving delivery of proximate services, among other objects as outlined in Article 174 (a-i). The Fourth Schedule of the Constitution distributes functions and powers between the national and county governments. Part 2 of the

Schedule, read together with Section 5 of the County Governments Act, 2012, elucidates specific mandates of county governments. More specifically, Part 2 (9) of the Fourth Schedule gives County governments the responsibility to provide early years' education and child care services. Such services are collectively captured in the term Early Childhood Development and Education (ECDE), which refers to the holistic development to a child's social, emotional, cognitive, linguistic and physical needs in order to build a solid and broad foundation for lifelong learning and well being (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2010).

The devolution of ECDE to County governments is in line with Section 26 (1) of the Basic Education Act No.14 of 2013,which further explains that County governments are responsible for funding the development of required infrastructure for institutions providing ECDE services (Shinali & Kamau, 2016; Government of Kenya [GoK], 2010;2013; Garcia & Neuman, 2010).

The Kenya government's commitment to free and compulsory basic Education by inclusion of pre-primary education in Free Primary Education has seen an inflow of children into the ECDE centers (Education Act, 2013) yet this same children lack the necessary infrastructure in order to attain better Early childhood education. ECDE access in the country still is low even though these improvements have been embarked on with 65% of the children in the 3-6 years age bracket lacking the access to comprehensive and quality ECDE services (NESSP, 2013). Presence of materials and infrastructure is very key. A number of ECDE centres have got poor infrastructure but only those receiving aid from NGOs could be better placed with furniture that caters for the number of children together with their stature and full of comfort which is in contrast with majority of the centres not aided by NGOs. The content that is included in the learning materials is also overlooked. The new constitution also transferred

the management of the Early Childhood Education to the county government. Part 1 Section 3 of the Early Childhood Education Bill, states that ECDE system should be established by the county government. The county governments are still setting up structures and still face challenges of single handedly managing the ECDE system.

Elimu Yetu Coalition (EYC, 2014) raised concern regarding the Early Childhood Development and Education (ECDE) programme. It indicated that the devolution of ECDE education came with a plethora of challenges ranging from unclear policy framework on issues of management of ECDE programmes to lack of preparedness of county governments to implement the devolved ECDE system of education. This has contributed a lot to the programme not being run as expected of a foundational programme for the development of future citizens.

In Siaya County, recent data show that National Enrollment Ratio (NER) has increased gradually from 28% in 2006 to 47% in 2009 and further to 66% in 2015, which was lower than the MDG target of 80% access by 2015.This implies that about 34% of children aged 3 to 5 years have not been able to access ECDE services (County Government of Siaya, 2016). Available reports attribute this low ECDE enrolment across the country to various factors including; inadequate number of centres, insufficient number of trained teachers and caregivers; inadequate teaching, learning and play equipment, limited community participation, low morale of teaching staff due to poor remuneration, limited enforcement of standards within the centres, inadequate nutrition and health support services; as well as inadequacy of essential infrastructural facilities (County Government of Siaya,2016;GoK,2016).

In addition to the above concerns, the learning outcomes in Siaya County trails at 23% compared to other counties found in the Lake Region (old Nyanza province). In addition to

this dismal performance, Siaya is way below the average National learning outcome which stands at 32% in early years' education. Table 1.1 shows the early years' education learning outcomes of the six counties originally Nyanza province.

Table 1.1. Early Years Education Learning Outcomes

County Rank	County Name	Learning Outcome in %
1	Homa Bay	39.2%
2	Nyamira	31.2%
3	Kisumu	30.2%
4	Migori	28.7%
5	Kisii	27.7%
6	Siaya	23.9%

Source: Uwezo East Africa Annual Report

Today the teachers' working environment is littered with controversies ranging from their roles and interactions relating to instructional resources and their effectiveness are concerned. Without this information it would be difficult to implement appropriate strategies to address the issue of teacher effectiveness in early years' education. It is due to this background, that this study sought to establish the relationship between instructional resources and teacher effectiveness in early years' education centers in Siaya County, Kenya.

1.2. Statement of the Problem

Globally and locally quality education is a matter of concern to the stakeholders. Studies have shown interest on teacher effectiveness because teachers are an important resource in the teaching and learning process. Research has shown that poor quality of learners correlates strongly with poor quality teachers. While there is evidence to show this, few if any have come out to establish the relationship between instructional resources and teachers

effectiveness. Early childhood education remains crucial in a child's life, concerns have been raised over the products of early years education centers with regard to teachers interaction with instructional resources in preparation and delivering their lessons, the status of this interaction is not well known.

However, due to poverty leading to lack of provision of instructional resources and use of instructional resources that flout the required standards and poor teacher input leads to inefficiency of teachers and dismal performance of learners. The problem is particularly evident in Siaya County, where despite having higher enrolment level than the average National level, basic competencies especially literacy and numeracy stand at 23% compared to other counties in the lake region and the National level which stands at 32% indicating poor levels of preparedness for early learners in early years education centers. Stakeholders have raised concerns on teacher effectiveness in these centers with regard to provision and utilization of instructional resources for quality education. However, no structured survey has been undertaken to establish relationship between instructional resources and teacher effectiveness, without this information it would be difficult to implement strategies to address the problem and to what extent they relate within the teaching and learning environment. Therefore this study sought to establish the relationship between instructional resources and teacher effectiveness in early years' education centers in Siaya County, Kenya.

1.3. Purpose of the Study

The purpose of this study was to establish the relationship between instructional resources and teacher effectiveness in early years' education centers in Siaya County, Kenya.

1.4. Objectives of the Study

The specific objectives of the study were to;

1. Assess relationship between availability of instructional resources and teacher effectiveness in early years' education centers.
2. Establish relationship between adequacy of instructional resources and teacher effectiveness.
3. Examine relationship between relevance of instructional resources and teacher effectiveness.
4. Examine relationship between frequency of use of instructional resources and teacher effectiveness.
5. Establish relationship between attitude of teachers towards instructional resources and their teaching effectiveness.

1.5. Research Questions

The study was guided by the following research questions;

1. What is the relationship between availability of instructional resources and teacher effectiveness?
2. What is the relationship between adequacy of instructional resources and teacher effectiveness?
3. What is the relationship between relevance of instructional resources and teacher effectiveness?
4. What is the relationship between frequency of use of instructional resources and teacher effectiveness?

5. What is the relationship between teachers' attitude towards instructional resources and teacher effectiveness?

1.6. Assumptions of the Study

The study was based on the following assumptions;

1. The centers have the same type of instructional resources for use.
2. All the teachers are qualified to teach in early years education.

1.7. Scope of the Study

The study involved all early years' education teachers and center managers in Siaya County. These included untrained, certificate, diploma and bachelor degree holders in early childhood education and development. The untrained teachers were used because they have attended either workshops or short courses which have kept them abreast with the on goings in the early years education sector. The entire teaching cadres have an opportunity for upward mobility in the program. Data was collected between August 2016- August 2017. The study focused on establishing the link between instructional resources and teacher effectiveness in Siaya County, Kenya. It established that there is a relationship how instructional resources influence teacher effectiveness.

1.8. Limitations of the Study

Nine (2.8%) teachers did not fill in and hand over the questionnaires and therefore were not included in lesson observation exercise. This was assumed as it was not significant. The researcher relied on the information given by the EYE-in-Charge, Center Managers and EYE teachers on their opinions. This generated diverse responses for some questions. The researcher was unable to control attitudes of respondents and this might have affected the

findings. It was also possible that Siaya County results might not be generally applied to other administrative counties in Kenya.

1.9. Significance of the Study

The study may inform stakeholders in education in identifying strategies to deal with factors affecting teacher effectiveness among early years education teachers in order to improve on pupils' learning preparedness for future learning in the county. The findings of the study may also be useful to parents and administrators as they will be able to provide and adopt practical measures to assist the teachers in their varied environments to be effective in offering the youngsters the foundation for future learning in early grade school. The findings may also provide a framework for comparative study on teacher effectiveness at different levels of the education system with regard to the relationship between instructional resources and teacher effectiveness. It may also guide policy makers on the need to relook on the aspects of the early learning and education instructional resources in relation to how it impacts on teacher effectiveness..

1.10 Conceptual Framework

In this study, a conceptual framework was based on the concept that technological factors (Hussein et al., 2007) influence personnel factors (Wong & Hanafi, 2007).Technological factors refer to elements of instructional resources while personnel factors refer to teacher effectiveness. The framework suited the study by hypothesizing that teacher effectiveness is dependent on instructional resources which are; levels of availability, adequacy, and relevance, frequency of use and teacher attitude towards instructional resources. There is a relationship between elements of instructional resources (level of availability, adequacy, relevance, frequency of use and attitude towards instructional resources) and teacher

effectiveness. This study conceptualized that effective teaching is contingent upon a mixture of interdependent factors namely; ability to select, Timing during use, competency , ability to determine durability and safety, attractiveness, visibility and improvisation skills. Figure 1.1 presents the conceptual framework for the Independent Variable (IV) and Dependent Variable (DV) and how they are related.

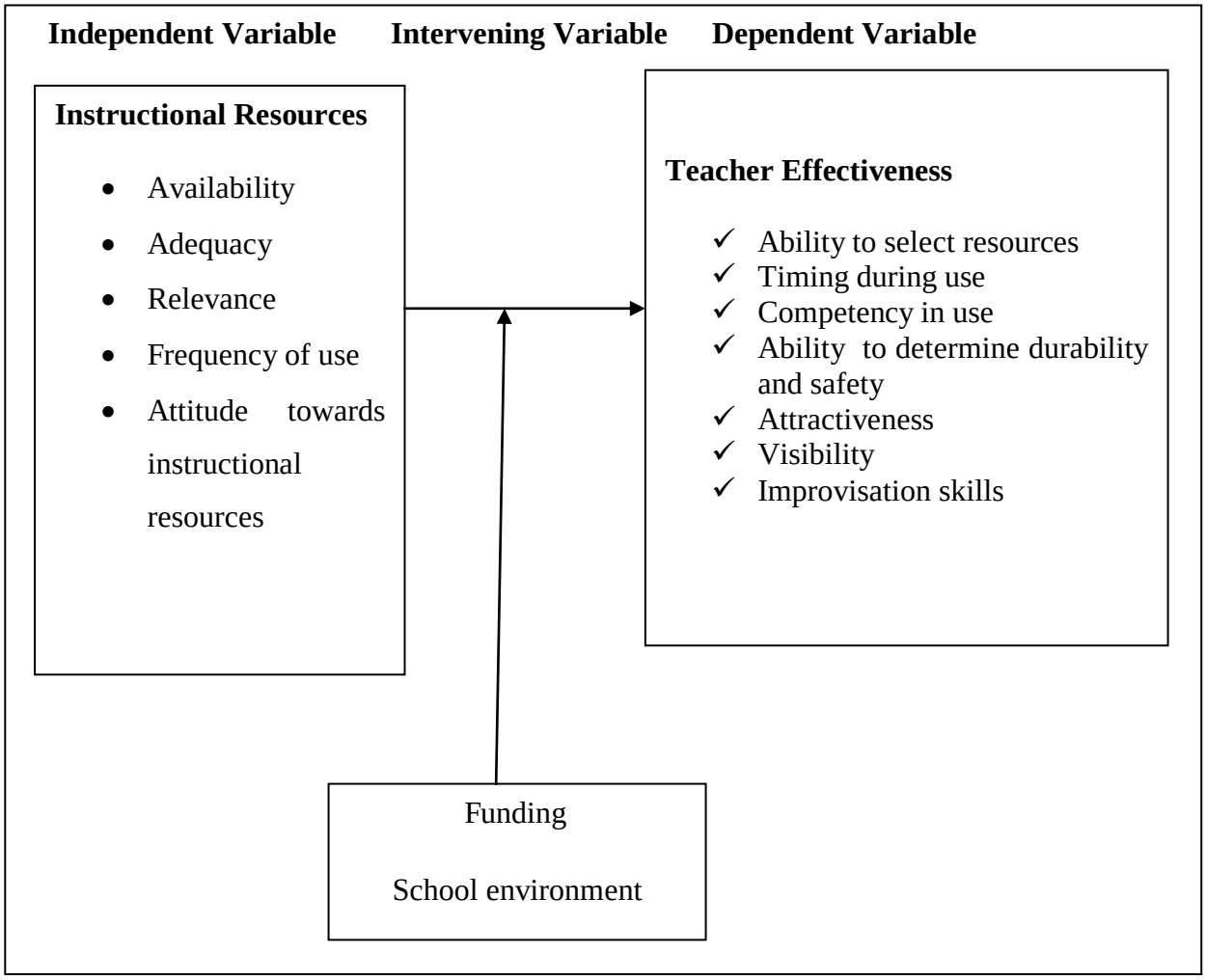

Figure 1.1 presents the conceptual framework for the Independent Variable (IV) and Dependent Variable (DV) and how they are related.

Figure 1.1 outlines the study variables and how they relate. The independent variables include; levels of availability, relevance, adequacy, frequency of use and attitude towards

instructional resources. Level of the elements of instructional resources (availability, adequacy, relevance, frequency of use and attitude towards instructional resources-IV) that and their relationship with teacher effectiveness (DV).

By looking at the independent variable (constructs) for instance that level of availability will impact on the teachers' effectiveness in terms of ability to select resources, timing during use, competency in use, ability to determine durability and safety, attractiveness, visibility and improvisation skills.

In the conceptual framework, funding and school environment are intervening variables (iv) on teacher effectiveness. Availability of funds and school environment influence institutions in providing adequate, relevant, encourage the teacher to frequently use the resources and also modify teacher attitude. The influence of these intervening variables was assumed to be inconsequential in interfering with the relationship between instructional resources and teacher effectiveness. However, they were best eliminated by the fact that all the centers are under the county government therefore all factors are kept constant across the county and randomizing the sample. Therefore it was conceptualized that there is a relationship between instructional resources and teacher effectiveness in terms of ability to select, timing, innovativeness, competency ,ability to determine durability, safety, attractiveness and improvisation skills during the teaching and learning process.

1.11. Operational Definition of Terms

The following terms have been defined as used in the study:

Academic Qualification – refer to professional level of teachers in early years education sector including Certificate, Diploma and degree levels.

Class size – refers to the ratio teacher to pupil in classroom.

Early Years Education- Pre-Primary 1 and Pre-primary 2

Pre-primary Teacher – a practitioner in PP1 & PP2 in early years education level handling the mentioned classes.

Instructional Resources- refers to availability, frequency of use, adequacy and relevance of the recommended materials in form of books, teaching aids etc and their application in lesson delivery.

Level of training – Certificate, Diploma, Degree qualifications.

Teacher effectiveness – Ability to select, competency, determine durability and attractiveness and improvisation skills. This sub-sections as awarded in the Classroom Observation Guide (COG)-graded into very effective, Effective and ineffective)

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Teacher Effectiveness

Before defining the term teacher effectiveness it is important to find out what the term 'Teaching' means. The term has had several definitions. Phillips (2013) refers to it as a complex, and great practice which takes time, passion, high quality materials and tailored feedback designed to help each teacher continuously grow and improve. Oyedeji (1998) defines teaching as a process of imparting knowledge, skills and attitude in order to bring about desirable change in learners. Ogunyemi (2000) says the primary goal of teaching is to ensure that meaningful learning occurs. The definition given and the stress given is important to indicate that this is a vital process in any educational process.

Teacher effectiveness is complex to define given the complex nature of teaching. There is no agreed position on whether teacher effectiveness should be defined using teacher qualifications, pedagogical practices or learner achievement (Malunda, 2018).

According to Walls (1999), teacher effectiveness entails the following: clearly spelling out the learning outcomes to focus learners on the learning goals; making the content as clear as possible as the teacher builds on existing knowledge; engaging learners in activities during the teaching and learning process and display of high level of enthusiasm that reflects professional competence and confidence.

Popoola and Haliso (2009) define teacher effectiveness as the ability of a teacher to instill knowledge and skills in students, as well as positively influencing the learners' behavior for a better living. On their part, Adeoye and Popoola (2011) link teacher effectiveness to the teacher's knowledge of subject matter, expertise and resourcefulness that enhance students'

academic performance. Teacher effectiveness in this study is conceptualized as the ability of the teacher to select, timing, innovativeness, competency, ability to determine durability, safety, attractiveness and improvisation skills with regard to instructional resources to enhance the opportunities for learners to learn and attain the desired learning outcomes.

McHaber (2000) explains three factors which are within the teachers' control which form part of what makes the teacher effective. The three factors differ in nature. Two of them – professional characteristics and teaching skills – are factors which relate to what a teacher brings to the job. The professional characteristics are the ongoing patterns of behaviour that combine to drive the things we typically do. Amongst those things are the "micro-behaviours" covered by teaching skills. Whilst teaching skills can be learned, sustaining these behaviours over the course of a career will depend on the deep seated nature of professional characteristics. Classroom climate, on the other hand, is an output measure. It allows teachers to understand how the pupils in their class feel about nine dimensions of climate created by the teacher that influence their motivation to learn.

Cheng' and Tsui (1999) explain that a new conception of teacher effectiveness research is based on 7 models: (a) goal and task-emphasizes teachers' personal achievement goals and tasks and school goals; (b) resource utilization-requires teachers' effective use and procuration of school resources to achieve goals; (c) process-stresses teachers' contribution to effective teaching and school process; (d) school constituencies satisfaction- expects teachers to meet the needs of their students, parents, school, and community; (e) accountability-focuses on teachers' accountability and professional reputation; (f) absence of problems-requires teachers to identify and avoid potential problems, weakness, dysfunction, and crises; and (g) continuous learning emphasizing teachers' awareness of environmental changes and continuous improvement and development.

In teaching there are quite a number of factors which may influence teacher efficiency. For instance use of resources, attitude towards curriculum, and frequency of inset courses attendance and school culture are some of the factors which influence teacher effectiveness. The influence varies from one teacher to another, from one region to another, from one school to another and therefore their effectiveness will depend on their environment. Teachers are a resource for changing schools and the society in general. The quality of teaching is often defined in terms of what happens to learners after a learning experience. It is what learners are able to do after being taught that provides a valid measure of the quality of teaching and therefore teacher effectiveness. In this study teaching effectiveness was taken as the ability of the teachers to select instructional resources, proper timing, competency to use the resources, ability to determine durability and safety of the resources, attractiveness, visibility and improvisation skills.

2.2 Relationship between Availability of Instructional Resources and Teacher Effectiveness

This section deals with the theme of relationship between availability of instructional resources and teacher effectiveness. Kadzera (2006) stresses that availability of instructional materials brings life to learning by stimulating students to learn. The use of materials in the classroom has the potential to help the teacher explain new concepts clearly, resulting in better understanding of the concepts being taught. However, they are not ends in themselves but they are means to end. By this it means that no matter how good instructional resources are, they cannot replace the teacher but it is upon the teacher to modify and utilize them in achieving the teaching and learning objectives.

Romiszowski (1988); Walkin (1982) and Hills (1982) concur on the fact that if instructional materials are properly selected and used, the following would occur: learning would be

interesting, Knowledge acquired would be retained for a longer period, different skills would be acquired by learners and learners would be actively involved during lessons. From the four points, it is clear that instructional resources are essential for effective teaching and therefore paramount for making the teacher effective. To enable teachers become effective, most schools in developed countries are provided with a variety of instructional resources.

According to DFID (2007) teaching and learning resources comprises basically of three components: Material resources, physical facilities and human resources. Studies done in the past with regard to availability of teaching and learning resources reveal that they are not always available in schools. This has been a serious issue to educators.

According to Lyons (2012) learning is a complex activity that involves interplay of students' motivation, physical facilities, teaching resources, and skills of teaching and curriculum demands. Availability of teaching and learning resources therefore enhances the effectiveness of schools as they are the basic resources that bring about good academic performance of students. The necessary resources should be available for teaching and learning include material resources, human resource such as teachers, classrooms and others.

After selecting developmentally appropriate materials and equipment, teachers should turn their attention to the arrangements of those items within early childhood settings. Developmentally appropriate learning environments are prepared to foster positive development of the whole child through self-directed activity and play, which is facilitated not only by the materials and equipment selected, but also by the way these items are set up and distributed throughout the classroom. Room arrangement is the term used to describe the organization of materials and equipment within the learning environment. Therefore, it is the responsibility of the caregivers and providers to provide developmentally appropriate room

arrangements that invite children to investigate and actively engage in learning experiences as they interact with others (Isbell & Exelby, 2001).

Demirel, Yagci and Seferoglu (2003) indicated that the learning environment refers not only the place that instruction takes place but also includes the instructional materials, instruments and equipment which are to be used in transferring the knowledge and guiding the works of individuals in the learning process. In their study they established that learning resources were of great importance in transferring knowledge to the learners.

Demirel (2005) stated that availability and utilization of instructional technology and other resources in the teaching-learning environment during the teaching-learning processes provides a more effective presentation of subject. Moreover; instruction becomes more meaningful and enjoyable. He adds that teachers should check and acquire quality resources so as to offer learners rich learning environments integrated with new technologies. They should also learn how to integrate with learning environments. These successive courses have been given compulsorily and gradually at the faculties of education training prospective teachers in Turkey (YOK, 1998). In the research of Gündüz and Odabaşı (2004), called "The importance of Instructional Technology and Material Development course in training prospective teachers in information area", these conclusions have been reached. Today, teachers are expected to develop skills of utilizing of technology and to integrate technology which is the requirement of contemporary education with learning environments. The above study dwelt much on technological integration in learning but did not pay attention to the aspects of training. Therefore this study intends to encompass all types of resources inclusive of the technological integration in use the classroom.

From experience, there is no meaningful teaching and learning that can take place without availability and adequate instructional resources. This applies to curriculum implementation

as well. For the officially designed curriculum to be fully implemented as planned, the government or Ministry of Education and other stakeholders should supply institutions with adequate resource materials such as textbooks, teaching aids and stationery in order to enable trainers and trainees to play their role satisfactorily in the curriculum implementation process. Curriculum materials and resources are the approved and recommended textbooks, references, aids, training manuals, syllabus, training guidelines, modules, electronic media among others used by trainers and trainees for actualization of the implementation of the training curriculum. Provision of curriculum materials and other instructional resources is very essential in the implementation of all educational activities at all levels.

Wolery (2005) has argued that children learn well through a variety of materials and resources. These materials sustain the interest and attention of young children. Further, the leading child psychologist Piaget called the period which Montessori training usually begins as the "Pre-operational" stage. However many centers lack adequate teaching and learning resource and facilities suitable for their learning environment. These include lack of properly ventilated classrooms, furniture suitable for children, kitchen, safe clean water, playground, toilets and play material (International Association for the Education of Young Children, 1991). This implies that teachers do not have adequate teaching and learning resources to enable them to implement Curriculum effectively. This affects implementation of Curriculum negatively as creation of a sustainable learning environment helps deprived children to improve their academic performance (Offenheiser & Holcombe, 2003).

While the study above was interested in finding out if there was any difference between the two groups, the current study sought to establish availability, relevance, adequacy and frequency of use of instructional resources in early education center. On the same note the study used 128 teachers while the current one uses 321. The study also did not mention the

other constructs which were related to the availability of the instructional resources, it mentions about variety but does not mention their relevance, adequacy and frequency of use which is what the current study sought to find out.

Young children learn well by interacting with real materials in their learning environment. The learning becomes operational through the use of a variety of well selected, relevant learning resources, practical skills and abilities are well taught by the help of resources. Truly too much teacher talk is boring and ruinous to the pupils (Loughran, 2006). NACECE (2006) assert that learners require child friendly environment where a teacher sets the learning corners full of resources as per the theme or activity content. Materials are changed or renewed from time to time as children explore and learn freely in indoor and outdoor activities (Kabiru & Njenga, 2007).The current study seeks to investigate the overall teacher readiness to promote teaching effectiveness in relation to the frequency of use and aspects which affect use of instructional resources.

According to Bishop (1985) resources are tools for doing the job of teaching. For effective implementation of early education curriculum, adequate and necessary curriculum materials and resources must be put in place to achieve the specific subject objectives. The importance of curriculum materials and resources is obvious. This is due to the fact that for smooth and organized learning to take place then it means that materials and resources have to be availed.

The human and financial resources invested in schools influence not only the education provided to students but also aspects of teachers and their teaching. The OECD's Programme for International Student Assessment (PISA) shows that the more resource shortages are perceived to hinder instruction, the lower the student performance (OECD, 2007). In addition, inequalities in students' educational performance often reflect disparities in their individual resources and socio-economic status and in the resources invested in schools

(OECD, 2008b). In some education systems, there are concerns that schools not only lack the resources to meet the educational requirements of their students, particularly those from disadvantaged backgrounds and those with special learning needs, but that schools with more students from disadvantaged backgrounds may have fewer resources with which to educate their students than those with students from more privileged backgrounds (OECD, 2008b).

Quist (2005) says that teachers have a great variety of tasks which include classroom organization, planning activities, selecting and preparation of teaching aids among others. This means that they need to manage personal time and the management of lesson times. This means that there is need for the classroom environment to be conducive in terms of space and even time in order to accommodate the learners. The study looked generally at how teachers managed their time in organizing, planning activities, selecting and preparation of teaching aids among others. The current study established availability of instructional resources and its influence on teacher effectiveness. The physical resources invested in institutions influence not only the education provided to students but also aspects of teachers and teaching.

UNESCO (2006) examined features that define effective schools, including; cost-effectiveness and efficiency in resource use, curriculum quality, its responsiveness and adaptability, as well as competencies. It also gives shortfalls leading to ineffectiveness to include; widespread and continued use of ineffective methods in education process, education is the key to development: This boils down to the issue of overall or assessment of the institutions' readiness to promote training which include inefficient and insufficient teaching and learning materials, overcrowded classrooms and lack of relevant and inclusive curriculum. The above study though relevant in the education field since it targeted primary and secondary schools, was, however, too general in scope and not as focused as the current study. The above study though dealt with instructional resources and materials did not

highlight on the importance of the role of the teacher in relation to selection, both practical and professional and appropriate training on the usage of teaching models. The current study sought to establish the frequency of use, aspects influencing frequency of use and its influence on teacher effectiveness.

Grasha and Hicks (2000) found that teaching styles are based on "the needs, emotions, motives, beliefs, and attitudes of the teacher and that these teaching practices, when used positively, are the force behind student success." In addition, Ferguson (2004) builds on this and indicates that teachers' decisions to integrate technology into instruction are based on their teaching styles and strategies.

In situations where instructional materials such as textbooks, laboratory and display materials, and plant and animal specimens are lacking, teacher - centered methods of delivery tend to dominate (UNESCO, 2006). In addition, where the instructional materials are available, well qualified and motivated teachers will skillfully use the available resources to engage learners in practical activities that give the learners the opportunity to experiment, solve problems, discuss with each other, thereby stimulating curiosity, critical thinking and innovativeness (Smith, Wood, Adams, Wieman, Knight & Guild, 2009). Therefore, the significance of instructional materials in any learning and teaching environment cannot be underestimated. For effective learning to occur, the teacher has to make proper use of the instructional resources and appropriately guide learners by employing a variety of teaching methods such as demonstration, experiment or discussion (Raw, 2006).

Instructional resources are support materials used by teachers in the classroom to enhance the learning process (Abdullahhi, 2010). They help teachers to make their lessons explicit, more interesting and understandable to learners. These resources range

from textbooks, display materials such as wall charts, chalkboard to pictures and diagrams, laboratory apparatus, plant and animal specimen. These make it possible to teach lessons that involve objects that cannot be brought to the classroom or which the learners cannot experience directly.

The instructional resources are intended to stimulate, motivate and focus the learners' attention during the teaching and learning process to enhance constructive learning (Shabiralyani, Hassan, Hamad & Iqbal, 2015). In this study, instructional resources include textbooks, laboratory materials and teaching aids. A number of scholars (Busingye & Najjuma, 2015; Bizimana & Oradho, 2014; Goloba, Wokadala & Bategeka, 2010; Abdullahhi, 2010; Raw, 2006; Orji, 2000) have attempted to explore the linkage between availability of instructional resources and teacher effectiveness in the classroom. For instance, Busigye and Najjuma (2015) investigated the influence of the teaching and learning resources on the learning outcomes in Uganda's primary schools. Findings of their study revealed that availability of teaching and learning resources had minimal influence on the learning outcomes of Mathematics and English pupils. They further observed that teaching and learning resources are only effective when teachers have the necessary skills to use them. Similarly , an earlier study by Goloba, Wokadala and Bategeka (2010) revealed that it was not actually availability of resources that majorly explained quality of teaching in schools, but supervision of the teachers.

According to Goloba et al (2010), administrators were not sufficiently supervising teachers to ensure that they used instructional materials to promote the highly recommended learner centered methods of teaching. As a result, it is imperative for the schools administrators to supervise the teachers' utilization of the available resources for effective teaching in schools. However, Bizimana and Orodho (2014) in their study on

teaching and learning resources availability and teachers' effective classroom management and content delivery in Rwanda established a significant positive relationship between availability of instructional resources and effective teaching. The conclusion was that teachers should be innovative to improvise those necessary instructional materials that could be lacking in schools.

Atkinson (2000) categorized material resources to include paper supplies, writing materials such as pens, eraser, exercise books, crayon, chalk, drawing books, notebooks, pencil ruler, slate, workbooks among others. Other materials include textbooks, charts, maps, audiovisual, and electronic instructional materials such as radio, tape recorder, television and video tape recorder (Akungu, 2014).

The importance of instructional materials cannot be wished away in any teaching and learning situation. This is supported by Adeogun (2001) who discovered very strong positive significant relationship between instructional resources and academic performance. He goes further to assert that schools endowed with more materials performed better than schools that are less endowed. This is corroborated by Akungu (2014) that private schools performed better than public schools because they are well endowed.

Raw (2006) advises that to promote learner participation and hence enhance effective teaching, students should be allowed to manipulate the provided materials. The teacher should give the learners a chance for practical work and allow them to make their own conclusion from their findings. The teachers should let the learners discover knowledge and answers to challenges in their daily lives. This motivates learners to create their knowledge through exploring, analyzing and understanding. Raw asserts that learner participation will not only make the teaching and learning process more interesting, but will also enhance the memory level of the learners. In congruence

with Raw, Orji (2000) emphasizes that instructional materials in the teaching and learning process, motivate and arouse a student's desire to learn. In the same vein, Brown et al (2005) assert that instructional resources promote interaction amongst learners, effective communication and learning which enhances retention; thereby making learning more permanent. Other studies (Armbruster, Patel, Johnson, and Weiss, 2009; Armstrong, Chang, Brickman, 2007; Deslauriers, Schelew, Wieman, 2011) concur with Brown et al underscoring the fact that when interactive methods of teaching are used, students usually demonstrate better understanding of concepts, greater participation and increased persistence to learn.

Rotumoi and Kipkoech (2014) set out to investigate the varieties of instructional materials that are available and used for teaching the novel in selected secondary schools in Baringo District. The research was guided by Piaget's Cognitive Theory which has laid a strong case for the use of instructional media in instruction as it facilitates understanding of literary concepts and ideas. The study used descriptive survey while it used Stratified random sampling to select the 12 secondary schools from which two form 3 and 4 literature teachers were selected to participate in this research. Instruments for data collection were questionnaires and observing teachers during literature lessons. Findings indicate that most of the schools had some of the recommended novels but very few of the non-book instructional materials for teaching the subject. This study on the other hand sought to establish the varieties of instructional resources available in early years education centers how frequently they were used. In addition this study sought to establish the relationship existing between frequency of use of these resources and teacher effectiveness. This study used a conceptual framework to establish the relationship. This study despite using classroom observation guide to observe teachers, more than one subject was observed for each individual teacher. It also used a questionnaire and two sets of interview schedules. In

addition to descriptive survey design, this study also used correlation research design, systematic random sampling and purposive random sampling techniques.

Okwara, Shiundu and Indoshi (2009) observed that availability of instructional resources significantly contributes to effective pedagogical practices. They hence urged teachers to make instructional materials an integral part of the teaching and learning process.

Galabawa (2003) says that there is a feeling that teacher training lecturers do not seem to be implementing a curriculum which cultivates innovativeness in tackling the key problems of teaching material production. In his study he found out that most of the teacher training lecturers interviewed had successfully completed their probation period after graduation from universities, this must suggest that they would have gone through pedagogical institutions in which the dominant mode of knowledge dissemination would have been equally less practical and more theoretical with talk and chalk by the teacher would have been the main teaching aids.

Okobia (2011) carried out a study in Nigeria to establish the availability and teachers' use of instructional materials and resources in the implementation of social studies in junior secondary schools. The study used a sample of fifty teachers through simple random sampling. In his data analysis t-test for hypothesis and percentages were used to report the findings which indicated that the available instructional resources were inadequate and that there was no significant difference in the use of instructional materials by the specialist and non-specialist teachers of social studies. The current study has used a sample of three hundred and twenty (320) teachers and has used simple random sampling in arriving at the sample. The current study has also used frequencies, percentages and multiple regression to present its finding. While the former study targeted availability and use of instructional

materials by social studies teachers the current study has focused on early years education and gone broadly to study the effectiveness of teachers in a wide range of areas such as their dealing with instructional resources on teacher effectiveness.

Aduwa-Ogiegbaen and Imogie (2005) stress that materials and resources including audio tape recorders, video tape recorders, slide projectors, opaque projectors, still pictures, programmed instruction, film strips, maps, charts, graphs, and many more offer a variety of teaching experiences individually or in combination to meet different teaching and learning experiences.

According to Chepsiror (2016) to reinforce teaching, a rich galaxy of audio visual aids will have to be harnessed. This galaxy of materials has been classified by Kochar (1991) in to the following categories: the printed aids, the visual aids, the audio-aids and the audio-visual aids. The printed materials include periodicals, books and newspapers. Among the visual aids are slides, film strips, models, graphs and charts, pictorial materials, globes and maps. Some of the audio aids are tape recordings, phonograph discs and radio. The audio-visual aids are motion pictures, television and dramatization. NACECE (2001), states that a variety of materials should be provided to cater for different ages, interests and developmental levels of children. Materials should also cater for all aspects of growth and development of children.

Mwita (2001) points out that quality improvement in education is associated with textbook availability and that research experience has shown the considerable potential contribution that textbooks and other curriculum materials can make to effective teaching and quality education. This is supported by Akkoyunlu (2002) who says that instructional materials motivate students, and encourage them to study lesson providing them with opportunity to have an access to information and to evaluate it. Instructional materials are significant

element in raising the quality of education. The two studies above dwelt on textbooks and their availability in institutions of learning. However, a close look at the studies shows that they did not pay much attention to the relevance and adequacy of the text books and other curriculum materials in these institutions and its impact on teacher effectiveness.

A study carried out on availability of teaching and learning resources in public secondary schools in Kisumu district found out that lack of essential teaching and learning resources such as labs, teaching materials and textbooks contributed to poor performance (Ouko, 2004). Chitwa and Njunge (2004) carried out a study on availability of resources in secondary schools in Kwale district and found out that lack of teachers, textbooks, models and lab equipment had contributed to poor performance in K.C.S.E. examination. Schools that are well resourced with the relevant subject textbooks and resources generally have a higher achievement than those in schools where shortages in resources affect the capacity to implement a curriculum (UNESCO, 2002). The two studies were to some extent biased as the former seem to pay much attention to science subjects resources in secondary schools while the latter was not specific on the type of resources and targeted primary schools.

Akungu (2014) indicated that educational outcomes in schools are closely linked to utilization and adequacy of teaching and learning resources in different ways: poor utilization and underutilization, unqualified educators brings forth low education achievement. The inadequacy of physical and material resources in schools is a major factor responsible learning outcomes of pupils.Adequate teaching and learning can only be effective if adequate time is availed and the necessary physical facilities such as spacious classrooms and storage facilities are put in place. The physical factors was be looked at in at in terms of classroom availability, size, toilets, dormitories and libraries among other physical facilities.

Kabiru and Njenga (2001) state that "quality services of ECD centres are inadequate, many centres do not have facilities necessary for holistic development, they lack basic play materials, feeding programmes and still there are untrained teachers. Data were collected from school principals concerning the extent to which a lack of resources hindered instruction for students. School principals were asked to consider eight categories: (availability of) laboratory; instructional support systems and others computers for instruction; other equipment; and library materials.

MOE (2012) reports that in most teacher education and training programs there is over-emphasis on content rather than pedagogical skills. This means that most of the trainer of teachers are using methods which stress on the acquisition of content rather than to impart on skills which the teacher scan use to teach the young children as they go out after the course. The above report and studies just dealt with teacher training at primary level, secondary level, however they did not dwell on the frequency and aspects influencing use of resources by the teachers in teacher training institutions. The current study sought to establish the aspects influencing use of these resources in pre-primary centers.

Malunda and Abwebembeire (2018) did a study in Uganda to establish the influence of instructional resources on teacher effectiveness. The study sought to establish the extent to which availability and utilization influences teacher effectiveness. This study used cross-sectional survey design. Multi-stage sampling was used to arrive at a sample of 82 head teachers and 1024 teachers. The tools for data collection included survey interview, observation and document analysis. Data was analyzed using descriptive statistical analysis and ordered logistic regression. The findings indicated that availability and utilization of instructional resources significantly contribute to teacher effectiveness. The current study targeted early years education while the former study targeted secondary schools. While the

former study used cross-sectional survey design the current study adopted the correlation and descriptive survey design. The former study targeted availability and utilization of instructional resources. However, the current study went a step further to find out if availability of instructional resources contributed to the efficiency of these teachers.

Chepsiror (2012) carried out a study to evaluate the availability of instructional resources in Teacher Advisory Centers in Kenya. Stratified, proportionate and simple random sampling was used to get a sample of 40 head teachers, 111 EYE teachers and 125 lower primary school teachers. The study used descriptive survey design and the instruments included questionnaires, observation checklist and interview schedule. Data was analyzed using descriptive and inferential statistics. The findings indicated that there were very few materials which were well neither organized nor insufficient to be used by teachers. The current study on the other hand targeted early year's education teachers unlike the former study which involved the head teachers, EYE teachers and primary school teachers. This combination of respondents were operating at very different levels therefore the data collected may not be the same across. The former study used chi-square to test the hypotheses, the current study used Pearson coefficient of correlation (Beta test) . The former study's interest was to establish the availability of the instructional resources in teachers' advisory centers (TACs) the current study sought to establish if the availability of instructional resources influenced the efficiency of the teachers in their classrooms.

Akungu (2014) carried out a study in Kenya to establish the influence of teaching and learning resources on students' performance in Kenya Certificate of Secondary Education (KCSE). The purpose of the study was to examine the influence of teaching and learning resources in Free Day Secondary Schools. Specifically, the study sought to determine availability of instructional materials used in schools, adequacy of physical facilities and

human resources, extent of utilization of resources and its effect on students' performance in KCSE. The study used descriptive survey design and data collection instruments were 3 sets of questionnaires for the head teachers, teachers and students. The sample was 6 principals, 18 class teachers and 240 students. Data analysis was done by using descriptive statistics; frequencies, means and percentages. Findings indicate that teaching and learning resources are available and utilized in schools, especially those used in the classroom. The current study on the other hand sought to establish instructional resources specifically those used in the classroom. It went further to establish the influence of those available materials within the reach of the teacher. The current study also differs from the former in that while that one used descriptive statistics, this one used both descriptive and inferential statistics. While the former targeted performance of learners in secondary school the current one dealt with the curriculum implementers in early years education programme. While the former study established that materials were available and were not put into use the current one sought to establish if they were relevant and if they were relevant were they adequate and if they were adequate, how frequent were they being used by the teachers during teaching and learning.

Koech, Kabwos and Jeruto (2016) carried out a study to assess the influence of teacher preparedness in the use of instructional resources, explored their attitude and its influence on the selection and use of instructional resources. The study adopted a descriptive survey design and mixed research designs. It used a population of 180 and 54 teachers and head teachers respectively and using stratified sampling technique it had a sample of 54 teachers and 25 head teachers. It used a questionnaire and an observation guide. Data analysis involved descriptive statistics such as frequencies and percentages. The findings indicated that the majority of the teachers agreed that they used the available instructional resources in the centers. However, the available resources were inadequate, obsolete, dilapidated or unsuitable for use. The study also concluded that the teachers were well prepared to use the

instructional resources though they did not maximize the use of instructional resources in teaching and learning. The current study on the other hand, sought to establish the extent to which these resources were available, relevant, adequate and how frequent they were used. Therefore it gave four dimensions under the use of instructional resources. While the former study used descriptive statistics the current study went further to use the means and deviations of the four elements indicated and also the extent of influence of use on teacher effectiveness by using multiple regression analysis.

Melly and Mwangi (2018) carried out a study to establish the influence of pre-school teachers attitude towards creative activities, the level of integration of creative activities in teaching, learning and provision of resources for creative activities in Nakuru county. The study used survey design and used structured questionnaire and unstructured interview guide. The population included 385 and 154 teachers and head teachers respectively while the sample was 80 and 12 teachers and head teachers respectively. The study formulated 3 hypotheses which were tested at 95% confidence level using multiple regression analysis. Findings indicated that head teachers were nonchalant about towards how the teachers integrated creative activities and that the head teachers relegated the issue of provision of instructional resources. The results showed 53.7% variation in the level of implementation. However, it was only the level of integration of creative activities in teaching and learning activities that had a significance influence $R^2 = 0.56 = 4.405, P < 0.05$. While the former study dwelt on the provision of instructional resources, the current study on the other hand dwelt on four dimensions of use of instructional resources that is; were the instructional resources available or not available, and if they were available were they adequate or inadequate and if they were inadequate were they relevant or irrelevant, how frequent were they put into use. This means that the current study went further than just establishing provision but also to establish the frequency of use of these available resources. While the former study sought to establish

the level of implementation of creative arts which is just part of the curriculum, the current study sought to establish the use of instructional resources across the curriculum. This implies that the current study covered a wider scope of the curriculum in terms of use of instructional resources and therefore the gap it sought to fill.

Tuimur and Chemwai (2015) carried out a study in Kenya, on the availability and use of instructional resources necessary for teaching conflict and conflict resolution as a topic in social studies in primary schools. Population of the study included primary school teachers, 12 secondary school teachers, 1 college and tertiary institutions' tutors. The study used descriptive survey design while instruments included a questionnaire, document analysis and an observation checklist. The findings of the study included lack of instructional resources for effective teaching and the teachers were ill-prepared to teach the topic under social studies. While the study used purposive sampling the current study used simple random sampling to give the whole population the opportunity equal opportunity for participation. On the same note, the population of the former study had different characteristics such as primary school teachers, secondary school teachers, college tutors and other tertiary institutions' tutors while the current study used specifically early year's education teachers who were of the same level or caliber and same environment therefore making it easy to deal with them. Unlike the former study which dealt with different categories of respondents in terms of qualifications and teaching levels, the current study intends to establish availability of resources from respondents of the same caliber. While the former study used only descriptive statistics, the current study applied both descriptive and inferential statistics to establish the availability and its influence on teacher effectiveness. The current study also went further to establish the influence of the four domains of availability on teacher effectiveness. In short the current study intends to fill the gap of establishing the influence of availability of instructional resources on teachers' effectiveness in early education centers.

Aina (2013) carried out a study in Nigeria to establish the availability, uses and improvisation of instructional resources in teaching and learning physics in secondary schools. The sample included 23 physics teachers and 39 physics students. The tool was a questionnaire while data was analyzed using frequencies and percentages. The findings revealed shortage of instructional resources for physics teaching and inadequate usage of available materials and use of the improvised ones. The current study on the other hand targeted early years education teachers on the availability and its influence on teacher effectiveness. While the former only wanted to establish availability and adequacy the current study went further to establish the availability and its influence on teachers' effectiveness in these centers. Unlike the former study the current study sought to establish how these resources impacted on how they carried out their work. On the same note the current study sought for information regarding the efficiency of the teachers unlike the former study which used students who might not be able to give reliable information regarding the availability and how it influences the teacher.er. While the findings of the former study indicated inadequacy, the current study went further to establish if the inadequate resources were relevant or irrelevant and how frequent were they being used by the teachers in performing their duties in class.

2.3 Relationship between Adequacy of Instructional Resources and Teacher Effectiveness

Brill and Galloway (2007) say that provision of adequate and appropriate classrooms which can support integration of technology in the learning and teaching process is very vital for the successful implementation of technology. The study found out that presence of adequate physical facilities were a boon to integration of technology in teaching. From the statement we can deduce that there is need to have appropriate and physical facilities in the implementation of the learning and teaching process. The current study sought to establish

the relationship between level of adequacy of instructional resources and teacher effectiveness.

Mwanamukubi (2013) established that inadequate instructional resources greatly influenced teacher performance. She pointed out inadequacy of instructional resources as a deterrent to effective teaching. For the instructional resources to contribute effectively to teaching and learning, they must be put to proper use. Instructional materials can only be properly used, when teachers through good lesson planning; identify, prepare the necessary teaching and learning materials, and determine the order in which these materials will be used. According to Smith et al (2009), when teachers skillfully use instructional materials, it will not only facilitate interaction among learners, but it will equally engage higher order cognitive strategies of analysis, synthesis and evaluation.

Pageni and Rimal (2017) carried out a study to assess the existing situation of instructional material in various public and private early childhood development centers in Nepal. The sample selected comprised of 2 primaries, 2 lower secondary, 4 higher secondary and two fully community managed schools with the total of 27 schools using a basis of different stratified random sampling. Tools for data collection included observation by researcher and semi-structured questionnaire. They pointed out that there were inadequate educational materials in early childhood centers in public managed schools (primary, secondary and high) and low community participation in materials management. In addition there has been little focus on the quality of early school management of learning materials.

The current study on the hand used ECDE teachers and center managers as the population, while systematic random sampling was used to get the sample for the study. In terms of tools used for data collection included classroom observation guide, a questionnaire and two sets of interview schedule. The study above stratified schools into categories unlike the current study

which took all schools to be the same. On the same note the study sought to establish the role of the physical materials in early childhood centers but did not target teacher effectiveness while the current study sought to establish the level of adequacy of instructional resources and its relationship with teacher effectiveness in early childhood education centers.

Othoo**,** Olel and Gogo (2019) carried out a study to determine the influence of teaching and learning resources on academic performance of public secondary schools of Kuria East and Kuria West Sub counties. The study employed Descriptive survey research design. Saturated random sampling technique was used to select 36 principals nested at 40 while stratified random sampling was used to select 138 out of 345 teachers. Data was collected through questionnaires, document analysis guide and observation checklist. Quantitative data was analyzed using descriptive and inferential statistics involving percentages, mean and linear regression, qualitative data using content analysis. Findings indicated that adequacy of teaching and learning resources had significant effect on academic performance. This study on the other hand in addition to the descriptive survey research design employed correlation research design and used systematic random sampling and purposive sampling techniques to arrive at the research samples. Data collection tools included classroom observation guide, a questionnaire and two sets of interview schedule. The current study used 1926,628 teachers and center managers as the population while the sample was 320 and 106 teachers and managers respectively. This study targeted the relationship of instructional resources on teacher effectiveness and not learners' performance.

Likoko, Mutsotso and Nasongo (2013) investigated the adequacy of instructional resources and physical facilities and their effects on quality of teacher preparation in Kenya. The study sample was selected through simple random and purposive sampling techniques. The sample comprised of eight college principals, 43 tutors and 416 second year teacher trainees. Data

was collected through questionnaires and observation checklists. The SPSS computer package was utilized in the analysis of descriptive statistics such as frequencies and percentages. These institutions were faced with challenges such as; lack of adequate facilities like libraries and inadequate instructional materials.

This study on the other hand used systematic random sampling and purposive sampling techniques to arrive at a sample of 106 center managers and 320 teachers in the early years education centers. It used four tools for data collection namely; classroom observation guide, teachers' questionnaire and two sets of interview schedule. Data were analyzed through descriptive and inferential statistics. While the above study investigated the adequacy of instructional and teacher preparation, this study went a step further to establish the relationship between level of adequacy of instructional resources and teacher effectiveness in the teaching and learning process.

Odo and Ezeudu (2018) investigated the availability and adequacy of instructional materials, facilities and equipment for the implementation of NCE Mathematics education programme in colleges of education. Instrument used for data collection was NCE Mathematics observation checklist. It was observed that instructional materials for the implementation of NCE Mathematics education programme in colleges of education are available and adequate in most colleges, while in some, they are insufficient and in others, they are unavailable. This study on the other hand used four tools for data collection namely; class observation guide, teachers' questionnaire and two sets of interview schedules. While the study targeted the implementation of the Mathematics curriculum it left out the effectiveness of the teacher with regard to the level of adequacy of instructional materials, the gap which the current study hopes to fill in the early years education programme.

2.4 Relationship between Relevance of Instructional Resources and Teacher Effectiveness

Momoh (2010) conducted a research on the effects of Instructional resources on students' performance in West Africa School Certificate Examination (WASCE). The achievements of students in WASCE were related to the resources available for teaching. His conclusion was that material resources have a significant effect on students' achievement since they facilitate learning and discourage rote-learning.

Dodge (2002) asserts that developmentally appropriate instructional resources, materials and equipment entail that teachers use age appropriateness as the baseline for selection, supplying, furnishing and improvising equipment, while also keeping in mind the unique needs of individual children. Instructional resources that are age appropriate also have less potential for causing injury to children. The safety and relevancy of instructional resources is particularly relevant for children because they are more likely to place small items in their mouths and less likely to have the cognitive abilities to be aware of potential hazards. Another element of appropriate selection of materials and equipment is how they reflect diversity. Teachers of young children should recognize the uniqueness of children by valuing the diversity of families, cultures and communities (Bank 2002). Culturally appropriate play and learning environments for young children avoid use of materials and practices that show bias related to culture, ethnicity, gender, language or religion. Classrooms reflect cultural sensitivity and respect for diversity when they offer a variety of play and learning materials that are anti-bias in nature.

Ajoke (2017) evaluated the importance or relevance of instructional materials in teaching English language as a second language among secondary school students. In the study, the performance of students taught with instructional materials and gender influence in the use of

teaching aids in English classroom were evaluated. The study used descriptive survey design. The population of the study covered all secondary school students in one district, while the sample was 153 students of two public secondary schools were randomly selected. The 2015 external examination objective test was adapted for data collection while descriptive statistics (mean and standard deviation) and inferential statistics of t-test were used for data analysis. Findings reveal that the performance of the secondary school students not taught with the use of instructional materials was very poor. Findings also reveal that there was no significant difference in the performance of students in English language or on the basis of gender or school type

The current study sought to establish the relevance of instructional resources and its influence on teacher effectiveness irrespective of gender of the teachers. While the former study targeted students and English language, the current study targeted teachers in the early years programme and all the materials applicable to the centers for teaching the different subjects in the centers. The former study used descriptive survey design while the current study used correlation and descriptive survey designs. The current study used 321 EYE teachers as its respondents while the former used 153 students as its respondents.

Muthima and Mutinda (2015) designed a study to assess the quality of teaching and learning resources provided to public primary schools by the tuition allocated by the Free Primary Education (FPE) programme in Kenya. A cross-sectional survey design was employed. While questionnaires and interview schedule were used to collect data from 130 class teachers and 23 head teachers respectively who were purposively selected for the study. Data was analyzed using descriptive and inferential statistics. The overall mean score (3.08) of the quality of teaching and learning materials was found to be significantly $P<0.05$ higher than the set mean of 3 ($t=2.03$, df 129, $P=.044$) though a higher variation was found to exist

among the schools in the area of study (SD= 0.956: cv= 31%) as some schools had low mean scores of 4.22. Five of the items supplied by the programme (relevant textbooks, blackboards, chalk, duster and stationary for students) were found to be significant $P<0.05$ adequate and high quality or very relevant, while the remaining four (reference books, adequate class books, resource center and equipment found in resource centers were found to be of low quality or irrelevant. The study concluded that the provision of the teaching and learning resources by the FPE programme were not uniform among the different schools. The five items that were found to be adequate were not related to the number of students while the four items were found to be inadequate as per the required standards.

The current study sought to establish the level of relevance the listed 18 items in the early years education provided available in the centers, on the other hand the former study had 9 items under study provided by the free primary education programme. While the former study used cross sectional survey design the current study used correlation and descriptive survey designs, the use of the two designs enabled the researcher to collect a wide range of data for the study. The current study used an assessment tool, a questionnaire and two sets of interview schedules as data collection instruments while the former used a questionnaire and an interview schedule. The use of the four tools for the current study enabled the study to compare and triangulate the information collected during the study. The former study used purposive sampling in arriving at the sample of teachers and head teachers, while the current one used simple random sampling and saturated sampling to arrive at a sample of 320 teachers, 106 head teachers and 1 EYE county director. The use of these sampling techniques enabled the researcher to get a wide range of respondents who were given equal opportunities to participate in the study.

Waseka (2017) indicates that it is important to use appropriate physical facilities and equipment as well as qualified teaching staff. She goes further to suggest that there is need to develop relevant teaching and learning resources.

Seven and Engin (2020) carried out a study to establish the importance and effects of using visual and audio-visual materials in foreign language teaching. A sample of 36 students (9 boys and 27 girls) was used. The tool for data collection was a questionnaire while data analysis was done using descriptive statistics. The current study on the other hand looked at the relevance of 18 listed items which were both audio and audio visual with regard to their influence on teaching effectiveness. The current study used four tools while the former used one tool for data collection. While the former study used 36 students as its sample the current one used320 teachers, 106 center managers and 1 in-charge county early years education.

2.5 Relationship between Frequency of Use of Instructional Resources and Teacher Effectiveness

Lolley (2006) carried out a comparative study of the use of instructional resources by full- and part-time teachers. The study is concerned with one of the major issues in community/junior college education today: the extensive use of part-time teachers as instructors for regular credit courses. One such category is concerned with the use or non-use of instructional resources. The 138 full-and part-time teachers at Tarrant County Junior College, South Campus, were surveyed regarding their use of the 21 instructional resources known to be available to all teachers at the campus. The results showed that vocational-technical teachers utilize a wide variety of instructional resources and that there was little significant difference in the use of resources by the two groups.

The study above was interested in finding if there was any difference between the two groups in vocational-technical teachers, the current study sought to establish frequency of use of

instructional resources by teachers in early education centers . While the former study had 21 listed items for use the current one had 18. The former study used 138 teachers as its sample the current one used a large number of 320 which was preventative enough. The former study was only interested in establishing the utilization of the instructional resources by the two categories of teachers. The current study sought to establish how frequent were they being used by the teachers during the teaching process in other words how many times were they being used for enabling teaching and learning.

Rakes, Fields and Cox (2006) investigated the relationship between technology use and skills and the use of constructivist instructional practices among teachers in rural schools. Teachers in this study responded to; Moersch's instrument, the Levels of Technology Implementation (LoTi). The LoTi was administered to the fourth and eighth grade teachers in districts to determine if levels of classroom technology use and personal computer use predicted the use of constructivist instructional practices. Results indicate that there is a significant, positive relationship between both level of classroom technology use and personal computer use and the use of constructivist instructional practices, with personal computer use being the strongest predictor. The current study on the other hand sought to establish the frequency of use of instructional resources where technology also makes part of the study and its influence on teacher effectiveness. The current study pays attention to the pre-grade level and does not tie itself to constructivist instructional practices but looks at the teaching practices with regard to the instructional practices. While the former study used two tools for its study the current study has used three.

Bukoye (2018) investigated the utilization of instructional materials as tools for effective academic performance of students and influence of various variables. The study used survey research design method while the sample was 100 respondents from randomly selected from

five selected secondary schools. The study used a questionnaire developed by the researcher but restructured by experts to collect data. The reliability was confirmed with the use split-half method with 0.63 alpha level of significance got. The questionnaire was stared to respondents with assistance of the head teachers. The findings revealed inadequate use of instructional materials in most schools and majority of the teachers did not take cognizance of the importance derived from the use of instructional materials while teaching. Those who adopted the utilization did not use them appropriately.

Omuna, Onchera and Kimutai (2016) explored the availability and use of instructional resources for teaching and learning of English reading skills and examine the correlation between instructional resources and learning of English reading skills. Data was obtained from 440 respondents (400 students and 40 teachers). The study adopted a mixed method approach and data was collected using questionnaires, semi structured interview schedules and classroom observation schedule. The results indicate that textbooks were the most used instructional resources and instructional resources positively correlated with the learning of English reading skills. It was concluded that teachers do not use a variety of instructional resources when teaching English reading skills.

This study adopted descriptive survey and correlation research designs and used 320,106 teachers and center managers respectively. It also targeted other 2 subjects apart from English. It also went further to establish on the relationship existing between the frequency of use of instructional resources and teacher effectiveness during the teaching and learning process.

Waigera, Mweru and Ngige (2020) investigated whether there was a significant relationship between teachers' attitudes and levels of utilization of instructional materials (IM) in Pre-Primary Schools in Kenya. The study adopted the Ecological Systems Theory by Urie

Bronfenbrenner. The study used a cross-sectional survey research design and data was collected through self-administered questionnaires. A sample of 164 teachers comprising of 76.2% females and 23.8% males participated in the study. Results established that 86.4% of the teachers had positive attitudes towards the instructional practice. In terms of utilization of instructional materials, the researchers determined that 62.1% of the respondents achieved high levels while 37.9% attained low levels of utilization of instructional materials across the Early Childhood Development Education (ECDE) activity areas. The Chi-Square results revealed that there was a statistically significant relationship between teachers' attitudes and utilization of instructional materials.

This study adopted a conceptual framework to show the relationship existing between instructional resources and teacher effectiveness. In terms of research design it used correlational and descriptive survey design and used classroom observation guide, teacher questionnaire and two sets of interview schedule as instruments for data collection. In terms of sample size it used 320 and 106 teachers and center managers respectively. Though the above study established that there was a statistically significant relationship between teachers' attitude and utilization of instructional resources it did not establish the relationship between frequency of use of instructional resources and teacher effectiveness which the current study strives to do.

Makokha and Wanyonyi (2015) carried out a study in Kenya, to establish the level of training of Kiswahili teachers and their abilities to use instructional resources, types of instructional resources and challenges in the use of instructional resources. The study adopted theory of operant conditioning while systematic sampling was used to get 20 secondary schools. The tools for the study were a questionnaire, observation and interview schedules. Data was analyzed using descriptive statistics. The findings of the study indicated that

majority of the teachers were experienced as teachers to use instructional resources. While the former study targeted secondary schools and Kiswahili as a subject, the current study targeted the early years education centers which is the foundation of learning. The current study has used simple random sampling to get its sample of 320. It did not target one subject but went across the board to establish the use of instructional resources irrespective of their qualifications. While the former study used descriptive statistics to present its findings, the current study used both descriptive and inferential statistics to establish the extent and influence of the use of the instructional resources.

The current study, on the other hand, targeted effectiveness of early year's education teachers with regard to instructional resources and not students performance. While the former study used Survey research method the current study used descriptive survey and correlation research designs. The current study used 321 respondents while the former study used 100 respondents. In relation to finding the reliability of the research instruments, the former study used 0.63 alpha level while the current study used 0.79 alpha level for its reliability. In the former study the link to the respondents were the head teachers who issued and collected the questionnaire. However, in the current study, after getting permission from the head teachers, the researcher and research assistants administered questionnaires and carried out classroom observation.

Oryema and Picho (2015) examined the effect of Instructional Resource Provision on Teacher Effectiveness in Universal Secondary Education (USE) in Yumbe District – Uganda. The study adopted a Case Study Design to allow in-depth study. Quantitative and Qualitative research paradigm were engaged. A total of 120 questionnaires were administered to the respondents and all the questionnaires were received back, registering a response rate of 100%. Descriptive statistics were the main technique used to analyze the data generated to

produce results. On the over all, the study established that instructional resource provision and use was inadequate and therefore, it contributed to teacher ineffectiveness in USE schools in Yumbe District. The current study targeted early years education centers using descriptive and correlation study designs, while the study used 120 questionnaires the current study used 311 questionnaires, classroom observation guide and two interview schedules to collect more reliable data. The study established inadequate provision and use of instructional resources on the hand the current study sought to establish the frequency of use and its relationship with teacher effectiveness during the teaching and learning process

A study by Kanno and Onyeachu (2018) on availability and utilization of instructional resources in teaching Special Needs Children in Nigeria, revealed that 40% of the approved resources were availed while 60% of same was not. This implies, inter alia, that effective utilization cannot go beyond 40%. While this study focused on utilization it did not pay attention to the frequency of utilization of the resources that were deemed available and again it did not deal with how these resources influenced the effectiveness of the teachers while using them. The study also dealt with special needs children while these study focused on all children irrespective of their abilities.

2.6 Relationship between Teacher Attitude towards Instructional Resources and Teacher Effectiveness

Haber (2005) says attitude is based on both ideas and feelings. It is the result of both cognitive and affective components. Psychologists agree that attitude has three main components; a cognitive or thought, an emotional or affective and behavioral or action component. Kalhotra (2014) says that attitude refers to a personal disposition common to individuals but is possessed by different individuals in different degree. It impels them to react to objects, situations or proposition in the way that can be called favourable or

unfavourable. This basic motivation is responsible for moulding the nature of attitude in each individual. Continuous motivation manifests it in terms of appetite and aversions and through experiences that develop into favourable and unfavourable inclination towards various objects, classes of objects. Effective implementation of a curriculum can only take place if the implementers have positive attitudes towards all the four elements of the curriculum; objectives, subject content, teaching methods and learning activities and experiences and the evaluation procedures. Attitude of the teacher towards a subject and its curriculum has implications on the students' attitude, achievement, and understanding of the content. In order for teachers to incorporate new understandings into classroom practice, they need to have good mastery of the content, positive attitudes towards the new subject and content and effective teaching strategies (Clark, 2006).

Eshach (2005) indicated that one of the major problems facing science education today is the fact that elementary teachers have negative attitude. Some of these negative attitudes stem from the belief that they do not have strong content knowledge in some of the areas of activities to be taught. Kangori (2014) opines that these attitudes can influence the learners. Since their attitude impact on the learners; there is need to help the early childhood teachers to change their attitudes towards instruction.

Kalhotra (2014) carried out a study in India to examine the difference and comparison between effective and ineffective teachers in relation to their attitude towards teaching profession and their teaching experiences, age and sex. In this study two research instruments were used. The instruments were; Teacher effectiveness scale and Attitude scale were used for collecting data. Analysis of the data was done using correlation statistics technique. Findings of the study indicated that no significant difference between effective and ineffective teachers in their attitude towards teaching profession. Further the study found that

effective and ineffective teachers do not differ in their attitude towards teaching profession, although they differ in their experience, age and sex.

The current study though looking at attitude and teacher effectiveness does not incline itself to the teaching profession in general but narrows down to the attitude of the teachers towards instructional resources in early years education learning programme. While the former study used two tools which generally had positive worded items the current study developed a questionnaire in a likert scale format listing the 18 items and five options with regard to instructional resources and lesson observation schedule adapted from Maseno University teaching practice guide to collect data. In data analysis the former used correlation unlike the current study which used both descriptive and correlation techniques.

There is recent evidence that pre-service teacher attitudes toward classroom management are modifiable during teacher education (Johnson & Andrew, 2005). Research has shown that pre-service teachers do not necessarily develop new perspectives about teaching while in a teacher education program, they simply become more knowledgeable at defending the beliefs they already possess. Others conclude that beliefs about teaching not only act a lens by which teachers make meaning of their practice, but they influence their behavior to suit the context of the classroom experience. This is not to say that some belief change does not occur, but it varies individually among student teachers. For example, research has shown that students entering teacher education programs with a reflective orientation are more likely to experience change in beliefs than those without such a perspective (Taylor, 2002). While the above studies looked at the attitude of pre-service teachers they were too general and not specific about the level of the teachers and the same time they did not explain attitude towards which aspects, however the current study sought to establish attitude towards instructional resources and its influence on teacher effectiveness.

The attitude of teachers can be assessed and established by three approaches. The first method is the use of a likert scale where several response sentences are given to the respondents whereby they check mark their level of agreement or disagreement then ranking is done. This approach is very objective but has a limitation of not enabling the researcher to get the reasons behind the attitude depicted by the respondents. The other approach is where the researcher observes the respondent for a time and then making own judgment. This approach has the limitation of being subjective and the researcher cannot get reasons behind an attitude. Besides, researcher can ask the respondents to give their views on their attitudes towards a curriculum. This approach has the advantage of being very objective and also enables the researcher to get the reasons behind the respondents' attitudes. There is recent evidence that pre-service teacher attitudes toward classroom management are modifiable during teacher education (Johnson & Andrew, 2005).

According to Eggen and Kauchak (2001) positive teachers' attitudes are fundamental to effective teaching. A teacher must be interesting. That is the teacher must work his students into such a state of interest in what the teacher is going to teach him that every other object of attention is banished from his mind. The teacher should also fill the students with devouring curiosity to know what the next steps in connection with the subject are. Eggen and Kauchak (2001) identified a number of teachers' attitudes that will facilitate a caring and supportive classroom environment. They are: enthusiasm, caring, firm, democratic practices to promote students responsibility, use time for lesson effectively, have established efficient routines, and interact freely with students and providing motivation for them. The study only identified a number of teachers' attitude which was too general too while the current study sought to establish the influence and perceived extent of influence of attitude towards instructional resources and its influence on teacher effectiveness.

Khaemba (1998) stressed that implementing personnel and their dispositions have an impact on curriculum implementation. Educational and training institutions are considered the instruments of improvement and progress in each society .One of the pillars of these institutions are experienced and knowledgeable teachers who through their own knowledge and practice to lead the children and youth of their society to high objectives. Thus doing, they work to improve their own society. To possess such teachers in societies, it is necessary to provide them with classes of training.

The current study though looking at attitude and teacher effectiveness it does not incline itself to the teaching profession in general but narrows down to the attitude of the teachers towards instructional resources early years education learning programme. While the former study used two tools which generally had positive worded items the current study developed a questionnaire in a likert scale format consisting of both positive and negative worded items to collect data. In data analysis the former used correlational unlike the current study which used both descriptive and correlational techniques. While the former study seem to categorize teachers as effective and ineffective teachers the current study was interested to find out their perception of all the teachers towards instructional resources in early years education.

Sekhar, Yella Reddy and Nagarjuna (2014) investigated the influence of age, teaching experience, management on the attitude of teachers towards teaching learning material. Attitude towards teaching learning material questionnaire was developed by Ranjit Kumar, M. (2007) was adopted. A sample of 200 teachers representing all categories of schools is selected in Chittoor District of Andhra Pradesh by following the standardized procedures. 't' – test and ANOVA ('F' – test) were employed for analysis of the data. Age, teaching experience, management have significant influence on the attitude of teachers towards teaching learning material.

This study on the other hand used four tools for data collection and used 320 and 106 center managers as the sample size. While the above study used four constructs to establish teacher attitude towards teaching learning materials it did not establish if attitude towards learning resources impacts on teacher effectiveness the gap which the this study is seeking to fill.

Charkraborty and Mondal (2014) studied attitude of prospective teachers towards teaching profession in India. The purpose of the study was to investigate the prospective teachers attitudes towards teaching profession with respect to sex, religion, category, residential demography, subject stream and educational qualification. The study employed a survey design with a population of 1032 prospective teachers who were continuing with their teaching education. A self developed tool known as professional attitude scale for prospective teachers was used. Data analysis was done using descriptive statistics and inferential statistics. The study used t-test for testing the hypotheses. The findings indicate that majority of the prospective teachers displayed lack of higher attitude towards teaching profession. While the former used prospective teachers, the current study opted to use all teachers who were already teaching in the field including the untrained teachers as long as they were practicing in the centers. The former study used survey design; the current study used correlation and descriptive design. While the former study used t-test for testing the hypotheses the current study used Pearson correlation of coefficient in testing the hypotheses. While the former study sought to establish attitude of teachers towards the teaching profession with regard to their age among others the current study narrowed down to their attitude towards instructional resources.

Adegbola (2019) investigated teachers' pedagogical competence as determinant of students' attitude towards Basic Science in South-West Nigeria. The study was a descriptive survey type study. Participants were 2160 students randomly selected from 108 secondary schools

across four States in South- west Nigeria together. 324 teachers teaching Basic Science in Junior Secondary Schools were purposively selected for the study. Two instruments were used for data collection. The first was a 25 item questionnaire titled "Basic Science Teachers pedagogical Competence Questionnaire (BSPCQ) and the second instrument was also a questionnaire with 25 structured item questions titled "Students' Attitudinal Questionnaire" (SAQ). Findings revealed that, teachers' pedagogical competence can significantly influence students' attitude towards Basic Science.

This study on the other hand, used four tools; classroom observation guide, teachers' questionnaire and two sets of interview schedules as data collection instruments. It used descriptive and correlation research designs for the study. While the above study included students as part of its sample this study did not, it targeted teachers and center managers in the early years education sector. This study also went further to use systematic random sampling and purposive sampling techniques. While the above study sought to establish the teachers' pedagogical competence as a determinant on students' attitude towards basic science, this study on the other hand sought to establish the relationship between teacher attitude towards instructional resources and teachers' competence or effectiveness.

Eraikhuemen and Omoregbe (2017) investigated teachers' attitude to the use of instructional materials in Mathematics teaching. 150 teachers of Mathematics participated in the study. The four research questions raised to guide the study examined the variables: Qualification, subject area of specialization and sex of the teachers as they relate to the teachers' attitude to the use of instructional materials in Mathematics teaching. A questionnaire for Mathematics teachers was the instrument used for data collection. Data collected were analyzed with the statistical tools: Z test of sample proportion, analysis of variance (ANOVA) and Turkey's Honestly Significant Difference (HSD). Findings indicate that majority of the teachers had

positive attitude to the use of instructional materials, the qualification and sex of the teachers are not related to the teacher's attitude, where as the teachers subject area of specialization significantly relates to the teachers' attitude to the use of instructional materials in Mathematics teaching.

This study on the other hand used classroom observation guide, teachers' questionnaire and two sets of interview schedule to collect data. This study used 320, 106 and 1 EYE in-charge unlike the other study which used only 150 mathematics teachers. This study was interested in early childhood education materials in mathematics, language and environmental activities. This study also went further to establish the relationship between teachers' attitude towards instructional resources and teacher effectiveness.

Hussainmiya and Naik (2015) analyzed independent and combined effects of variables viz. higher qualification, teacher personality, (introversion and extroversion), teachers attitude (favorable and unfavorable) and teacher effectiveness (effective and ineffective) on academic achievement in social science. The sample of the study was 52 teachers, 150 students from 81 secondary schools by purposive and randomly selected. The study used ex-post facto research design. Tools for this study included Introversion-Extroversion Inventory, Teacher attitude inventory, students rating of teaching effectiveness scale and academic achievement. Data analysis was done by 3 way ANOVA technique. Findings indicate the higher the qualification of teachers with favorable attitude will influence more on academic achievement than the higher qualification teachers with effective teaching.

Trivedi (2012) carried out a study to establish attitude towards teaching profession at different levels in India. The population involved primary, secondary, higher secondary and college teachers. Cluster and stratified random sampling technique was used to find a sample of 29, 33, 28 and 27 primary, secondary, higher secondary and college teachers respectively.

The study used self-constructed attitude scale. Data was analysed using descriptive and inferential statistics while the t-value was used to test the hypotheses while the findings were presented using the means. Findings indicate that primary school teachers have high attitude towards the teaching profession, attitude of secondary school teachers are more stable and reliable than the primary, higher secondary and college teachers. While the former study sought to establish attitude of different categories of teachers towards the teaching profession, the current study sought to establish the attitude of early year's education teachers towards the early year's education curriculum under four domains. The former study used the t-tests to test for the hypotheses while the current one used the Pearson coefficient of correlation. The findings were presented by descriptive statistics such as means, the current study used both descriptive statistics and inferential statistics to present its findings.

Gikunda (2016) carried out a study whose purpose was to establish factors that influence teacher performance in the implementation of Geography curriculum in Secondary schools. The study sought to explore how teachers' attitude influences teachers' performance in the implementation of Geography curriculum in secondary schools. The study used descriptive survey design. The population was 102 and 66 teachers and head teachers respectively. Stratified random sampling was used to arrive at a sample of 31 teachers and 20 head teachers. The study used a questionnaire and interview schedule as the research tools and used descriptive statistics to present its findings. The findings found that teachers had a negative attitude towards teaching of geography which subsequently affected their performance. The current study on the other hand sought to establish the teacher attitude towards the EYE instructional resources.

The former study looked at attitude towards Geography teaching , the current study looked at teacher attitude towards the EYE instructional resources and its influence on their

effectiveness when they are performing their work. While the former study used 51 respondents and the current study used 321 respondents, the current study used a larger population which gave a more wide range of information unlike the former which used a smaller population. The current study has used both descriptive and inferential statistics for data analysis while the former study used only descriptive statistics to analyse its data.

Moyo, Wadesango and Kurebwa (2012) carried out a study in Zimbabwe to establish factors that affect the implementation of early childhood development and education in Zimbabwe. The study used stratified random sampling to identify 12 head teachers and 12 EYE teachers. The data instruments were a questionnaire and semi-structured interviews. Data was analysed using descriptive statistics. The findings of the study included lack of resources and also revealed that positive attitude towards EYE by both teachers and parents. However, the current study's population involved only teachers as the respondents. On the same note the former study used only a total of 24 respondents, while the current study used 320 respondents. Using a small population does not give a more reliable or representative results unlike a large population. The former study used descriptive statistics to analyze data while the current study used both descriptive and inferential statistics to present the findings.

Simiyu (2018) sought to establish the attitude of teachers and its influence on the selection and use of instructional resources in ECDE centres in Bungoma County, Kenya. The research was based on Piaget's theory of cognitive development 1964. The study adopted the descriptive survey design and involved use of purposive, stratified and simple random sampling techniques to select a sample size of 81 respondents from the target population of educational officers, head teachers and teachers of the selected ECDE centers. Data was collected using questionnaire, observation and interview schedules. Data was analyzed using descriptive statistics including frequencies and percentages and the chi-square which was

used to determine the relationship between the variables. The findings of the study showed that there are challenges related to attitude and resource utilization in the teaching and learning in early childhood education. These challenges are associated with the attitude towards the use of instructional resources, instruction methods and ECDE instruction.

This study used both inferential and descriptive statistics its data analysis. Data collection was done using classroom observation guide, teachers questionnaire and two interview schedules. In addition to descriptive survey design it also used correlation design. It used systematic random sampling and purposive sampling techniques to arrive at a sample of 320, 106 and 1 teachers, center managers and early years education in-charge respectively. Though it also sought to establish attitude, its interest is to determine the relationship between teachers attitude towards instructional resources and teacher effectiveness.

Melly and Mwangi (2018) carried out a study to establish the influence of pres-school teachers attitude towards creative activities, the level of integration of creative activities in teaching and learning and provision of resources for creative activities in Nakuru county. The study used survey design and used structured questionnaire and unstructured interview guide. The population included 385 and 154 teachers and head teachers respectively while the sample was 80 and 12 teachers and head teachers respectively. The study formulated 3 hypotheses which were tested at 95% confidence level using multiple regression analysis. Findings indicated that head teachers were not nonchalant about towards how the teachers integrated creative activities and that the head teachers relegated the issue of provision of instructional resources. The results showed 53.7% variation in the level of implementation. However, it was only the level of integration of creative activities in teaching and learning activities that had a significance influence $R^2 = 0.56 = 4.405, P < 0.05$.

While the former study dwelt on the provision of instructional resources, the current study on the other hand dwelt with four dimensions of use of instructional resources that is; were the instructional resources available or not available, and if they were available were they adequate or inadequate and if they were inadequate were they relevant or irrelevant, how frequent were they put into use. This means that the current study went further than just establishing provision but also to establish the frequency of use of these available resources. While the former study sought to establish the level of implementation of creative arts which is just part of the curriculum the current study sought to establish the use of instructional resources across the curriculum. This implies that the current study covered a wider scope of the curriculum in terms of use of instructional resources and therefore the gap it sought to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Research Design

Kothari (2004) says that, design is the conceptual structure within which research is conducted. Therefore this study used correlational and descriptive survey research designs. According to Shuttleworth (2008) Descriptive Survey is a research design which involves depicting a situation as it exists in details. It entails an investigation of issues as they affect an activity such as pedagogical practice and teacher effectiveness. This is where the subject is being observed in a completely natural and unchanged natural environment and is normally conducted within or across section of the society. Oriwa (2010) defines survey as a strategy used to collect information from a large population by use of structured interviews, questionnaires among other methods. Survey design is useful when an accurate and thick description of a phenomenon such as an educational practice is to be made. The design was preferred to others because it facilitated the adoption of a holistic approach in the study; it made it easy to use research tools such as the questionnaires, observation schedule and interview schedule which allowed a collection of data from a large number of respondents in a relatively short period (Cohen & Morrison, 2000). This is supported by Cohen and Manion (2006) who state that a combination of methods compensate for inadequacies that an individual method might have.

Krathwohl (2003) on his part recommends that the foregoing approach gives room for providing answers to a number of research questions thereby providing a more holistic view of the teaching and learning process in the area of teacher effectiveness. As Kothari (2004) argues a study such as this one makes use of instruments like teachers' questionnaire, County pre-primary learning and education Director's interview schedule and also considers

many variables and intends to achieve several objectives so as to provide a true picture of the teachers' classroom teaching effectiveness. It therefore, enabled the researcher to detect the direction and strengths of relationships between and amongst variables, make predictions on some values of variables and assess the independence of concepts in this study. It is essentially cross-sectional. The approach is important because this study sought to establish the relationship between instructional resources and teaching effectiveness. On the same note, analysis of how these instructional resources constructs either singly or in combination relate to teacher teaching effectiveness was possible (Creswell, 2005).

According to Ravid (2011) correlation is defined as the relationship or association between two or more variables. Correlation is a statistical technique that is used to measure and describe a relationship that exists between two or more variables. The design is most appropriate because it enabled the researcher to map out the relationship between two or more educational variables (Orodho, 2003). The independent variables (IV) –availability, adequacy, relevance, frequency of use and attitude towards instructional resources were correlated with the score of teacher effectiveness which is the dependent variable.

3.2. Area of Study

The study was conducted in Siaya County (formerly of Nyanza province) Kenya . It borders Busia County to the North, Kakamega County to the North East, Vihiga County to the East, Kisumu to the South East, with Lake Victoria to the South and West. Siaya County extends from latitude 0^0 13' south to $0^0$18' North and from longitude 33^0 58' East to 34^0 33' East. The county covers an area of 2,530.5 Km^2 . The number of Sub-Counties (Districts) by 2009 were 6 namely; Siaya (Alego-Usonga), Bondo, Gem, Rarieda, Ugunja and Ugenya (Republic of Kenya, 2009). It has a population of 842,304 (Male, 47 %, Female, 53 %) and a population

density of 332 people per Km^2 . The poverty index for Siaya County is 0.4. The County has an annual rainfall of between 1,170 mm and 1,450 mm with a mean annual temperature of 21.75^0 C and a range of 15^0C and 30^0C. Main economic activities/industries include subsistence farming, livestock keeping, fishing, rice farming and small scale trading. Although the county has many development initiatives, poverty is still a major challenge in the area (Republic of Kenya, 2008). Sketch map for Siaya County is attached as Appendix I.

3.3. Study Population

The study population included teachers, center managers and in-charge of early years education in Siaya County. There were 1926 teachers, 628 center managers and 1 in-charge of early years education programme.

3.4. Sample Size and Sampling Techniques

A sample is a part of the population to represent the larger group from which they will be selected (Ary, Jacobs & Razavieh, 1996). Ravid (2011) on her part defines sample as a small group of observations selected from the population. She goes further to add that a sample should be a representative of the population, because information gained from the sample is used to estimate and predict the population characteristics that are of interest. In the current study the sample size was estimated using Krejcie and Morgan (1970) sample size estimation table (Revised, 2004). Krejcie and Morgan developed a table for sample sizes (n) for population (N) with finite sizes based on the following formula;

$$S= X^2 NP(1-P) \div d^2(N-1) + X^2 P(1-P)$$

S= required sample size, X^2 = the table value of chi-square for one degree of freedom at the desired confidence level.

N= the population size

P= the population proportion (assumed to be .50) since this would provide the maximum sample size.

d = the degree of accuracy expressed as a proportion (.05)

The formula was used in determining the sample sizes of the respondents. According to Krejcie and Morgan, and for purposes of this study, the population size was 1926 and thus by interpolation a sample goal of n= 320.

Given teachers' population size of 1926 the sample size of 320 was arrived at. Systematic random sampling was used to select the 320 teachers. This is a type of probability sampling technique gave all the respondents an equal chance to be selected from the population. The researcher created a list of names of the teachers in the County (County Government of Siaya,2016). Each teacher was assigned a number in the population. Since the study had arrived at a sample of 320 using Krejcie and Morgan estimation table, the next step was to divide the population by the sample size in order to select the respondents.

Population (N) = 1926, Sample size (n) $\frac{N}{n} = k^{th}$ Therefore $\frac{1926}{320}$ =6.01

From this calculation every 6^{th} number from the list was picked to make up the sample of 320 respondents.

Once the sample had been arrived at, that is the three hundred and twenty teachers, the centers where the teachers came from automatically became the units for selecting the center managers who participated in the study. This gave a total of 320 centers therefore a third of the said unit was then selected to participate in the study. This is supported by Mugenda and Mugenda that a third is appropriate for a study. The same procedure of creating a list of

names was done. The study used systematic random sampling. A list of the 320 center managers was made (County Government o Siaya,2016). A third of this population was used as a sample. Therefore the study had 106 head teachers as a second category of samples. Systematic random sampling was used to arrive at head teachers to participate in the study.

Population (N) = 320, Sample size (n) $\frac{N}{n} = k^{th}$ Therefore $\frac{320}{106} = 3^{rd}$.

From this calculation every 3rd number from the list was picked to make up the sample of 106 center managers. The third category of our sample was the County-in-charge of early years education who was purposively picked for this study. The population and sample distribution frame is presented as Table 3.1.

Table 3.1: Population and Sample Distribution Frame

Respondents Category	Population size	Sample size
Teachers	1926	320
Center managers	320	106
Early years education County Director	1	1

3.5. Instruments for Data Collection

The study used four instruments for data collection namely: Classroom Observation Guide (COG),Teacher Questionnaire (TQ), Center managers interview schedule (CMIS) and County Early Years education (PP1 & PP2) Director Interview Schedule (CEDIS).

3.5.1. Classroom Observation Guide (COG)

Maseno University teaching practice guide was modified to be used in this study. Permission to use this tool was granted by the teaching practice office through the chairman of Educational Communication, Technology and Curriculum Studies (COMTEC). While the original tool had 3 major sections namely Preparation (maximum 15 marks) Presentation (maximum 80 marks and Teacher personality and organization maximum 5marks, the current study modifications had 4 sections as follows; Section 1-Introduction (maximum 21 marks),section 2 - Presentation (maximum 56 marks), section 3- conclusion (maximum21 marks) and section 4- Classroom Organization & Management (maximum 2 marks).

The tool was modified to accommodate more instructional resources' aspects during the instruction, presentation and conclusion of the lesson. Therefore the awarding of scores per section was also modified. The tool was meant to be used during lesson observation to obtain information on the following: Ability to select resources, timing during use, competency in use, ability to determine durability and safety, attractiveness and visibility. Kothari (2004) says that observation enables the researcher to directly observe without asking from the respondent. He goes further to stress that the method's advantage is that subjective bias is eliminated, if done accurately. The information obtained under this method relates to what is currently happening; it is not complicated by either the past behavior or future intentions or attitude.

Nunan (1992) on his part states that in dealing with classroom activities an observation guide such as the one mentioned is necessary because it enables the researcher to counter check biased or faked information that the respondent may provide through interviews or questionnaires. The instrument was used to observe the early years education lessons while being taught. The instrument was appropriate in that issues dealing with instructional

resources formed part of the tool therefore the researcher was able to collect information on how the teacher interacted with the instructional resources in their classrooms during teaching and learning. To arrive at valid conclusions the researcher and research assistants observed teachers in the classrooms and used COG to observe at least three lessons for the 311 respondents who had returned their questionnaires (after two weeks) over a period of two terms (September 2016 to April 2017). To guide against biasness the three assessments for each teacher was done by different people and the average of the three assessments used as the final score for the study. This instrument was also triangulated with the teacher's questionnaire to guide against biasness. Classroom Observation Guide (COG) and results from the COG are attached as Appendix A and F respectively.

3.5.2. Teacher Questionnaire (TQ)

The questionnaire for teachers was used to collect data on their gender, experience, academic qualifications and attitude. The instrument had a total of nine (9) items, the first four items 1-4, dealt with demographic information of the respondents, items 5-9 collected information for objectives 1 to 5. The items were developed into rating scales. For objective 1, responses were elicited on a 5-point Likert scale with the following options: 1- very unavailable, 2-unavailable, 3- somewhat available, 4- available, 5- very available. For objective 2, Responses were elicited on a 5-point Likert scale with the following options: 1- very inadequate, 2- inadequate, 3- somewhat adequate, 4- adequate, 5- very adequate. For objective 3, responses were elicited on a 5-point Likert scale with the following options: 1-very irrelevant, 2-irrelevant, 3- somewhat relevant 4- relevant, 5- very relevant. For objective 4, responses were elicited on a 5-point Likert scale with the following options: 1- very infrequent, 2-infrequent, 3- somewhat frequent, 4- frequent, 5- very frequent and finally for

objective 5, 7 items were listed. Responses were elicited on a 5-point Likert scale with the following options: 1- strongly disagree, 2- disagree, 3- neutral, 4- agree , 5- strongly agree.

According to Kothari (2004), summated scales or rating scales or Likert-type scales involves the utilization of item analysis wherein a particular item is evaluated on the basis of well it discriminates between the person whose total score is high and those whose score is low. Thus summated scales consisted of a number of statements which express a favorable and unfavorable attitude towards the given object to which the respondent is asked to react. The rating scale, Kothari (2004) states, is preferable in that it enables the researcher to get systematic and uniform information during the study. Secondly, Gall, Borg and Gall (2007) observe that, a rating scale is deemed appropriate because it is structured, closed ended and therefore requires less time and effort to complete. The instrument was used to get information about qualifications, experience and how they perceive the factors on their teaching effectiveness. This tool was triangulated with the Classroom Observation Guide (COG) to guide against biasness. The Teacher Questionnaire is attached as Appendix B.

3.5.3 Center Managers' Interview Schedule (CMIS)

Center managers' interview schedule (CMIS) was developed by the researcher and used together with other three instruments namely the COG, TQ and CEDIS. The questions were generated from the instruments. It had 8 open-ended questions. It was used to collect data regarding instructional resources and general teaching effectiveness in pre-primary learning and education centers. The interview schedule is attached as Appendix C.

3.5.4 County Pre-Primary Education Director Interview Schedule (CEDIS)

County pre-primary learning and education director interview schedule (CEDIS) was developed by the researcher and used together with other there instruments namely the COD,

TQ and CMIS. The questions were generated from the instruments. It had 9 open-ended questions. It was used to collect data regarding teachers' general teaching effectiveness and their perception on the quality of teaching offered in the pre-primary learning and education centers. The interview schedule is attached as Appendix D.

3.6. Validity and Reliability of Data Collection Instruments

3.6.1. Validity of Data Collection Instruments

Validity is the degree to which the results obtained from data actually represent the phenomenon under study (Kombo & Tromp, 2006; Oso & Onen, 2009). In addition it focuses on the appropriateness, meaningfulness and usefulness of inferences researchers make based on the data they collect. Two forms of validity were used to validate the quantitative instrument (teachers' questionnaire). According to Kerlinger (2007), content validity and, face validity are the commonly used ways of estimating validity of data. In the current study, face validity was addressed.

Face validity refers to the degree to which a test appears to cover the relevant content it purports to (Oso & Onen, 2009). Bolarinwa (2015) assert that face validity is the judgment made based on scientific approach on whether the indicator used measures the required construct. Consequently, the researcher sought for the opinion of the supervisors. This validity test of the research instruments were preferred because of its relevance to the nature and purpose of the questions and in depth interview guides. Validity is determined by expert judges (Kothari, 2004) thus the items in the instruments underwent a careful and critical examination and approval by experts. The face validity of the instruments was ascertained by the experts from the School of Education of Maseno University. The experts' pieces of

advice and comments were considered by the researcher in making necessary revision on instruments before administering them out to various respondents.

The second validation test carried out involved content validity. This kind of test is regarded as the degree to which the tool measures the required constructs or elements (Sangoseni, Hellman & Hill, 2013). They go further to indicate that a tool can only achieve content validity if it undergoes a proper and rational analysis by experts who are specialized in the area of study. The study consulted the teachers and education managers to critically examine the items measuring specific constructs with a view of confirming the full content regarding the said constructs as presented in the items in the tool in question. Corrections were made as per the suggestions made where necessary.

3.6.2. Reliability of Data Collection Instruments

The reliability of a research instrument is indicated by its consistency (Shaughnessy & Zechmeister, 2008) and, in behavioural research it refers to the stability of a measure of behavior (Cosby, 2008). Mugenda and Mugenda (2003) defined reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. The same is said by Ravid (2011) that reliability refers to the level of consistency of an instrument and the degree to which the same results are obtained when the instrument is used repeatedly with the same individuals or groups. To determine reliability a piloting of questionnaire was conducted. A test re-tests technique where instruments are administered to part of the same population at an interval of two weeks in neighboring centers. The centers were not part of the study. Pearson (r) was used to determine correlation of the teacher effectiveness assessment form and the teachers' questionnaire thus judging their reliability. This was to ensure that those questions which were misunderstood were classified and made simpler for the despondence and those that do not elicit required information is appropriately

revised and rephrased. This is in agreement with the observation made by Kothari (2004) to the effect that reliability depends a lot on the length of the instrument.

The teachers' questionnaire was piloted using a sample of the population to ensure clarity of the questioners. Isaac and Michael (1995) suggested 10 – 30 participants for a pilot test. The study employed the test-retest during the pilot study whereby the same instruments were administered to the same respondents after an interval of two weeks to test the reliability of the study techniques and to perfect the questionnaire concepts and wording. In-order to get a solid grasp of the classroom observation guide (COG) nature of data to be collected, a pilot study was carried out among 19 (1%). This range was acceptable as asserted by Mugenda and Mugenda (2003) that between 1% to 10% of the total population is appropriate. The pilot group were assessed twice with an interval of two weeks.

Piloting was important for the study in detecting possible flaws in the observation form and the questionnaire. The reliability of the instruments was estimated after the pilot study using the Cronbach's reliability coefficient, which is a measure of internal consistency. According to George and Mallery (2003), an instrument that has more than .70 Cronbach's Alpha is considered to be very reliable given the high internal consistency. No rule was used to determine the number of respondents used (Melopdy & Herzberg, 2008). However care was taken to isolate the respondents selected for participation in the pilot test.

Teacher's questionnaires were personally administered to the selected pilot test respondents upon introduction and collected immediately upon completion or depending on the respondent's wish. The respondents who wished to complete the questionnaire later were allowed two or three days to ensure that they did not forget. Interpretation was given to the respondents where it was required or requested. Upon collection of the filled questionnaires, they were inspected for completeness then coded for processing using SPSS.Using

Cronbach's alpha technique, the researcher computed the reliability coefficient using Statistical Packages for Social Sciences Programmes (SPSS)version 24. The decision on instrument reliability was based on Frankel and Wallen's (2000) advice that reliability should be at least 0.70 and above. The classroom observation guide was at 0.797 while the teachers' questionnaire was at .833. The researcher also ensured credibility and dependability of the qualitative test items by checking their consistency. Peer review of the research was also useful to enhance the credibility of the research tools. It is further observed that to remove possible errors, every instrument was tested before it was formally administered.

The researcher recruited 9 research assistants who were tutors in one of the public teacher training college in Siaya County. The tutors were chosen because of their qualifications which was a minimum undergraduate degree, experience in assessing trainee teachers during teaching practice and also the fact that they had experience as teacher trainers. Therefore on the reliability of teacher effectiveness assessment form, as part of the training, all the research assistants observed and rated the teachers who were piloted using the teacher's questionnaire. The mock observations were done several times involving different teachers and research assistants until at least a 95% inter-reliability test (IRR) score was attained for the tool. All practical sessions were followed by debriefing sessions to ensure that all the research assistants had a common understanding of the tools and procedures. By the end of the training all research assistants were conversant with the areas of interest or emphasis , well equipped, confident and well prepared to administer the teacher effective assessment form.

The reliability consistencies of the questionnaire and teacher assessment form were verified through examination of internal consistency of the measures. This was achieved by computing Cronbach's alpha reliability coefficients using the Statistical Package for Social

Scientists (SPSS) version 24. The pilot study focused on establishing the integrity of the tools for the study in question.

Table 3.2 shows results of the reliability of the measurement scale as derived from the pilot study. The reliability coefficients indicate that the items in the teachers questionnaire and teachers assessment tool had achieved the set standard of 0.7 and above. This means that they were reliable in measuring the required variables.

Table 3.2: Cronbach's Alpha Reliability Test Results for Data Collection Instruments

Construct	Scale	Number of items	Cronbanch's Alpha before deletion	Number of items	Cronbanch's Alpha After deletion
Instructional Resources	- Availability	18	.804	18	**.**804
	- Relevance	18	.784	18	.784
	- Adequacy	18	.968	18	.968
	- Frequency of Use	18	.673	16	.711
	- Attitude	7	.721	7	.721
	Average	**79**	**.797**	**79**	**.797**
Teacher effectiveness	Lesson Observation	6	.699	5	.833

The tools being referred above are teacher's questionnaire for measuring the instructional resources and classroom observation guide.

3.7. Data Collection Procedures

The researcher sought research authorization letter from Maseno University Ethics Review Committee (MUERC). Copy of the letter was made available to the County Commissioner and County Director of Education to inform their offices of intention to carry out the study. The researcher used nine research assistants who underwent orientation for two days before piloting of the data collection instruments .The teachers who participated in the piloting were not included in the actual study. The main orientation involved the use of Classroom

Observation Guide (COG) and how the five main areas were to be awarded or scored during observation. Discussion among the researcher and research assistants were carried out and any grey areas were dealt with accordingly.

Before the instruments were administered the researcher and research assistants visited the teachers made appointments and gained their informed consents. The informants were assured of confidentiality during and after the study. The researcher and research assistants administered the teachers' questionnaire directly to the respondents. By making actual visits to centers and meeting head teachers the researcher was able to clarify the purpose of the study to the respondents, besides seeking for further clarification from the respondents regarding some of their responses. The questionnaires were then collected for safe custody awaiting analysis. The researcher also requested for the opportunity to observe lessons to be taught by the respondents. Each teacher was to be observed in three different areas which included Language activities, Mathematical activities and Psychomotor and Creative Activities. The researcher and research assistants visited the teachers who had submitted their questionnaires for class observation lessons after having made appointments with them and gained their informed consent. Each teacher who participated in the study were observed thrice by three different research assistants in order to guide on biasness by the researcher and research assistants. The observation was important in that it was to capture the use of the available resources in the course of the teaching and learning process.

3.8. Ethical Considerations

Researchers are expected to make a personal commitment and life long effort to act ethically, and it is important for all students, researchers and those in the academic world to make every effort to live up to this ideal and standards of behaviours (Shaughnessy & Zechmeister,2008). This aspect was therefore looked at in terms of informed consent from

the respondents, assurance for confidentiality, collection and handling of data and use of the research outcomes.

3.8.1. Informed Consent

In view of this guideline the researcher sought relevant research authorization documents. The nature, purpose and significance of the study were explained to the categories of respondents before the sampling of the participants. Furthermore, in respect to methods of behavioral research (Cozby, 2008), permission to meet the teachers was sought from the school administration, and they were given explanations for clear understanding of the study and its importance before they consented. The participants' participation in the study was voluntary and free. There was no promise of benefits or reward for involvement in the study and the participants were requested to sign the informed consent form. They were further guaranteed that information given would be treated private and confidential as it was meant for this study only. In addition, the participants were also informed that they were free to withdraw from the study at any time they deemed fit. This helped the respondents to know what they were consenting to do in responding to the research questions.

3.8.2. Confidentiality

Participants' and their confidentiality was assured and guaranteed. No respondent's name was written anywhere on the questionnaire or teacher performance assessment form. The questionnaires and the observation tool were coded in order to identify the school and the respondent. The distribution and collection of the questionnaires was done by the researcher and the research assistants. Participants were reminded to pay attention to the instructions and give their responses in the manner requested.

3.8.3. Collection and Handling of Data

The distribution and collection of the questionnaires was done by the researcher and research assistants. Participants were reminded to pay attention to the instructions and give their responses in the manner requested. The researcher was keen to avoid duplicating responses and consultation among respondents . The information that was collected was privy to the researcher only and was not shared among the respondents.

3.8.4. Use of Research Outcomes

At the end of the research, all the concerned were informed about the study findings and recommendations. However, this was done in such a way that no individual respondent was identified. Any information from other persons' work used in the study was duly acknowledged.

3.9. Methods of Data Analysis and Presentation

Data were explored using descriptive statistics (means and standard deviations). The first objective of the current study sought to establish the relationship between availability of instructional resources and teacher effectiveness. Response score across the 18 items were summed and averaged to yield a single score per case measured on the continuous scale; $0 \leq R < 1.5$- very unavailable, $1.5 \leq R$,2.5- unavailable, $2.5 \leq R$,3.5- Somewhat available, $3.5 \leq R < 4.5$- available and $4.5 \leq R < 5$ – very available.

The second objective of the current study sought to establish the relationship between adequacy of instructional resources and teacher effectiveness. Prior to establishing the intended relationship, data were first explored to understand the level of adequacy of instructional resources in the early years education centers, consequently, 18 items were

listed. Response score across the 18 items were summed and averaged to yield a single score per case measured on the continuous scale; $0 \leq R < 1.5$- very inadequate, $1.5 \leq R < 2.5$- inadequate, $2.5 \leq R < 3.5$- Somewhat adequate, $3.5 \leq R < 4.5$-adequate and $4.5 \leq R < 5$ – very adequate

The third objective of the current study sought to establish the relationship between relevance of instructional resources and teacher effectiveness. Prior to establishing the intended relationship, data were first explored to understand the level of relevance of instructional resources in the early years education centers, consequently, 18 items were listed. Response score across the 18 items were summed and averaged to yield a single score per case measured on the continuous scale; $0 \leq R < 1.5$- very irrelevant, $1.5 \leq R < 2.5$- irrelevant, $2.5 \leq R < 3.5$- Somewhat relevant, $3.5 \leq R < 4.5$- relevant and $4.5 \leq R < 5$ – very relevant.

The fourth objective of the current study sought to establish the relationship between frequency of use of instructional resources and teacher effectiveness. Prior to establishing the intended relationship, data were first explored to understand the level of frequency of use of instructional resources in the early years education centers, consequently, 18 items were listed. Response score across the 18 items were summed and averaged to yield a single score per case measured on the continuous scale; $0 \leq R < 1.5$- very infrequent, $1.5 \leq R < 2.5$- infrequent, $2.5 \leq R < 3.5$- Somewhat frequent, $3.5 \leq R < 4.5$- frequent and $4.5 \leq R < 5$ – very frequent.

The fifth objective of the current study sought to establish the relationship between attitude of teachers towards instructional resources and teacher effectiveness. Prior to establishing the intended relationship, data were first explored to understand the level of attitude of teachers towards instructional resources in the early years education centers, consequently, 7 items were listed. Response score across the 7 items were summed and averaged to yield a single

score per case measured on the continuous scale; $0 \leq R < 1.5$- strongly disagree, $1.5 \leq R < 2.5$- disagree, $2.5 \leq R < 3.5$- neutral, $3.5 \leq R < 4.5$- agree and $4.5 \leq R < 5$ – strongly agree.

The independent variables were then correlated with the dependent variable. Prior to establishing the correlation, data were first explored to understand the level of teacher effectiveness in the early years education centers. Observation of the teachers were summed and averaged to yield a single score per case measured on the continuous scale; $0 \leq R < 50\%$- ineffective, $50\% \leq R < 74$- effective and $75 \leq R < 100$- very effective.

Data were analysed by editing, handling blank responses, coding, categorizing and recording in the numerical order of objectives (Churchil & Lacabucci, 2004; Sekaran and Bougie, 2009). The Statistical Package for Social Sciences (SPSS) version 24.0 was used to process and analyse data. Qualitative data were analysed using descriptive statistics whereas quantitative data was analysed using inferential statistics. This approach was deemed appropriate since descriptive methods tend to be stronger in validity but weak in reliability whereas inferential statistics tend to be stronger in reliability but weak in validity (Kibwage 2002, Odondo et al, 2007). Moreover Bubbie (1986) indicates that the use of both methods aids the researcher in gaining a higher degree of reliability and validity. Descriptive statistics involved the computation of frequency distribution, mean, and standard deviation was used to summarize the data so as to indicate their explanatory capacity.

Data for objectives one to five , which established the relationship of availability of instructional resources, adequacy of instructional resources, relevance of instructional resources, frequency of use of instructional resources and attitude towards instructional resources and teacher effectiveness among early years education teachers in Siaya county, Kenya was analysed using descriptive statistics and inferential statistics. Pearson's correlation was used particularly to describe how the variables were related and the strengths

between the relationships. A high r value denoted a very strong and significant correlation, thereby implying a very strong relationship.

Data analysis was collated by referencing categories of data to the research objectives of the study. The quantitative and qualitative data were analyzed as follows. Responses from close-ended items were quantified by tabulation and calculation of percentages carried out. Open-ended questions were analyzed on the basis of item by item as answered by respondents to enable patterns to emerge by constructing a series of analytical categories from the statements of respondents. Frequency of responses per each of these categories and corresponding percentages were calculated to show the general pattern of responses. The analyzed data were then presented using tables.

3.9.1 Model specification

The overall relationship between instructional resources and teacher effectiveness was established through regressions of the dependent variable (teacher effectiveness) on the independent (instructional resources)

Model 1: Regression of the dependent variable (teacher effectiveness) on the independent variable (Availability of instructional resources).

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where:

Y = Teacher effectiveness (dependent variable)

$\boldsymbol{\beta}_0$ = Coefficient estimate of the intercept (constant)

$\boldsymbol{\beta_1}$ = Coefficient of Availability of instructional resources.

$\mathbf{X_1}$= Availability of instructional resources.

E = Error (*assumed to have a normal distribution and constant variance*)

(Adapted from Newbold *et al*, 2007)

Model 2: Regression of Adequacy of instructional resources and teacher effectiveness.

$$\boldsymbol{TE=\beta_0+\beta_1 Z_1+\varepsilon}$$

TE= Teacher effectiveness, β_0 = Constant, β_1 = Regression coefficient, Z_1 = Adequacy of Instructional resources, ε = residuals/error.

β_0, β_1, are the coefficients for constant and adequacy of instructional resources respectively.

(Adapted from Newbold *et al*, 2007)

Model 3: Regression of Relevance of Instructional resources and teacher effectiveness.

$TE= \beta_0 + \beta_1 R_1 + \varepsilon$

Where:

TE = as defined in model 1 Equation in

$\mathcal{E}$ = the error term of the model

R_1 is Relevance of instructional resources

β_0, β_1, are the coefficients for constant and relevance of instructional resources respectively.

(Adapted from Newbold *et al*, 2007)

Model 4: Regression of Frequency of use of instructional resources and teacher effectiveness.

$$\boldsymbol{TE=\beta_0+\beta_1 F_1+\varepsilon}$$

TE= Teacher effectiveness, β_0 = Cosntant, β_1 = Regression coefficient, F_1 = frequency of use of Instructional resources, ε = residuals/error.

β_0, β_1, are the coefficients for constant, frequency of use of instructional resources respectively.

(Adapted from Newbold *et al*, 2007)

Model 5 : Regression of Attitude towards instructional resources and teacher effectiveness.

$$TE = \beta_0 + \beta_1 T_1 + \varepsilon$$

TE= Teacher effectiveness, β_0 = Costant, β_1 = Regression coefficient, T_1 = Attitude towards Instructional resources, ε = residuals/error.

β_0, β_1, are the coefficients for constant, attitude towards instructional resources respectively.

(Adapted from Newbold *et al*, 2007)

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1.1. Response Return Rate of the Respondents

This section presents the response return rate. The study targeted teachers of early years education and learning centers spread throughout the six sub-counties within Siaya County and early years education learning center managers and the County early years education and learning Director. The researcher and research assistants also observed the early years education and learning teachers in class. The corresponding response rate is presented as shown in Table 4.1;-

Table 4.1: Response Return Rate

Category	**Frequency**	**Percentage %**
Teachers	311	97.1
Center Managers	106	100%
County Director	1	100
Total	**418**	**99.03%**

Source: Field data

The overall response rate was 99.03%. This response rate is consistent with the argument by Fowler (2002) that the whole point of conducting a survey is to obtain useful, reliable and valid data in a format that makes it possible to analyze and draw conclusions about the target population. Consequently while there may be no agreed upon minimum response rate, the more responses received, the more likely it is that one will be able to draw statistically significant conclusions about the target population.

4.1.2 Demographic Characteristics of Respondents

Teachers' background characteristics were measured in terms of age, gender, years after graduation and highest level of qualification. The teacher's questionnaire was used to collect data on background information. Previous studies have shown that characteristic such as gender, experience, level of qualification and gender influence teacher effectiveness.

Table 4.2: Demographic Characteristics of Respondents

Respondents' characteristics	Distribution	Frequency	percentage
Age of respondents	20-29	64	20.6
	30-39	109	35.0
	40-49	132	42.4
	over 50	06	1.9
Gender	Male	120	38.6
	Female	191	61.4
Years since graduation	1 year	40	12.9
	2 years	124	39.9
	3 years	113	36.3
	Others	34	10.9
Highest level of qualification	Untrained	80	25.7
	Certificate	114	36.7
	Diploma	88	28.3
	Degree	29	9.3

Based on the findings out of the 311 respondents who returned the questionnaires, majority 191 (61.4%) were female while 120 (38.6%) were male. This is an indictment that the early years education sector is still a female field though the number of males has also increased overtime.

The study also embarked on finding the age ranges of the respondents. Based on the finding in Table 4.1, majority 132 (42.4%) of the teachers in early years education are in the age bracket of 40-49, 109 (35%) in the age bracket 30-39, 64(20.6%) in the age bracket of 20-29 and a paltry 6 (1.9%) in the age bracket above 50 years. From this data it is clear that the early years education sector seem to be having a large number of aging teachers and the younger generation maybe shunning joining the profession.

The study also sought to establish the highest qualification for early years education teachers. Based on the findings in table 4.1, majority 114 (36.7%) were certificate in early childhood education holders, 88 (28.3%) were Diploma in early childhood education holders, 80 (25.7%) indicated that they were not fully trained but were undergoing training or rather they were untrained while a paltry 29 (9.3%) were bachelor in early childhood education degrees. This finding indicates that the early childhood education sector has a large population of teachers who are well trained and qualified to teach in early years education centers. It is also important to note that majority of the trained and qualified teachers are certificate holders.

The study also sought to establish the duration since graduation. Based on the findings majority 124 (39.9%) indicated that they had spent 2 years since graduation, 113 (36.6%) had spent over 3 years since graduation, 40 (12.9%) had spent 1 year since graduation and 34 (10.9%) indicated others. This finding indicates that over 270 (87%) were having over two years experience since graduation. In this study a teacher who had taught for 2 years and above was considered experienced while one who had taught for less than two years was

considered inexperienced. This is in line with the Teachers Service Commission (TSC) regulations, (Act 1966, No.2 of 1967) under the pensions Act cap 189, a teacher is employed on permanent and pensionable terms after completing the mandatory 2 years probation period. Therefore from the study findings majority of the teachers were considered to be experienced since they had served for more than the mandatory two years. This means that the teachers were capable of imparting required skills and positive attitude towards learning and education in general.

4.2 Results for the Dependent Variable (Teacher Effectiveness)

As per the Classroom Observation Guide (COG) and scores (attached as Appendix A and F respectively) the teachers were awarded score from the observations carried out in class. The tally for the six components observed under introduction, lesson presentation and conclusion were: ability to select resources, timing during use, competency in use, ability to determine durability and safety, attractiveness, visibility and improvisation skills were added the final score given. Therefore those whose tallies were below 50% were considered ineffective, between 50%-74% were effective and finally above 75% were very effective. The classroom observation guide had sections which were scored and the tallies given to understand the level of teacher effectiveness in the early years education centers. Observation of the teachers were summed and averaged to yield a single score per case measured on a continuous scale; $0 \leq R < 50\%$- ineffective, $50\% \leq R < 74$- effective and $75 \leq R < 100$- very effective. The findings are as shown in Table 4.3.

Table 4.3 Teacher Effectiveness

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 50%= Ineffective	13	3.9	4.2	4.2
50 %– 74%= Effective	94	28.5	30.2	34.4
75%-100%= Very effective	204	61.8	65.6	100.0
Total	**311**	**94.2**	**100.0**	

Therefore the findings in Table 4.3 indicate that out of the 311 respondents a majority 204 (65.6%) scored between 75% and 100% as per the Classroom Observation Guide (COG) indicating that they were very effective, 94 (30.2%) scored between 50 and 74 indicating that they were effective while a paltry 13 (4.2%) scored below 50% indicating that they were not effective. As per the Classroom Observation Guide (COG) (attached as Appendix F) the teachers were awarded score from the observations carried out in class. The tally for the six components observed: ability to select resources, timing during use, competency in use, ability to determine durability and safety, attractiveness, visibility and improvisation skills were added and the final score given. Therefore those whose tallies were below 50% were considered ineffective, between 50%-74% were effective and finally above 75% were very effective.

4.3 Relationship between Availability of Instructional Resources and Teacher Effectiveness

The study was interested in establishing relationship between instructional resources and teacher effectiveness, 18 items which were regarded as part of the instructional resources were listed and respondents asked to indicate their opinions. The respondents were required to rate the 18 items in terms of very available to very unavailable. The mean and standard

deviations of the rated items are presented in Table 4.4.The study sought to establish the level of availability of a range of teaching and learning resources in early years education centers programme. The findings on the level of availability of the teaching and learning resources are as shown in Table 4.4.

Table 4.4 Availability of Instructional Resources

Instructional resources	**VU**	**U**	**SA**	**A**	**VA**	**MS**	**SD**
	F(%)	**F(%)**	**F(%)**	**F(%)**	**F(%)**		
Charts	94(30.2)	64(20.6)	64(20.6)	56(17.7)	33(10.6)	2.58	1.360
Work cards	45(14.5)	39(12.5)	66(21.2)	83(26.7)	78(25.1)	3.35	1.362
Coloring books	62(19.6)	166(53.4)	29(9.3)	54(17.4)	0 (000	2.24	.965
Manuals	30(9.6)	81(26.0)	78(25.1)	92(29.6)	30(9.6)	3.04	1.154
Guidelines	38(12.2)	96(30.9)	86(27.7)	34(10.9)	57 (18.3)	2.92	1.280
Syllabi	35(11.3)	126(40.5)	78(25.1)	29(9.3)	43(13.8)	2.74	1.199
Local stories	76(24.4)	86(27.7)	72(23.2)	39(12.5)	35(12.2)	2.60	1.310
Wooden letters	18(5.8)	164(52.7)	47(15.1)	28 (9.0)	54(17.4)	2.79	1.227
Poems	125(40.2)	93(31.5)	31(10.0)	29(9.3)	28(9.0)	2.15	1.291
Material development manual	92(29.6)	70(22.2)	68(21.9)	52(16.7)	29(9.2)	2.54	1.319
Riddles	102(32.8)	80(25.7)	13(4.2)	44(14.1)	72(23.2)	2.69	1.597
Toys	26(8.4)	114(36.7)	70(22.5)	75(24.1)	26(8.4)	2.87	1.125
Films	60(19.3)	128(41.2)	63(20.3)	26(8.4)	34(10.9)	2.50	1.210
Video cassettes	24(7.6)	134(43.1)	54(17.4)	57(18.3)	42(13.5)	2.87	1.204
Photographs	116(37.3)	33(10.6)	58(18.6)	60(19.3)	44(14.1)	2.62	1.491
Cassette recorder	14(4.5)	144(46.3)	75(24.1)	41(13.2)	37(11.9)	2.82	1.105
Computer	100(32.2)	102(32.8)	32(10.3)	41(13.2)	36(11.6)	2.39	1.359
Computer software	75(24.1)	108(34.7)	38(12.2)	52(16.7)	38(12.2)	2.58	1.341
Valid N (list wise)						**2.57**	**1.272**

KEY: VU = Very Unavailable U = Unavailable SA = Somewhat Available A= Available ,VA = Very Available

The results obtained in Table 4.4 shows that participants indicated somewhat available for the following instructional resources; work cards (3.35), manuals (3.04),guidelines (2.92), video and toys (2.87) each, cassette recorder (2.82), wooden letters (2.79), syllabi (2.74),

riddles (2.69), photographs (2.62), local stories (2.60),computer software and charts (2.58) each, material development manual (2.54) and films (2.50). On the other hand teachers indicated very unavailable for the following instructional resources; computer with a mean of (2.39), colouring books (2.24) and poems (2.15). The highest mean (3.35) was work cards meaning somewhat available and the lowest mean (2.15) indicating unavailability.

From the 8th column of Table 4.4, it is noted that the individual mean response scores (μ) for each of the listed items of their availability was above 2.15. For a majority it was above 2.5 and the mean score for all the listed 18 items stood at 2.57. On a scale of 1 to 5 scored from 'very unavailable to 'very available' this means that the ratings in both cases the listed items were rated 'unavailable' implying the respondents agreed that the 18 listed items were unavailable in the centers. According to standard deviation (SD) as shown in column nine in Table 4.4, the response on the level of availability of riddles were most polarized (SD=.1.597) while those on coloring books were least polarized (SD=.965) This implies that even though the means for all the items indicate they were rated unavailable ($2.15 \leq \mu \leq 2.5$) with mean response of four falling below 2.5, the spread of responses from the mean of each item was varied. Nevertheless, given the scale, there was spread of the responses as all of them more than 1.0 point away from the mean. This implies that the centers are faced with unavailability of instructional resources more or less the same way.

This results are consistent with Rotumoi and Kipkoech (2014) who found that only books as a form of instructional materials were available while the non-book materials were very few in number. The same applies to Ouko (2014) who indicated lack of essential instructional resources in learning institutions. This study is also in concurrence study with Okobia (2018) who reported a high level of unavailability or missing of instructional resources. The results further concur with Malunda and Abwebembeire (2018) that early years education

programmes are expected to have instructional resources in order to contribute to teacher effectiveness. The findings on the level of availability supports the observation by (Chepsiror,2012) who found that there was high rate of unavailability of instructional resources including the improvised ones. This study also concur with Koech, Kabwos and Jeruto (2016) that there were very few available instructional resources, they also add that the teachers were well prepared to use the resources however they were not doing what is required. However, this study negates the assertion by Akungu (2014) that instructional resources were available especially those to be used in the classroom setting.

Even though these studies Ouko (2014), Okobia (2018), Malunda and Abwebembeire (2018) (Chepsiror, 2012), Koech, Kabwos and Jeruto (2016) and Akungu (2014) investigated availability of instructional resources they did not investigate the relationship between level of availability of instructional resources and teacher effectiveness. The current study examined the level of availability of instructional resources and how it relates to teacher effectiveness in the teaching and learning process. The joint listed items level of availability within a center is more likely to impact on teaching and learning when used than a single item in isolation. The level of availability which is unavailability of instructional resources revealed in the current study is envisaged to awoken the stakeholders to be proactive in availing the required instructional resources.

The findings are corroborated by the center managers that availability of the resources is very technical issue in these centers as a large. One center manager C35 had this to say *"It is not easy to avail all the necessary materials because we have very meager resources"*

Center manager C69 also reiterated his colleagues sentiments by stressing "*We are trying our level best to avail the basic resources required for these centres"* It is important to note

that they indicated they are striving just to give what it is necessary for the centres to move on.

From Table 4.4 respondents gave their responses regarding the level of availability of the 18 items listed as instructional resources, the study went further to carry out a correlation between availability of instructional resources and teacher effectiveness. A two tailed Bivariate Pearson correlation was conducted to test the null hypothesis "Availability of instructional resources does not influence teacher effectiveness in early years education teachers". The results are shown in table 4.5.

Table 4.5: Correlation between Availability of instructional resources and teacher effectiveness

Correlations

		Teacher effectiveness assessment	Availability of Instructional Resources
Teacher effectiveness assessment	Pearson Correlation	1	.115*
	Sig. (2-tailed)		.041
	N	311	311
Availability of Instructional Resources	Pearson Correlation	.115*	1
	Sig. (2-tailed)	.041	
	N	311	311

*. Correlation is significant at the 0.05 level (2-tailed).

The Pearson Product-Moment correlation result indicates a moderate positive correlation between availability of instructional resources and teacher effectiveness. In addition, the analysis also revealed that this relationship is significant ($r=0.115$, p-value$=0.041<0.05$).

This findings concur with those of Ouko (2004) who found that there was lack of essential instructional resources in schools leading to poor performance by students however the

current study delved on the teachers effectiveness with regard to the availability of these instructional resources. This finding is not surprising because many other studies have found the unavailability of instructional resources contributes negatively to the performance of learners.

The findings also concur with those of Okobia (2011) who found that many of the instructional resources were unavailable or were missing, and that there was no significant difference in the use of instructional resources by specialist teachers and non-specialist teachers this; is in line with the current study. On the same note, this findings concur with Malunda and Abwebembeire (2018) who found that availability of instructional resources significantly contributes to teacher effectiveness which is in line with the current study which established that there was significant relationship between availability of instructional resources and teacher effectiveness.

Even though these studies Ouko (2014), Okobia (2018), Malunda and Abwebembeire (2018) (Chepsiror,2012), Koech, Kabwos and Jeruto (2016), Makokha (2015), Aina (2013), Chemwai (2015) and Akungu (2014) investigated availability of instructional resources they did not investigate the relationship between level of availability of instructional resources and teacher effectiveness but targeted learners performance.

However,this study concurs with Aduwa, Ogigben and Imogie (2005) who indicated that instructional resources contribute to teacher effectiveness. A view supported by Okwara, Shiundu and Indoshi (2009) that availability of instructional resources contributes to pedagogical practice which is an aspect of teacher effectiveness. The same stand is taken by Lyons (2012) who says that availing instructional resources enhances teaching effectiveness, meaning that availability of resources impacts on the effectiveness of the teacher.The joint listed items level of availability within a center is more likely to impact on teaching and

learning when used than a single item in isolation. The level of availability which is below average of instructional resources revealed in the current study is envisaged to awoken the stakeholders to be proactive in availing instructional resources.

Many of the t studies mentioned above investigated the availability of instructional resources and its influence on learners' performance while the current study examined the level of availability of instructional resources and its relationship to teacher effectiveness. Therefore, the contribution that this study makes to existing literature is by providing results that is exists a relationship between the level of availability of instructional resources and teacher effectiveness. This is important as it would help the stakeholders such as the center managers and teachers to come up with strategies of acquiring these resources so as to improve on teacher effectiveness.

4.4. Relationship between Adequacy of Instructional Resources and Teacher Effectiveness

The study sought to establish the adequacy of the instructional resources. The respondents were asked to indicate the level of adequacy of the instructional resources in the early years education centers. They were given five options to choose from with regard to the level of adequacy of the resources. The findings are as shown in Table 4.6.

Table 4.6 : Adequacy of Instructional Resources

Instructional resources	VA. F(%)	A F(%)	S.A F(%)	I F(%)	VI F(%)	Mean	SD
Charts	34(10.8)	70(22.2)	93(29.4)	104(32.9)	103.2)	3.05	1.062
Work cards	56(18.0)	51(16.4)	95(30.5)	101(32.5)	08(2.6)	3.15	1.138
Coloring books	11(3.5)	50(16.1)	110(35.4)	120 (38.6)	20(6.4)	2.72	.932
Manuals	06(1.9)	44(14.1)	60(19.3)	151(48.6)	50(16.1)	2.37	.978
Guidelines	06 (1.9)	25(8.0)	90(28.9)	145(46.6)	45(14.5)	2.36	.894
Syllabi	07(2.3)	24(7.7)	129(41.5)	131(42.1)	20(6.4)	2.57	.815
Material development manual	11(3.5)	90(28.9)	40(12.9)	165(53.1)	05(1.6)	2.80	.994
Local stores	04(1.3)	37(11.9)	90(28.9)	170(54.7)	10(3.2)	2.53	.794
Poems	11(3.5)	50(16.1)	50(16.1)	195(62.7)	05(1.6)	2.57	.902
Riddles	11(3.5)	40(12.9)	55(17.7)	195(62.9)	10(3.2)	2.51	.887
Wooden letters	10(3.2)	20(6.4)	113(36.3)	156(50.2)	12(3.9)	2.55	.805
Toys	05 (1.6)	13(4.2)	128(41.2)	156(50.2)	09(2.9)	2.51	.700
Films	03(1.0)	03(1.0)	120(38.6)	172(55.3)	13(4.2)	2.39	.633
Video cassettes	05 (1.6)	10(3.2)	119(38.3)	163(52.4)	14(4.5)	2.45	.707
Photographs	06 (1.9)	23(7.4)	105(38.8)	172(55.3)	05(1.6)	2.53	.739
Cassette recorder	31(10.0)	63(20.3)	111(35.7)	95(30.5)	11(3.5)	3.03	1.025
Computer	01(.3)	05(1.6)	119(38.3)	174(55.9)	12(3.9)	2.39	.606
Computer software	00 (0)	14(4.5)	177(56.9)	108(34.7)	12(3.9)	2.62	.385
Valid N (list wise)						**2.616**	**.833**

KEY: VA= Very Adequate, A= Adequate, SA= Somewhat Adequate, I= Inadequate, VI= Very Inadequate

The results obtained in Table 4.6 show that participants indicated that work cards had a mean of (3.15), charts (3.05), cassette recorder (3.03), material development manual (3.80), colouring books (2.72),computer software (2.62), poems and syllabi (2.57) each, wooden letters (2.55), photographs and local stories (2.53) each, riddles and toys (2.51) each were inadequate. While video cassettes (2.45), computer and films (2.39) each), manuals (2.37) and guidelines (2.36) were indicated as very inadequate. Out of the 18 listed items only 6 had a mean above the average mean of 2.616.

From the 7th column of Table 4.6, it is noted that the individual mean response score (μ) for each of the items measuring the level of adequacy was 2.36. For majority, it was below 2.5 and the mean score for all stood at 2.616. On a scale of 1 to 5 scored from ' very inadequate' to 'very adequate' this means that the ratings in a majority of the cases was 'inadequate' implying that respondents agreed that the listed items were 'inadequate' in the centers. However, the mean rating for all the listed items (μ= 2.616) indicates that on average the level of adequacy of the listed items were 'inadequate'.

According to standard deviation (SD) as shown in column 8 of Table 4.6, the responses on level of adequacy of work cards were most polarized (SD=1.138) while those on computer software were least polarized (SD=.385). This implies that even though the mean for majority of items indicated they were rated inadequate ($2.37 \leq \mu \leq 3.15$) with mean response of 12 items falling below 2.5 meaning that the spread of responses from the mean of each item were varied. Nevertheless, given the scale there was minimal spread of responses as only 3 items out of 18 were more than 1.0 point away from the mean. This implies that there was inadequacy of the listed items in the centers more or less the same way.

These findings are corroborated by the center managers who indicated that inadequacies of instructional resources are an issue which has been there for a long time. Center Manager C54 had this to say:

> *" To be frank, it is lie to say we have been having adequate resources in the past, the present and even in the near future, this is due to the fact that more children are joining school but our resource provision remains static.'*

The center managers went further to indicate that they use a number of strategies in order to acquire adequate resources. Center manager C74 had this to say;

" I talk to my teachers to become innovative enough to produce their own

Instructional resources, at times I offer incentives."

This finding concur with Okobia (2011) assertion that instruction resources are inadequate in learning institutions is here confirmed by the inadequacy of the listed items in the early years education centers in these study. This study supports Chepsiror (2012) who reported that there was insufficiency of the instructional resources in early years education centers and primary schools. Koech, Kabwos and Jeruto (2016) also concur with the fact that instructional resources are inadequate in learning institutions. Melly and Mwangi (2018) reports that head teachers were not non-chalant towards provision of instructional resources and therefore relegated provision to the periphery leading to inadequacies. Makokha (2015) concurs with the current study that the instructional resources were inadequate however it goes further to indicate that the teachers were well prepared to use instructional resources. Tuimur and Chemwai also agrees with the current study by reporting inadequacy of instructional resources has led to ineffective teaching, in addition they say that the teachers are ill-prepared to teach some topics. The assertion by Aina (2013) that there was inadequate use of instructional resources is confirmed here by the inadequacy of the listed items in the EYE centers. Even though the works of the above authors concur with the current study, none of them has reported how the listed 18 items are inadequate alongside other elements of teaching within the centers.

From the findings, the majority of the respondents either indicated least adequate and not adequate with regard to the 18 items listed down for the respondents. This finding concurs with those of Mwanamukubi (2013) who found that the inadequacies of instructional resources greatly influenced teacher performance. This finding is very important in that though Mwanamukubi studied another level of education which means the finding can cut

across to all levels. This calls for the inadequacies for learning and teaching instructional resources to be dealt with in order to improve on the learning process. The study in question only paid attention to one aspect or construct dealing with instructional resources.

The study went further to carry out a correlation between adequacy of the instructional resources and teacher effectiveness. A two tailed bivariate Pearson correlation was conducted to test the null hypothesis "Adequacy of instructional resources does not influence teacher effectiveness". The results are shown in table 4.7.

Table 4.7: Correlation between Adequacy of the Instructional Resources and teacher effectiveness

Correlations

		Teacher effectiveness assessment	Adequacy of the Instructional Resources
Teacher effectiveness assessment	Pearson Correlation	1	-.038
	Sig. (2-tailed)		.497
	N	311	311
Adequacy of the Instructional Resources	Pearson Correlation	-.038	1
	Sig. (2-tailed)	.497	
	N	311	311

The Pearson Product-Moment correlation result indicates a weak negative correlation between Adequacy of the Instructional Resources and teacher effectiveness. However, the analysis also revealed that this relationship is not significant ($r=-0.038$, p-value$=0.497>0.05$).

This study differs with Othoo, Olel and Gogo (2019) who indicated that adequacy of resources is statistically significantly when it comes to learners. The difference is that in terms of teachers it is not statistically significant. This study also differs with Mwanamukubi (2013) who indicated that inadequate resources significantly affect teaching effectiveness.

This study also concurs with Pageni and Rimal (2017), Likoko, Mutsotso and Nasongo (2013) on inadequacies when it came to instructional resources, however they do not indicate

whom it affects whether the teacher or the learner an aspect the current study has tried to show that the relationship between level of adequacy and teacher effectiveness is not statistically significant.

Okwara et al (2009) studied availability of instructional resources in secondary schools while the current study dealt with early years education where the pedagogical perspectives differ due to age and content differences. This is due to the fact that in secondary school learners have developed therefore the methods or pedagogical approaches applied by the teachers differ with those in early years education who are still in their early formation stages. In short the current study also concurs with Okwara, Shiundu and Indoshi (2009) who established that availability of instructional resources significantly contributes to effective pedagogical practices which is one of the several aspects which defines teacher effectiveness.

The current study to some extent concurs with that of (Okobia, 2011) in the sense that he observed availability of the instructional resources, however there were inadequacies therefore hindering their use in schools. This confirms what the current study established that some of the instructional resources were available but were inadequate for use. The study in question differs with the current study in that it only went for three constructs; availability, use and adequacy unlike the current study which went extra in addition to the two mentioned earlier that is relevancy and frequency of use. While the study by Okobia went further to compare two categories of teachers whom he termed as specialists and non-specialist teachers with regard to their application of instructional resources in class, the current study looked at all the teachers and didn't categories in terms of the categories used by Okobia. The two studies differ in that the current study found a moderate positive relationship between availability of instructional resources and teacher effectiveness; the other study found no significant difference between the specialist and non-specialist teachers therefore

does not give the strength of relationship. The current study concurs with Ndirangu, (2015) ; Likoko (2010) Adegoke (2016) that there was inadequacy of instructional resources, it went further to establish the influence of level of adequacy on teacher effectiveness of which it established that there is a weak negative correlation and also established the relationship was insignificant. This implies that the level of adequacy of instructional resources does not impact on teacher effectiveness. This may be due to the fact that the children are still young and most of the materials used for learning needs guidance from the teacher therefore the teacher will need the number for his use during the lesson.

The current study examined the level of adequacy of instructional resources and its relationship to teacher effectiveness. On the same note, the current study went a step further to establish if there was relationship between the level of adequacy of instructional resources and teacher effectiveness of which it has established that there is a weak negative correlation while the relationship is not significant. This implies that level of adequacyl of instructional resources has no impact on teacher effectiveness.

Therefore, the contribution that this study makes to existing literature is by providing results on how combined or listed instructional resources would explain the relationship between level of adequacy and teacher effectiveness. This is important as it would help the stakeholders such as the center managers and teachers to come up with strategies of helping the teacher to overcome issues of adequacy through improvisation and becoming innovative during the teaching and learning process so as to improve on teacher effectiveness.

4.5 Relationship between Relevance of Instructional Resources and Teacher Effectiveness

The study also sought to establish the relevance of the instructional resources. The respondents were asked to indicate extent of relevance of the instructional resources they use

during their teaching. They were given options for each of the items listed. The rating was from 1 to 5.The options were; very irrelevant, irrelevant, somewhat relevant, relevant and very relevant. The findings are shown in Table 4.8.

Table 4.8: Relevance of Instructional Resources

Instructional Resources	**VR F(%)**	**R F(%)**	**SR F(%)**	**I F(%)**	**VI F(%)**	**Mean**	**SD**
Charts	00(00)	24(7.7)	97(31.2)	118(37.9)	72(23.2)	2.23	.894
Work cards	00(00)	00(00)	108(34.7)	126(40.5)	77(24.8)	2.10	.766
Coloring books	00(00)	00(00)	16(5.1)	119 (38.3)	176(56.6)	1.49	.595
Manuals	00(00)	11(3.5)	95(30.1)	147(47.3)	58 (18.6)	2.19	.774
Guidelines	00(0)	00(00)	103(33.1)	115(37.0)	93(29.9)	2.03	.794
Syllabi	00(00)	23(7.3	80(25.5)	138(44.4)	70(22.5)	2.18	.805
Material dev. manual	00(00	17(5.5	72(23.2	128(41.2	94(30.2)	2.04	.868
Local stories	06(1.9)	06(1.9)	33(10.6)	147(47.3)	119(38.3)	1.82	.842
Poems	00(00)	05(1.6)	83(26.7)	170(54.7)	53(17.0)	2.13	.698
Riddles	00(00)	06 (1.9)	84(27.0)	127(40.8)	94(30.2)	2.01	.807
Wooden letters	00(00)	11(3.5)	81(26.0)	146(46.9)	73(23.5)	2.10	.793
Toys	05(1.6)	12(3.8)	63(20.3)	91(29.3)	140(45.0)	1.88	.969
Films	00(00)	00(00)	73(23.5)	173(55.6)	65(20.9)	2.03	.667
Video cassettes	06(1.9)	53(17.0)	56(18.0)	153(49.2)	43(13.8)	2.44	.991
Photographs	00(00)	00(00)	120(38.6)	109(35.0)	82(26.4)	2.12	.798
Cassette recorder	00(00)	17(5.5)	47(15.1)	193(62.1)	54(17.4)	2.09	.733
Computer	06(1.9)	35(11.3)	92(29.6)	103(33.1)	75(24.1)	2.34	1.025
Computer software	00(00)	05(1.6)	47(15.1)	180(57.9)	79(25.4)	1.93	.683
Valid N (list wise)						**2.06**	**.8056**

KEY: VR= Very Relevant, R= Relevant, SR= Somewhat Relevant, I=Irrelevant, VI= Very Irrelevant.

The results obtained in Table 4.8 show that teachers indicated the instructional resources were irrelevant at a mean of 2.06 while the individual mean is as follows; video cassettes (2.44), computer (2.34), charts (2.23), manuals (2.19), syllabi (2.18), poems (2.3), photographs (2.12), wooden letters and work cards (2.10) each, material development manual (2.04), films and guidelines (2.03) each, riddles (2.01) computer software (1.93), toys (1.88), local stories (1.82) and finally colouring books (1.49). The highest mean being

2.44 which as an indicator of irrelevant and the lowest mean being1.49 which is also an indicator for irrelevant.

From the 7th column in Table 4.8 , it is noted that the individual mean response score (μ) for each of the items measuring level of relevance was above 1.49. For majority, it was above 2.00 and the mean score for all stood at 2.064. On a scale of 1 to 5 scored from ' very irrelevant' to very relevant, this means that the ratings in both cases the items were 'irrelevant' implying that respondents agreed that level of relevance was irrelevant in the centers. According to standard deviation (SD) shown in column 4, the responses on computer were most polarized (SD=1.025) while those on coloring books least polarized (SD= 0.595) this implies that even though the means for all items indicate they were rated irrelevant ($1.49 \leq \mu \leq 2.44$) with mean response of 4 items falling below 2.00, the spread of the responses from the mean of each item were varied. Nevertheless, given the scale there was minimal spread of responses as only one item was more than 1.0 point away from the mean. This implies that the listed items were irrelevant more or less the same way in the centesr.

The above findings are corroborated by the center managers who said that education has become so dynamic to the extent that changes in instructional resources have always got them off-guard. This is because of lack of ready cash to change with the times. One of the center managers coded as C7 had this to say: *"Technological change is moving at a terrific speed and it is always difficult to be ahead due to the meager resources we have."*

They also indicated that in reality their centers only get the so called 'relevant materials' after time has elapsed for them to be called relevant. Center manager C13 quipped: *"The relevant resources only get to us later after a very long time."*

However, on the positive note when asked to indicate how they ensured that relevant materials were availed to their teachers, they had this to say. Center manager C45 had this to

say "*I always consult with our teachers on the kind of instructional resources they would wish to have in their classes."*

The center managers indicated that they consult widely before availing the instructional resources. About 55% indicated that they consult with their teachers or staff, 20% consult with the parents, 10% indicated that they consult with experts and 15% said they don't consult when it comes to availing relevant materials for their centers. This is a good indicator that majority of the center managers do consult when it comes to issues of instructional materials relevance.

The findings of this study concur with Muthima and Mutinda (2015) who established that instructional materials are irrelevant or rather the materials are of low quality. The current study also concurs with Seven and Engin (2020) who reported that the materials for use were irrelevant for use. This study also supports Ajoke (2017) who established that instructional resources were irrelevant however he goes further to add that irrelevant instructional resources affects the performance of students when teaching mathematics.

In this study, the joint venture of the listed items is more likely to impact in a practical situation than a single element in isolation. The level of relevance of the listed items revealed in the current study is envisaged to provoke stakeholders on the level of relevance of the instructional resources in early years education centers.

The study went further to establish if there was a relationship between relevance of instructional resources and teacher effectiveness by using Pearson correlation coefficient. The results are shown in Table 4.9.

Table 4.9: Correlation between Relevance of Instructional Resources and teacher effectiveness

Correlations			
		Teacher effectiveness assessment	Relevancy of the Instructional Resources
Teacher effectiveness assessment	Pearson Correlation	1	.215**
	Sig. (2-tailed)		.000
	N	311	311
Relevancy of the Instructional Resources	Pearson Correlation	.215**	1
	Sig. (2-tailed)	.000	
	N	311	311

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson Product-Moment correlation result indicates a weak positive correlation between Relevance of the Instructional Resources and teacher effectiveness. In addition, the analysis also revealed that this relationship is highly significant (r=-0.215, p-value=0.0005<0.05). According the findings majority over 65% of the respondents indicated either the instructional resources being not relevant or they do not know about their relevancy. Less than 30% of the respondents were of the opinion that the instructional resources available were least relevant. Very few of the respondents less than 10% indicated that the instructional resources were either very relevant or relevant to their teaching.

This study concurs with Momoh (2010) that relevant instructional resources have a significant effect in the teaching and learning, however he states that it impacts on the learners performance, this is the point of diversion with the current study which established that level of relevance of instructional resources has statistical significant with teacher effectiveness. Ajoke (2017) holds the same view that learners tayght with irrelevant materials perform poorly.

Even though these studies Okobia (2011) Ouko(2004) Muthima and Mutinda (2015) and Seven and Engin (2020) investigated relevance of instructional resources they did not investigate the relationship between level of relevance of instructional resources and teacher

effectiveness. This study also concurs with Okwara, Shiundu and Indoshi (2009) who asserted that instructional resources have an impact on pedagogy which directly touches on the teacher. On the other hand, Ajoke (2017) established that instructional resources were irrelevant, however it touched on the students and not the teachers as targeted by the current study.

The current study examined the level of relevance of instructional resources and its relationship to teacher effectiveness. On the same note, the current study also went a step further to establish if there was relationship between the level of relevance of instructional resources and teacher effectiveness of which it has established that there is a weak negative correlation while the relationship is highly significant. This implies that the relevance of the level of instructional resources has an impact on teacher effectiveness.

Therefore, the contribution that this study makes to existing literature is by providing results on how combined or listed instructional resources would explain the relationship between level of relevance and teacher effectiveness. The joint listed items level of relevance within a center is more likely to impact on teaching and learning when used than a single item in isolation. The level of relevance which is below the expected standards of instructional resources revealed in the current study is envisaged to awoken the stakeholders to be proactive keeping abreast with the dynamic nature of education and changing trends of instructional resources for teachers to improve on their efficiency.

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4.6 Relationship between Frequency of use of Instructional Resources and Teacher effectiveness

The study also sought to establish the frequency of use of the instructional resources in the teaching process. The findings are presented in Table 4.10.

Table 4.10: Frequency of Use of Instructional Resources

Instructional Resources	**VI F(%)**	**I F(%)**	**SF F(%)**	**F F(%)**	**VF F(%)**	**Mean**	**SD**
Charts	62(19.9)	85(7.3)	129(40.8)	29(9.3)	6(1.9)	2.46	.976
Work cards	74(23.8)	196(63.0)	41(13.2)	0(0)	0 (0)	1.89	.600
Coloring books	141(45.3)	80(25.7)	57(18.3)	33(10.6)	0(0)	1.94	1.03
Manuals	31(10.1)	183(59.6)	82(26.7)	11(3.6)	0(0)	2.24	.676
Guidelines	73(23.5)	79(25.4)	152(49.2)	06(1.9)	0(0)	2.30	.848
Syllabi	97(31.2)	145(46.6)	58(18.6)	11(3.5)	0(0)	1.95	.799
Material development manual	96(30.9)	133(42.8)	76(24.4)	06(1.9)	0(0)	1.97	.795
Local stores	54(17.4)	204(65.6)	53(17.0)	0(0)	0(0)	2.00	.587
Poems	110(35.4)	100(32.2)	80(25.7)	21(6.8)	0(0)	2.04	.939
Riddles	58(18.6)	214(68.8)	27(8.7)	12(3.9)	0(0)	1.98	.655
Wooden letters	125(40.2)	109(35.0)	77(24.8)	0(0)	0(0)	1.85	.792
Toys	70(22.5)	119(38.3)	98(31.5)	24(7.7)	0(0)	2.24	.890
Films	53(17.0)	118(37.9)	118(37.9)	22(7.1)	0(0)	2.35	.844
Video cassettes	88(28.3)	153(49.2)	45(14.5)	25(8.0)	0(0)	2.02	.867
Photographs	106(34.1)	139(44.7)	66(21.2)	0(0)	0(0)	1.87	.734
Cassette recorder	33(10.6)	195(61.7)	77(24.4)	06(1.9)	0(0)	2.18	.632
Computer	90(28.9)	141(45.3)	74(23.8)	06(1.9)	0(0)	1.99	.799
Computer software	52(16.7)	160(51.4)	90(29.9)	06(1.9)	0(0)	2.77	.718
Valid N (Listwise)						**2.113**	**.787**

Key: VF= Very Frequent, F= Frequent, SF= Somewhat Frequent, I= Infrequent, VI= Very Infrequent

The results obtained in Table 4.10 show that teachers indicated that they somewhat frequently used instructional resources for instance computer software which had a mean of (2.77), while the following items were infrequently put into use; charts (2.46),films (2.35),

guidelines (2.30),toys and manuals (2.24) each, cassette recorder (2.18), poems (2.04), video cassette (2.020, local stories (2.00), computer (1.99), riddles (1.98), material development manual (1.97), syllabi (1.95) work cards (1.89), photographs (1.87) and finally wooden letters (1.85). The highest mean was computer software indicating somewhat frequently used while the lowest mean was wooden letters indicating it was infrequently being put into use.

From the 7th in Table 4.10, it is noted that individual mean response scores for each of the listed items was above 1.85. For a majority, it was above 2.00 and the mean score for all stood at 2.113. On a scale of 1 to 5 scored from ' very infrequent' to 'very frequent, this means that the ratings in a majority was ' infrequent' implying that respondents agreed the listed items were ' infrequently' used in the early years education centers. The mean rating for all the listed items (μ= 2.113) indicates that on average the listed items were' infrequently used. According to standard deviation (SD) as shown in column eight, the response on the level of frequency of use of the listed items –coloring books was most polarized (SD= 1.03) while response on level of frequency of use of local stories was least polarized (SD=0.587). This implies that the means of the majority of the listed items they were rated 'infrequent' ($1.85 \leq \mu \leq 2.770$ with mean response of 8 falling below 2.00, the spread of the responses from the mean for each item was varied. Nevertheless, given the scale, there was minimal spread of responses as only one item was more than 1.00 point away from the mean. This implies that the level of frequency of use of instructional resources by teachers in these centers was infrequent more or less the same way.

The findings as shown in Table 4.10 , indicates that despite the scarcity and availability of some of the instructional resources as indicated earlier majority of the teachers either rarely or never use the instructional resources during the teaching process as over 60% of the

respondents indicated that they rarely or have never used the items indicated as instructional resources.

On frequency of use of instructional resources, majority of the center managers were non-committal whether the teachers in their centers put them to frequent use. Center manager C13 had this to say: *"I cannot for sure say that the teachers in our classes usually use instructional resources during their lessons except maybe for the basic ones we can monitor."*

However, some of them indicated that they always monitor what their teachers' use in the classrooms. Center manager C 43 had this to say: *" I always check on what they use in the classrooms on a weekly basis"*

The study findings contradicts the assertion by Lolley (2006)and Akungu (2014) that there was frequent use of instructional resources especially those used in classrooms. However, this study supports Aina (2013) who reported that there was infrequent use of the instructional resources including the improvised ones. This means that the instructional resources available were underutilized or not frequently used.

Even though the works of some of the above authors negate and some concur with the current study on level of frequency, none of them has reported how the listed items are frequently used alongside other elements. The joint level of frequent use of these items is likely to impact on teacher effectiveness. The show of infrequent use of instructional resources in early years education centers is envisaged to awoken the stakeholders to come up with strategies on internal supervision of use instructional resources to improve on learning in institutions.

The study went further to carry out a correlation between level of frequency on the use of Instructional Resources and teacher effectiveness. A two tailed Bivariate Pearson correlation was conducted to test the null hypothesis "Frequency of use of instructional resources does not influence teacher effectiveness". The results are shown in Table 4.11.

Table 4.11: Correlation between Frequency of use of Instructional Resources and teacher effectiveness

Correlations

		Teacher effectiveness assessment	Frequency on the use of Instructional Resources
Teacher effectiveness assessment	Pearson Correlation	1	.060
	Sig. (2-tailed)		.287
	N	311	311
Frequency on the use of Instructional Resources	Pearson Correlation	.060	1
	Sig. (2-tailed)	.287	
	N	311	311

The Pearson Product-Moment correlation result indicates a weak positive correlation between Frequency on the use of Instructional Resources and teacher effectiveness. However, the analysis also revealed that this relationship is not significant ($r=0.06$, p-value$=0.287>0.05$).

The current study differs with that of Rakes, Fields and Cox (2006) who established a significant relationship between the level of classroom technology use and personal computer use. The current study on the other hand established that there was no significant relationship between frequency of use of instructional resources and teacher effectiveness. However, the current study concurs with Bukoye (2019) who found that there is no significant difference between males and females with regard to use or not use instructional resources in the teaching and learning process though this study looked at all teachers and not in terms of sex.

Manduku (2019) noted that the materials available were not being put into good use, he stresses that the materials were irrelevant that is why they were not being used. This is in

agreement with the current study which established that instructional resources were not being put into use. The study also established that teachers were well qualified but were not using the resources in their teaching. While the study stressed on the utilization of instructional resources the current study went a step further to establish if there was a relationship between frequency of use of these resources during the teaching process of which it established that there was a weak positive correlation between frequency of use and instructional resources while the relationship is insignificant. This implies that frequency of use of instructional resources does not impact on teachers' effectiveness.

The current study examined the level of frequency of use of instructional resources and its relationship to teacher effectiveness. On the same note, it also went a step further to establish if there was relationship between the level of frequency of use of instructional resources and teacher effectiveness of which it has established that there is a weak positive correlation while the relationship is not significant. This implies that the relevance of the level of instructional resources has no impact on teacher effectiveness.

Therefore, the contribution that this study makes to existing literature is by providing results on how combined or listed instructional resources would explain the relationship between level of frequency of use and teacher effectiveness. This is important as it would help the stakeholders including the teachers themselves to use these resources frequently for the benefit of the learner who needs to interact with resources all the time.

4.7 Relationship between Attitude of Teachers towards Instructional Resources and Teacher Effectiveness.

The respondents were asked on their opinion regarding the early years education instructional resources with regard to the objectives which are intended to be achieved.The teachers were

asked their opinions regarding the instructional resources in early years education . The findings are as shown in Table 4.12.

Table 4.12: Attitude towards Instructional resources

	SD	**D**	**N**	**A**	**SA**		
	F	F	F	F	F	**μ**	**SD**
Instructional resources are geared towards achieving communication and collaboration competency	21	40	10	129	111	3.86	1.224
Instructional resources geared towards achieving self efficacy	18	77	20	106	90	3.56	1.294
Instructional resources are geared towards achieving critical thinking and problem solving competency	17	48	80	117	49	3.43	1.096
Instructional resources are geared towards achieving creativity and imagination	41	67	29	144	30	3.18	1.251
Instructional resources are geared towards achieving citizenship values	61	41	28	117	64	3.26	1.433
Instructional resources geared towards achieving digital literacy competency	70	91	46	60	44	2.76	1.374
Instructional resources are geared towards achieving learning to learn	45	101	20	81	64	3.06	1.411
						3.301	**1.298**

KEY: SD= strongly Disagree, D=Disagree, N= Neutral, A= Agree, SA= Strongly Agree

The result obtained in Table 4.12 shows that teachers were in agreement that instructional resources geared towards achieving communication and collaboration competencies with a mean of 3.86, self efficacy had a mean of 3.56 whereas they indicated neutrality with regard to instructional resources geared towards critical thinking and problem solving with a mean of 3.43, citizenship values with a mean of 3.26, creativity and imagination with a mean of 3.18, learning to learn competencies with a mean of 3.06 and finally those geared towards achieving digital literacy competencies with a mean of 2.76.

From the 6th column of table 4.12, it is noted that the individual mean response (μ) for each listed item measuring attitude towards instructional resources was above 2.76. For majority, it was above 3.00 and the mean score for all stood at 3.301. On a scale of 1 to 5 from 'strongly disagree' to 'strongly agree', this means that the ratings in both cases were 'neutral' or 'not sure' implying that the respondents were 'neutral' when it came to how their attitude towards instructional resources in the early years education centers. According to standard deviation (SD) as shown in column 4, the responses to attitude towards instructional resources geared towards achieving citizenship values were most polarized (SD=1.433) while the responses to attitude towards instructional resources geared towards achieving critical thinking and problem solving competencies least polarized (SD=1.096) this implies that even though the means for all the items indicate they were rated neutral ($2.76 \leq \mu \leq 3.86$) with a mean response of only one item falling below 3.00, the spread of the responses from the mean of each item is varied. Nevertheless, given the scale, there was wide spread of responses as all the items were more than 1.0 point away from the mean. This implies that attitude towards instructional resources in the centers was neutral.

Teachers' attentiveness to the intellectual, social, emotional, and physical environments creates a classroom climate conducive to children engagement with the content and skills of the discipline (Ashman & Gillies, 2013). In terms of intellectual environment, teachers provide curriculum content in an organized and engaging manner and give children motivating and challenging practice so that they are able to do authentic tasks in the discipline. From the emotional aspect of classroom climate, teachers create an encouraging atmosphere where children feel safe taking risks, receive support when events intrude on learning, and believe they can succeed if they put forth effort. And teachers foster approachable and supportive social interactions with children and among children so that learning is a collaborative and not competitive endeavor.

The study went further to carry out a correlation between Attitude towards instructional resources and teacher effectiveness.

Table 4.13: Correlation between Attitude towards the Instructional Resources and teacher effectiveness

Correlations

		Teacher effectiveness assessment	Attitude towards the Instructional Resources
Teacher effectiveness assessment	Pearson Correlation	1	.215
	Sig. (2-tailed)		.005
	N	311	311
Attitude towards the Instructional Resources	Pearson Correlation	.215	1
	Sig. (2-tailed)	.005	
	N	311	311

The Pearson Product-Moment correlation result indicates a positive correlation between Attitude towards the Instructional Resources and teacher effectiveness. However, the analysis also revealed that this relationship is highly significant (r=0215, p-value=0.005>0.05).

The findings differ with Moyo, Wadesango and Kurebwa (2012) who established that EYE teachers had a positive attitude towards the early childhood education programme. This may be due to the fact that the former study looked at the whole programe in general while the current one was targeting the instructional resources and how they use them. The findings also differ with Gikunda (2016) who found that teachers had negative attitude towards teaching Geography, however the current study found that the relationship was highly significant when it comes to teacher effectiveness. It also differs with Trivedi (2012) who established that the primary school teachers attitude towards the teaching profession was high while those of secondary school teachers was very stable.

While Moyo et.al. (2012), Trivedi (2012) and Gikunda (2016) established positive and negative attitudes respectively with regard to teachers, the current study went a step further to establish if there existed any relationship between the attitude and teacher effectiveness of which it established that there was a positive correlation between attitude of teachers towards instructional resources and teacher effectiveness and a highly significant relationship between the two. This implies that attitude towards instructional resources has a role to play with regard to teacher effectiveness.

The current study examined the attitude of teachers towards instructional resources and its relationship to teacher effectiveness. On the same note, the current study also went a step further to establish if there was relationship between the attitude of teachers towards instructional resources and teacher effectiveness of which it has established that there is a positive correlation while the relationship is highly significant. This implies that attitude towards instructional resources has an impact on teacher effectiveness.

Therefore, the contribution that this study makes to existing literature is by providing results on how attitude towards instructional resources would explain the relationship between attitude towards instructional resources and teacher effectiveness. This is important as it would help in creating a conducive atmosphere for the teachers to develop favorable attitude towards instructional resources so as to improve on their efficiency in the classrooms.

The study went further to carry out multiple regression analysis with the following: availability of instructional resources, relevance of instructional resources, adequacy of instructional resources, frequency on use of instructional resources, attitude towards the instructional resources and age of the respondents.

A multiple regression analysis was also conducted to determine which factors are the best predictor for teacher effectiveness and the results shown in Table 4.14.The results of the model summary indicate the overall adequacy of the model. From the results, the overall adequacy of the model is 86% meaning that the teacher effectiveness varies by the factors identified below.

Table 4.14: Model Summary: Predictors on Teacher Effectiveness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.236[a]	.856	.848	.617

a. Predictors: (Constant), , Availability of Instructional Resources , Age Ranges, Relevancy of the Instructional Resources , Adequacy of the Instructional Resources , Frequency on the use of Instructional Resources and Attitude towards the Instructional Resources.

The model summary presented in Table 4.14 indicates R^2 of .856 which is significant. Likewise, the adjusted square .848 is also significant. The change is (0.856-.848), which equals 0.08 this is slightly above the level of 0.05 as supported by Field (2005). Therefore, it implies that the model is valid and stable for prediction. This it predicts variance in Teacher effectiveness at 85.6%. This indicated that instructional resources accounted for up to 85.6% of the variance in Teacher effectiveness.

The results in Table 4.15 indicate whether the model is significant or not. From the output below, the model is significant, p-value=0.042<0.05.

Table 4.15 ANOVA: Predictors on Teacher Effectiveness

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.757	5	.751	1.974	.042[b]
	Residual	114.471	301	.380		
	Total	121.228	310			

a. Dependent Variable: Teacher effectiveness assessment

b. Predictors: (Constant), , Availability of Instructional Resources , Relevancy of the Instructional Resources , Adequacy of the Instructional Resources , Frequency on the use of Instructional Resources , Attitude towards the Instructional Resources

Finally, the findings in Table 4.16 show the coefficients of the predictors.

Table 4.16:Regression Coefficients: Predictors of Teacher Effectiveness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.247	.855		31.860	.000
	Availability of Instructional Resources	-.011	.024	-.028	-.465	.642
	Frequency on the use of Instructional Resources	-.006	.008	-.052	-.749	.455
	Relevance of the Instructional Resources	-.225	.066	-.207	-3.382	.001
	Adequacy of the Instructional Resources	.001	.083	.001	.010	.992
	Attitude towards the Instructional Resources	-.112	.104	-.081	-1.078	.282

a. Dependent Variable: Teacher effectiveness assessment

From the analysis, three factors that is Relevance of Instructional Resources has been found to be good predictor of the teacher effectiveness, p-value<0.05. For instance, in line with the descriptive statistics, this means that teachers who are 20-39 years are very effective than those who are over 40 years.

In the findings above, the main outcome from the output teacher effectiveness and it is the dependent variable while the availability of instructional resources , relevance of the instructional resources , adequacy of the instructional resources , frequency on the use of instructional resources , attitude towards the instructional resources are the independent variables. The estimated value in this case is the coefficient value and it shows the relationship between the independent and dependent variables. For instance, in the output, the coefficient for the level of availability of instructional resources is -0.011 meaning that when the availability of instructional resources increases by 1, the teacher effectiveness also decreases by 0.011. To note, coefficient value which are negative like -0.011 show that the relationship between the availability of instructional resources and the teacher effectiveness is also negative to mean that when the availability of instructional resources increase, it would result into a decrease in the teacher effectiveness.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

5.1.1 Relationship between Availability of Instructional resources and Teacher Effectiveness

The first objective of the study sought to assess the relationship of instructional resources and teacher effectiveness in Siaya County, Kenya. Out of the listed 18 items only 4 had a mean below 2.57 which was the mean for all the items indicating that instructional resources were insufficient in the early years education centers. It was established that the level of availability of instructional resources had moderate positive and statistically significant relationship with teacher effectiveness. This gives the implication that the level of availability of instructional resources positively impacts on teacher effectiveness.

5.1.2 Relationship of Adequacy of instructional resources and Teacher Effectiveness

The second objective of the study focused on determining the relationship between Relevance of instructional resources and teacher effectiveness in Siaya County, Kenya. Out of the 18 listed items, 12 items had a mean below 2.6 indicating that they were inadequate. Level of adequacy of instructional resources has a weak negative and not statistically significant relationship with teacher effectiveness. This implies that the level of adequacy of instructional resources does not impact on teacher effectiveness.

5.1.3 Relationship of between Relevance of Instructional Resources and Teacher Effectiveness

The third objective of the current study examined the relationship between relevance of Instructional resources on teacher effectiveness in Kenya. Inferential statistics out of the 18 listed items, 4 items had a mean below 2.00 indicating generally these materials were irrelevant. It was established that the level of relevance of instructional resources has a weak positive and statistically significant relationship with teacher effectiveness. This gives the implication that the level of relevance of instructional resources positively impacts on teacher effectiveness. The positive correlation was contributed by the fact that the teachers attempted to improvise on what was available and considered irrelevant to be relevant for their lessons.

5.1.4 Relationship between of Frequency of Use of Instructional Resources on Teacher Effectiveness

The fourth objective of this study was to examine the relationship of frequency of use of instructional resources and teacher effectiveness in Siaya County, Kenya. Out of the 18 items listed, 12 items had a mean below the average mean for all the items, implying that they were not used frequently. It was established that the level of frequency of use of instructional resources had weak positive and not statistically significant relationship with teacher effectiveness. This gives the implication that the level of frequency of use of instructional resources positively impacts on teacher effectiveness.

5.1.5 Relationship between Teachers' Attitude towards Instructional Resources and Teacher Effectiveness

Attitude of teachers towards instructional resources with regard to those geared towards achieving communication and collaboration competencies and those geared towards

achieving self efficacy had mean scores above 3.5 while the other five had less than 3.5 implying that the teachers were neutral. It was established that teachers' attitude towards instructional resources a weak negative and statistically significant relationship with teacher effectiveness. This gives the implication that teacher attitude towards instructional resources negatively impacts on teacher effectiveness.

5.2 Conclusions of the Study

Based on the findings aforementioned in the summary above, the study makes the following conclusions under each of themes corresponding to the objectives of the study.

5.2.1 Relationship between Availability of Instructional resources and Teacher Effectiveness

Based on the research findings, the study concludes that:

i) There is insufficient instructional resources in early years education centers.
ii) There is a moderate positive correlation between availability of instructional resources and teacher effectiveness in early years education centers.
iii) There is a statistically significant relationship between availability of instructional resources and teacher effectiveness in early years education.

This means it is important to avail instructional resources to the teachers since it impacts on the way they carry out their teaching duties during the teaching and learning process.

5.2.2 Relationship between Adequacy of instructional resources and Teacher Effectiveness

Based on the research findings, the study concludes that:

i) There is inadequacy of instructional resources in early years education.

ii) There is a weak negative correlation between adequacy of instructional resources and teacher effectiveness.

iii) The relationship between adequacy of instructional resources and teacher effectiveness is not statistically significant.

The findings imply that the level of adequacy of instructional resources does not impact on teacher effectiveness. Therefore the teachers can adapt to their learning and teaching environment with the available instructional resources irrespective of the level of adequacy.

5.2.3 Relationship between Relevance of Instructional Resources and Teacher Effectiveness

Based on the research findings, the study concludes that:

i) Instructional resources in early years education are irrelevant

ii) There is a weak positive correlation between level of relevance of instructional resources and teacher effectiveness.

iii) The relationship between relevance of instructional resources and teacher effectiveness is highly statistically significant.

As a result of these findings, relevance of instructional resources used by teachers will impact on their efficiency. This means that when using any kind of instructional resources whether relevant or irrelevant the teacher's efficiency is affected. Therefore there is need to pay attention to relevance of the items as it impacts on teacher effectiveness.

5.2.4 Relationship between Frequency of Use of Instructional Resources and Teacher Effectiveness

Based on the research findings, the study concludes that:

i) Instructional resources were not used frequently in early years education.
ii) There is a weak positive correlation between frequency of use of instructional resources and teacher effectiveness.
iii) The relationship between frequency of use of instructional resources and teacher effectiveness is not statistically significant.

This implies that frequency of use of instructional resources by teachers in early years education centers does not influence their efficiency. Therefore, this means that the teachers can teach without frequently putting into use the instruction al resources.

5.2.5 Relationship between Teachers' Attitude towards Instructional Resources and Teacher Effectiveness

Based on the research findings, the study concludes that:

i) Attitude of teachers towards Instructional resources is neutral.
ii) The Pearson Product-Moment correlation indicates a weak negative correlation between attitude of teachers' towards instructional resources and teacher effectiveness.
iii) The relationship between attitude of teachers towards instructional resources and teacher effectiveness is highly significant.

The finding implies that level of teacher effectiveness in early years education centers is influenced by their attitude towards instructional resources. This means that favorable or unfavorable attitude relatively impacts on teacher effectiveness.

5.3 Recommendations of the Study

Based on the findings aforementioned in summary, the study makes the following recommendations under each of the themes corresponding to the objectives of the study.

5.3.1 Relationship between Availability of Instructional Resources and Teacher Effectiveness

Objective one sought to establish the relationship between availability of instructional resources and teacher effectiveness. The findings indicated that there is insufficient instructional resources in early years education centers, a moderate positive correlation and a statistically significant relationship between level of availability of instructional resources and teacher effectiveness in early years education. The study therefore recommends that;

i) The need for the stakeholders to pool together to avail instructional resources for teachers in these centers.
ii) The need to equip early years education teachers with knowledge on the importance of instructional resources not only for the pupils but also for them.

5.3.2 Relationship between Adequacy of Instructional Resources and Teacher Effectiveness

Objective 2 sought to establish the relationship between level of adequacy of instructional resources and teacher effectiveness. The findings indicated that there is insufficient instructional resources in early years education centers, has a weak negative correlation and

a not statistically significant relationship between level of adequacy of instructional resources and teacher effectiveness in early years education. The study therefore recommends ;

i) The need to sensitize the teachers to acquire instructional resources for their use and majorly to pay attention on their learners who require them more in these centers.
ii) The need to equip early years education teachers with skills and knowledge on the improvisation of instructional resources for their pupils to achieve a favourable ratio for their learners.

5.3.3 Relationship between Relevance of Instructional Resources and Teacher Effectiveness

Objective 3 sought to establish the relationship between level of relevance of instructional resources and teacher effectiveness. The findings indicated that the level of relevance of instructional resources in early years education centers is wanting, has a weak positive correlation and a highly statistically significant relationship between level of relevance of instructional resources and teacher effectiveness in early years education. The study therefore recommends that;

i) Encourage consultations among stakeholders with regard to provision of relevant instructional resources for teachers in these centers.
ii) The teachers be involved in the production and acquisition of the instructional resources to be used in these centers.

5.3.4: Relationship between Frequency of Use of Instructional Resources and Teacher Effectiveness.

Objective 4 sought to establish the relationship between frequency of use of instructional resources and teacher effectiveness. The findings indicated that there is the insufficient instructional resources available were not put into frequent use, has a weak negative correlation and a highly statistically significant relationship between frequency of use of instructional resources and teacher effectiveness in early years education. The study therefore recommends that;

i) The need to sensitize the teachers the importance of using instructional resources frequently since it is beneficial to both the learners and the teachers
ii) The need to organize in-service courses on the importance of using instructional resources frequently.

5.3.5 Relationship between Attitude towards Instructional Resources and Teacher Effectiveness.

Objective 5 sought to establish the relationship between attitude towards instructional resources and teacher effectiveness. The findings indicated that there teachers' attitude towards instructional resources is neutral, a weak negative correlation and a highly statistically significant relationship between teachers' attitude towards instructional resources and teacher effectiveness in early years education. The study therefore recommends;

i) The neeed to offer incentives to the teachers so as to enable them develop instructional resources for their own use in these centers.
ii) The need to encourage them to be creative and innovative in coming up with their own materials which they can confidently use in their environment.

5.4 Suggestions for Further Research

Finally, during the current study, certain areas presented themselves as crucial issues that require empirical studies. They are listed below;

i. Further work is required to study factors influencing the provision of instructional in early years education centers.

ii. A study should be carried out to establish the influence of adequacy and relevance of instructional resources on pupils' learning in early years education programme.

iii. A study should be done to establish the reason behind the insignificant relationship between adequacy, frequency of use of instructional resources and teacher effectiveness.

iv. A study should be carried out to establish the extent of influence of frequency of use of instructional resources on pupils in early years education programme..

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APPENDIX A: CLASSROOM OBSERVATION GUIDE (COG)

School/ Center: _____ Date:_____ Time:_____

	CRITERION	PERFORMANCE			REMARKS
		MARK DISTRIBUTION			
		B/AV	A	AB/AV	
	Introduction(maximum marks 21) ✓ Ability to select resources ✓ Timing during use ✓ Competency in use ✓ Ability to determine durability and safety ✓ Attractiveness ✓ Visibility ✓ Improvisation skills	1	2	3	
	Lesson presentation (maximum marks 56) ✓ Ability to select resources ✓ Timing during use ✓ Competency in use ✓ Ability to determine durability and safety ✓ Attractiveness ✓ Visibility ✓ Improvisation skills	0-2	3-5	6-8	
	Lesson conclusion (maximum marks 21) ✓ Ability to select resources ✓ Timing during use ✓ Competency in use ✓ Ability to determine durability and safety ✓ Attractiveness ✓ Visibility ✓ Improvisation skills	1	2	3	
	Classroom Organization & Management (M/Limit-2 mrks)	1		2	
		Total marks			

APPENDIX B: TEACHERS' QUESTIONNAIRE (TQ)

Introduction

Good morning/afternoon

You are one of the respondents selected to participate in this study on the influence of selected factors on teacher effectiveness in pre-primary learning and education centers. Your responses will give feedback to the stakeholders regarding the status of the teacher effectiveness in these centers. You can greatly contribute towards this objective by being honest and giving individualized responses. Any information so obtained shall be strictly confidential. Do not write your name anywhere on this questionnaire. Either tick your response or fill in.

Section A

1. Please indicate your gender
    i. Male ( )
    ii. Female ( )
2. From the following age ranges, which age range applies to you?
    i. 20-29 years ( )
    ii. 30-39 years ( )
    iii. 40-49 years ( )
    iv. Above 50 years ( )
3. How long have you taken since graduating?
    a. 1 year ( )
    b. 2 years ( )
    c. Over 3 years ( )
    d. Other ( )
4. What is your highest professional qualification?

    Untrained ( )
    Certificate in ECE ( )
    Diploma in ECE ( )
    Degree in ECE ( )

Section B

Relationship between Availability of Instructional resources and teacher effectiveness

6. Indicate the availability of the following instructional resources.

	V.A	A	S.A	U	V.U
Charts					
Work cards					
Coloring books					
Manuals					
Guidelines					
Syllabi					
Material development manual					
Local stories					
Poems					
Riddles					
Wooden letters					
Toys					
Films					
Video cassette					
Photographs					
Cassette recorder					
Computer					
Computer software					

KEY: VA= Very Available, A= Available, SA= Somewhat Available, U= Unavailable, VU= Very Unavailable

Relationship between level of Adequacy of Instructional Resources and Teacher Effectiveness

7.Indicate the level of adequacy of the following instructional resources during your teaching?.

Instructional resources	V.A	A	S.A	I	VI
Charts					
Work cards					
Coloring books					
Manuals					
Guidelines					
Syllabi					
Material development manual					
Local stories					
Poems					
Riddles					
Wooden letters					
Toys					
Films					
Video cassette					
Photographs					
Cassette recorder					
Computer					
Computer software					

KEY: VA= Very Adequate, A=Adequate, SA= Somewhat Adequate, I= Inadequate , VI= Very Inadequate

Relationship between Relevancy of Instructional Resources and Teacher Effectiveness

8. Indicate the extent of relevancy of the following instructional resources in your teaching?.
5. Very relevant 4. Relevant 3.Least relevant 2. Not relevant 1.Dont know

	VR	R	SR	I	VI
Charts					
Work cards					
Coloring books					
Manuals					
Guidelines					
Syllabi					
Material development manual					
Local stories					
Poems					
Riddles					
Wooden letters					
Toys					
Films					
Video cassette					
Photographs					
Cassette recorder					
Computer					
Computer software					

KEY: Very Relevant, R= Relevant, SR= Somewhat Relevant, I= Irrelevant, VI = Very Irrelevant

Relationship between Frequency of Use of Instructional Resources and Teacher Effectiveness

9. Indicate the frequency of use of the following instructional resources?

Instructional resources	VF	F	SF	I	VI
Charts					
Work cards					
Coloring books					
Manuals					
Guidelines					
Syllabi					
Material development manual					
Local stories					
Poems					
Riddles					
Wooden letters					
Toys					
Films					
Video cassette					
Photographs					
Cassette recorder					
Computer					
Computer software					

KEY: VF = Very Frequent, F = Frequent, SF = Somewhat Frequent, I = Infrequent, VI= Very Infrequent

Relationship between attitude of Teachers towards instructional resources and teacher effectiveness

10.Statements on attitude towards general instructional resources	**SA**	**A**	**D**	**SD**	**NS**
Instructional resources are geared towards achieving communication and collaboration competency					
Instructional resources are geared towards achieving self efficacy					
Instructional resources are geared towards achieving crirtical thinking and problem solving competency					
Instructional resources are geared towards achieving citizen ship values					
Instructional resources are geared towards achieving digital literacy competence					
Instructional resources are geared towards achieving learning to learn competencies					

Thank You

APPENDIX C: CENTER MANAGERS' INTERVIEW SCHEDULE (CMIS)

Good morning/ afternoon

You are one of the respondents selected to participate in this study to. Your responses will give feedback to the stakeholders regarding influence of instructional resources on teacher effectiveness.

1. How long have you served as the center manager?

2. How many children do you have in the center?

3. Which methods do you use to avail instructional resources?

4. What challenges do you face when availing the instructional resources?

5. How do you ensure that the instructional resources are adequate for your center?

6. How do you ensure that the instructional resources are relevant for use?

7. Which methods do you use in ensuring that the teachers use frequently instructional resources

8. Generally how do you view your teachers use of instructional resources in the center

APPENDIX D: COUNTY EARLY CHIDHOOD EDUCATION DIRECTOR'S INTERVIEW SCHEDULE (CEDIS)

Good morning/ afternoon

You are one of the respondents selected to participate in this study to. Your responses will give feedback to the stakeholders regarding selected factors influencing teacher effectiveness of teachers with regard to the Curriculum.

1. How long have you been in charge of in this County?
2. How long have you been dealing with issues in this County?
3. In your opinion do you think the teachers have used the available resources effectively in early childhood education?
4. What is your opinion on the early education curriculum?
5. As the one in-charge of the early education programme, what steps have you taken to organize for in-service training for teachers in early pre- primary education?
6. What steps have you taken to ensure successful implementation of the early re-primary education?
7. In your opinion do you think the teachers have successfully implemented the programme as per the laid down guidelines in this County?
8. What measures have you put in place to rectify or improve on the implementation of the porgramme?
9. In your opinion what is your general overview of the programme with regard to teachers' effectiveness?

APPENDIX E: KREJCIE AND MORGAN ESTIMATION TABLE REVISED 2004

N-----n	N-----n	N-----n	N-----n	N-----n
10-----10	100-----80	280-----162	800-----260	2800-----338
15-----14	110-----86	290-----165	850-----265	3000-----341
20-----19	120-----92	300-----169	900-----269	3500-----346
25-----24	130-----97	320-----175	950-----274	4000-----351
30-----28	140-----103	340-----181	1000-----278	4500-----354
35-----32	150-----108	360-----186	1100-----285	5000-----357
40-----36	160-----113	380-----191	1200-----291	6000-----361
45-----40	170-----118	400-----196	1300-----297	7000-----364
50-----44	180-----123	420-----201	1400-----302	8000-----367
55-----48	190-----127	440-----205	1500-----306	9000-----368
60-----52	200-----132	460-----210	1600-----310	10000-----370
65-----56	210-----136	480-----214	1700-----313	15000-----375
70-----59	220-----140	500-----217	1800-----317	20000-----377
75-----63	230-----144	550-----226	1900-----320	30000-----379
80-----66	240-----148	600-----234	2000-----322	40000-----380
85-----70	250-----152	650-----242	2200-----327	50000-----381
90-----73	260-----155	700-----248	2400-----331	75000-----382
95-----76	270-----159	750-----254	2600-----335	100000-----384

Source: Krejcie and Morgan (1970:608) in Hill (2004).

Where N= Population size, and n= sample size required.

APPENDIX F: RAW SCORES FOR TEACHER EFFECTIVENESS ASSESSMENT FORM

Teacher	Observation 1	Observation 2	Observation 3	Average score	Coding
1	69	64	68	67	2
2	54	57	57	56	2
3	59	55	60	58	2
4	74	72	82	76	3
5	55	56	57	56	2
6	81	79	77	79	3
7	81	75	72	76	3
8	69	65	64	66	2
9	68	64	63	65	2
10	79	75	74	76	3
11	82	78	76	79	3
12	83	85	84	84	3
13	81	84	85	83	3
14	74	79	75	76	3
15	55	52	55	54	2
16	57	56	60	58	2
17	58	62	57	59	2
18	74	76	78	76	3
19	82	76	78	79	3
20	47	52	48	49	1
21	65	64	69	66	2
22	69	68	65	67	2
23	75	79	80	78	3
24	78	74	76	76	3
25	80	79	84	81	3
26	83	78	79	80	3
27	75	77	76	76	3
28	81	77	79	79	3
29	46	49	50	48	1
30	76	74	78	76	3
31	75	80	76	77	3
32	80	84	80	82	3
33	51	56	55	54	2
34	81	80	85	82	3
35	80	79	84	81	3
36	83	88	84	85	3
37	43	48	47	46	1
38	76	78	74	76	3
39	85	84	81	83	3
40	55	54	59	56	2
41	76	82	80	79	3
42	76	78	80	78	3
43	75	76	80	77	3
44	70	69	74	71	2

45	75	74	79	76	3
46	73	78	74	75	3
47	69	78	77	75	3
48	47	48	40	45	1
49	75	80	79	78	3
50	59	66	64	63	2
51	61	68	66	65	2
52	73	78	77	76	3
53	76	77	72	75	3
54	78	82	77	79	3
55	82	80	78	80	3
56	69	68	64	67	2
57	72	76	77	75	3
58	73	79	82	78	3
59	86	87	82	85	3
60	68	72	67	69	2
61	83	81	88	84	3
62	79	84	83	82	3
63	74	78	79	77	3
64	69	78	81	76	3
65	67	72	65	68	2
66	74	79	72	75	3
67	77	71	80	76	3
68	45	52	50	49	1
69	80	84	82	82	3
70	83	82	78	81	3
71	67	68	80	73	2
72	85	79	82	82	3
73	76	72	77	75	3
74	68	73	66	69	2
75	75	77	76	76	3
76	72	79	83	78	3
77	90	89	85	88	3
78	76	73	73	74	2
79	87	85	86	86	3
80	88	82	85	85	3
81	76	65	66	69	2
82	45	50	46	47	1
83	75	78	75	76	3
84	80	82	75	79	3
85	68	64	72	68	2
86	80	84	79	81	3
87	75	73	74	74	2
88	76	80	75	77	3
89	61	69	65	65	2
90	78	83	76	79	3
91	82	79	82	81	3
92	66	65	61	64	2

93	76	80	78	78	3
94	69	78	72	73	2
95	76	79	79	78	3
96	72	74	82	76	3
97	71	72	76	73	2
98	77	74	77	76	3
99	79	80	78	79	3
100	69	71	73	71	2
101	66	67	62	65	2
102	78	77	73	76	3
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105	70	72	65	69	2
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107	81	79	78	80	3
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109	84	85	89	86	3
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111	75	77	76	76	3
112	65	70	72	69	2
113	74	78	73	75	3
114	72	65	70	69	2
115	45	50	46	47	1
116	76	77	72	75	3
117	75	72	81	76	3
118	79	84	79	81	3
119	69	65	67	67	2
120	77	73	78	76	3
121	76	72	77	75	3
122	78	71	76	75	3
123	71	70	75	72	2
124	77	79	78	78	3
125	80	82	76	79	3
126	71	72	79	74	2
127	80	82	75	79	3
128	80	78	82	80	3
129	68	71	68	69	2
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131	75	73	77	75	3
132	79	76	79	78	3
133	64	70	70	68	2
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135	76	82	79	79	3
136	80	76	78	78	3
137	71	66	70	69	2
138	79	78	83	80	3
139	84	82	83	83	3
140	73	78	74	75	3

141	69	73	71	71	2
142	89	86	86	87	3
143	77	75	76	76	3
144	88	84	83	85	3
145	65	68	74	69	2
146	79	84	86	83	3
147	79	81	86	82	3
148	70	72	71	71	2
149	78	75	75	76	3
150	79	76	76	77	3
151	76	78	74	76	3
152	74	76	78	76	3
153	64	63	68	65	2
154	77	76	81	78	3
155	79	82	82	81	3
156	84	83	79	82	3
157	78	83	82	81	3
158	47	48	49	48	1
159	79	81	79	79	2
160	66	69	66	67	3
161	80	79	75	78	3
162	80	83	80	81	3
163	69	74	70	71	2
164	83	78	79	80	3
165	75	76	77	76	3
166	71	69	76	72	2
167	77	80	77	78	3
168	79	80	84	81	3
169	82	76	82	80	3
170	67	68	72	69	2
171	79	81	74	78	3
172	52	47	48	49	1
173	73	79	77	76	3
174	75	76	71	74	2
175	89	91	81	87	3
176	75	78	75	76	3
177	79	72	71	74	2
178	79	77	72	76	3
179	67	70	70	69	2
180	78	74	79	77	3
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182	69	73	71	71	2
183	80	79	75	78	3
184	65	69	67	67	2
185	81	80	76	79	3
186	66	69	68	67	2
187	80	82	78	80	3
188	76	83	84	81	3

189	76	68	72	72	2
190	76	80	78	78	3
191	89	84	88	87	3
192	47	48	49	48	1
193	78	76	74	76	3
194	73	79	79	77	3
195	70	67	70	69	2
196	81	75	78	78	3
197	74	79	78	77	3
198	71	74	73	72	2
199	71	76	72	73	3
200	69	74	70	71	2
201	76	80	78	78	3
202	76	70	73	73	2
203	77	79	66	74	2
204	80	75	79	78	3
205	76	81	77	78	3
206	70	67	70	69	2
207	82	76	79	79	3
208	81	80	76	79	3
209	78	82	81	81	3
210	65	63	73	67	2
211	82	78	83	81	3
212	75	77	76	76	3
213	40	48	50	46	1
214	77	81	76	78	3
215	79	80	78	79	3
216	68	72	67	69	2
217	83	76	81	80	3
218	84	82	77	81	3
219	71	72	69	71	2
220	79	84	83	82	3
221	76	81	80	79	3
222	67	74	75	72	2
223	76	78	80	78	3
224	82	86	84	84	3
225	72	76	71	73	2
226	81	87	81	83	3
227	81	80	76	79	3
228	73	75	74	74	2
229	81	80	85	82	3
230	86	88	78	84	3
231	87	89	79	85	3
232	72	65	70	69	2
233	76	77	75	76	3
234	79	75	72	76	3
235	73	78	74	75	3
236	65	69	67	67	2

237	83	85	75	81	3
238	75	68	70	71	2
239	75	80	73	76	3
240	72	76	71	73	2
241	78	82	77	79	3
242	83	77	80	80	3
243	72	66	69	69	2
244	84	80	79	81	3
245	78	85	80	81	3
246	68	72	73	71	2
247	85	82	79	82	3
248	76	80	78	78	3
249	47	49	51	49	1
250	84	78	81	81	3
251	67	69	65	67	2
252	77	75	76	76	3
253	71	72	76	73	2
254	74	80	77	77	3
255	76	81	77	78	3
256	72	73	68	71	2
257	79	81	77	79	3
258	82	84	74	80	3
259	69	72	74	72	2
260	82	83	78	81	3
261	82	79	85	82	3
262	69	72	72	71	2
263	85	81	83	83	3
264	87	82	83	84	3
265	67	71	69	69	2
266	88	85	79	84	3
267	69	71	81	74	2
268	82	79	82	81	3
269	71	75	73	73	2
270	77	79	78	78	3
271	82	77	79	79	3
272	85	81	80	82	3
273	57	55	56	56	2
274	79	77	78	78	3
275	84	81	81	82	3
276	84	80	79	81	3
277	83	82	78	81	3
278	57	54	54	55	2
279	81	84	81	82	3
280	80	76	78	78	3
281	81	80	76	79	3
282	45	49	47	47	1
283	77	74	77	76	3
284	79	80	72	77	3

285	68	67	60	65	2
286	89	86	86	87	3
287	75	80	82	79	3
288	78	76	74	76	3
289	60	62	55	59	2
290	87	75	81	81	3
291	88	84	77	83	3
292	63	56	61	60	2
293	81	86	82	83	3
294	86	81	85	84	3
295	77	75	73	76	3
296	64	67	64	65	2
297	78	74	76	76	3
298	81	83	82	82	3
299	71	73	81	75	3
300	72	68	67	69	2
301	54	57	54	55	2
302	80	81	75	78	3
303	77	79	72	76	3
304	68	70	63	67	2
305	60	68	67	65	2
306	75	79	74	76	3
307	81	77	79	79	3
308	82	86	81	83	3
309	74	76	75	75	3
310	75	78	67	73	2
311	75	76	80	77	3

KEY:1= Below 50%= Ineffective 2= 50% -74%= Effective 3 = Above 75%= Very Effective

APPPENDIX G: RESEARCHER'S LETTER OF INTRODUCTION TO RESPONDENTS

MASENO UNIVERSITY

PRIVATE BAG

MASENO

Dear Respondent

I am a Doctor of Philosophy (PhD) student at Maseno University and I am carrying out a study on the influence of instructional resources on teacher effectiveness in Early Years Education centers in Siaya County, Kenya. You are among those who have been selected to participate in this study. Your cooperation and assistance in completing the questionnaire and an interview will be highly appreciated. All the information obtained from your responses will be used only for this study and will be kept confidential.

May I take this opportunity to thank you in advance for your cooperation and participation in this study.

GEORGE O. OGOTT

APPENDIX H:

RESEARCH AUTHORIZATION LETTER

MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 30th August, 2016

TO: George O. Ogott
PG/PHD/0096/2011
Department of Educational Communication,
Technology and Curriculum Studies
School of Education, Maseno University
P. O. Box, Private Bag, Maseno, Kenya.

REF: MSU/DRPI/MUERC/00274/16

RE: Determinants of Performance of Early Childhood Development and Education Teachers in Siaya County, Kenya. Proposal Reference Number: MSU/DRPI/MUERC/00274/16

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 30th day of August, 2016 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 29th August, 2017. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 30th July, 2017.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 30th July, 2017.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

DIRECTORATE OF RESEARCH PUBLICATION & CONSULTANCIES 30 AUG 2016 MASENO UNIVERSITY

Thank you.

Yours faithfully,

Dr. Boniface Anyona,
Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

APPENDIX I: MAP OF SIAYA COUNTY