COMPARATIVE STUDY OF IMPLEMENTATION OF EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN HOMA BAY, KISUMU, MIGORI AND SIAYA COUNTIES IN KENYA

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OCTOBER, 2019

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DEDICATION

I dedicate this study to my beloved late dad Abuom Francis Wayiera, Late brothers Peter and Paul who believed in education, which gave me the confidence to carry on with my studies. I owe my education to them as they ably prepared me for this journey.

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ABSTRACT

The management of Early Childhood Development and Education (ECDE) in Kenya has been under different organizations which include local authorities, non-governmental organizations, private sector and the national government until 2013 when the county governments took over management of public ECDEs. However, information regarding the implementation of ECDE programmes in terms of investment in infrastructure, quality teaching as well as teaching and learning resources has remained scanty. The purpose of this study was to investigate similarities and differences in the level of implementation of ECDE in public schools in Homa Bay, Kisumu, Migori and Siaya Counties. Specific objectives were to determine the level of investment in infrastructure; the quality of teaching; level of investment in teaching and learning resources; and the challenges facing implementation of ECDE programmes. The researcher adopted Vygotsky's Socio-cultural and Zone of Proximal Developmenttheory, and Hawes and Stephens (1990) Theory of Goals, Context and Agency. Descriptive research design was adopted for the study. The target population comprised of 27 sub county administrators and three officials in charge of ECDE from each of the four counties. Census method was used to select all the 12 officials in the four counties and 27 sub county administrators. Document analysis was used for collecting data on the level of investment in infrastructure, quality of teaching, and the level of investment in teaching and learning resources. Open ended questionnaires were used to collect data concerning challenges facing implementation of ECDE. Validity and reliability was enhanced through expert consultation and the use of multiple sources of data, whereby information was cross-checked and the authenticity of individual accounts assessed. Thematic analysis was used to analyse data obtained from documents. Findings revealed that the counties did not have properly kept ECDE records. The records indicated ECDE expenditure was as low as Kshs 90.00 per learner in some counties prior to 2013 while allocation for each ECDE learner was between Kshs 2,053.00 and Kshs 6,102.00 in 2016. Before 2013, class size was between 52 and 64 while in 2016, it was between 33 and 101 learners. Teachers were found to have good level of training, although teacher - learner ratio were relatively higher in 2016 with an average of 1:56 learners compared to the period prior to 2013 when it was 1:53. There was inadequate teaching materials, few teachers, inadequate infrastructure, malnutrition, and poor fee payment on the side of parents. It was recommended that investment in infrastructure alongside teaching and learning materials be improved in all ECDE centres. More teachers should also be employed in ECDE centres. The study recommends that further research be done on the following areas: strategies to enhance records keeping for ECDE enrolment, national government expenditure, budgetary allocations and the number of classrooms by the county governments; factors determining sufficiency of recruitment of qualified and gender proportion of ECDE teachers among public pre-schools by county governments; and factors determining participation of parents in the activities of ECDE and their implications on provision of teaching and learning materials, quality teachers, and infrastructure among public pre-schools in the counties.

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LIST OF ABBREVIATIONS

BUPL : Bonnechere Union Public Library

CRA : Commission for Revenue Allocation

CSO : Curriculum Support Officer

ECD : Early Child Development

ECDE : Early Child Development and Education

ECE : Early Childhood Education

EI : Education International

IMI : Instructional Material Inventory

OECD : Organization of European Cooperation and Development

LIST OF ACRONYMS

EFA	: Education For All
ILO	: International Labour Organization
UNESCO	: United Nations Educational, Scientific and Cultural Organization
UNICEF	: United Nations Children Educational Fund
WHO	: World Health Organization.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Care and development of young children is a foundation of social relations and starting point of human resource development. According to Education International (EI, 2012), early childhood is the most critical period for cognitive and social development. Children are active learners from birth, and the first years are vital, hence early childhood development and education (ECDE) should be recognized as a first step of basic education and a fully integrated sector within national education systems. Provision of ECDE should be universally accessible and free for all children because high quality ECE provides the foundation for life-long learning and stimulates children's social, emotional, physical, cognitive and linguistic development (Hirst, Jewis, Sojo & Cavagh, 2011).

Early Childhood Development and Education (ECDE) has been defined in different contextual ways. It has universally been defined as the period from birth (or prenatal) to eight years old (UNESCO, 2010; UNICEF, 2008). Early childhood development and education relates to how well a child is tracking in their education over this period. It looks at the physical health and wellbeing; social competence; emotional maturity; language and cognitive skills, and communication skills and general knowledge, according to International Labour Organization (ILO, 2012). The importance of ECDE to the global community prompted the convention of the World Conference on Education for All (EFA) that took place in Jomtien, Thailand, in March 1990 (UNICEF, 2008). The conference articulated the significance of the early years as the foundation for the life of an individual (UNESCO, 2010). Further, the Dakar Convention of 2000 recognises ECDE as number one objective in Education For All

(EFA) goal (UNICEF, 2008). The spirits of the two conventions called for policy formulations to entrench ECDE as a basic human right of the child.

The debate on implementation of ECDE should be looked at under the lenses of Zone of Proximal Distance (ZPD) as espoused by Vygotsky's (1978). This is the area of exploration for which the learner, with the help of a peer or instructor as well as social interaction (with the environment) is cognitively prepared to fully develop. Goal, Context and Agency theory, on the other hand, articulates the critical importance of the environment of the learners including the teacher, infrastructure and the resources. Thus, implementation of ECDE is postulated to be rapid acquisition of necessary conditions evidence in infrastructure, quality trainers, sufficient T&L resources, and adherence to measures necessary to address challenges faced in rolling out the programmes (McNally, 1987). Similarly, it goes that ECDE implementation programmes should be embedded upon goals, context and agency theory as espoused by Hawes and Stephens (1990) Theory. This means that quality of ECDE implementation should be pegged on set goals of imparting appropriate skills to learners via appropriate contexts like infrastructure among other resources. Additionally, there must be an agency (teacher) whose responsibility is to utilize the available resources for the attainment of the set goals.

Both Vygotsky's (1978) theory as well as goals, context & agency theory by Hawes and Stephens (1990) call for the provision of inputs (resources like teachers and learning resources) and infrastructure to ensure preparedness among teacher training colleges for service delivery. According to Gopang (2016), improving the quality of education depends on improving quality of teaching, learning resources, and physical facilities in the learning environment as outlined by quality assurance guidelines. Although educational inputs like adequacy of infrastructure (Amsterdam, 2010),

quality of teaching (Glewwe, Hanushek & Ravina, 2011; Hanushek, 2011), adequacy of teaching and learning resources (Bizimana & Orodho, 2014) have been linked with sufficient implementation of curricula among primary, secondary, and colleges, ECDE programmes implementation seem to have been overlooked.

Although most governments across the globe recognize the importance of ECDE, the provision of quality ECDE has met several challenges, most of which are contextual. Infrastructure, trained teachers, and teaching and learning resources have been lacking in adequate measures to satisfactorily aid quality of ECDE learning (EI, 2010). In Canada, Bonnechere Union Public Library (BUPL, 2006) reports that ECDE teacher turnover rates rose owing to low remunerations by the municipal government upon which recruitment of the teachers are bestowed. In Hungary, where ECDE is subsidized by the government, enrolment is generally high in ECDE Centres far beyond the infrastructural capacities of such centres (OECD, 2006). Cuyvers, De Weerd, Dupont, Mols, and Nuytten (2011) investigated the importance of infrastructure to the well-being of learners and consequently to positive educational outcome in Antwerp, (Belgium). They found that differences in students' well-being can be linked to the quality of the infrastructure of the schools they attend.

Equally, De Paola, Ponzo, and Scoppa (2009) examined the effects of class size on students' achievement using data from a project offering special remedial courses in Mathematics and Language skills to freshmen enrolled at an Italian medium sized public University in Italy. It was found that larger classes determine a significant and sizeable negative effect on student performance in Mathematics. The two studies (Cuyvers, et al., 2011; De Paola, et al., 2009) however, need to motivate researchers to investigate infrastructural capacities and class sizes with intention to determine quality of education offered among devolved systems across the globe, including Kenya.

A study done in Turkey by İnal, Kandır and Özbey (2009) researched on the difficulties faced by preschool teachers in the planning and implementation of curriculum. It was found that the biggest difficulties teachers faced were in preparing annual plans and choosing objectives, teaching methodologies, and goals for the whole year. Further, Schneider (2013) explored what two Grade R teachers understand literacy to be and how it is implemented in their classrooms in South Africa. It was found that the preschool teacher views literacy as an act of creative expression and her pedagogy is more implicit, while the teacher in the primary school provides more explicit instruction focusing on how texts and language work. High-functioning classrooms with qualified teachers were also found to prepare children to grow up being literate.

Another study by Holland (2011) investigated young children's perception of melodic construction aimed at finding clues about their children's broader cognitive development in non-musical domains in Winconsin, USA. The analysed data revealed common themes with varied results of eagerness or hesitancy to participate, whether bells were moved or played, exploration of bells, internalization of rhythm, cognitive readiness for melodic construction, and role of visual representation. Equally, Kim, Wigram and Gold (2008) investigated the effects of improvisational music therapy on joint attention behaviours in pre-school children with autism in selected Asian countries using 25 ECDE learners (aged 1 to 5 years old) selected from different learning centres. The findings were that joint attention skills and pro-social behaviours were found to be improving through the improvisational therapy.

Fagbeminiyi (2011) used survey approach through self-administered questionnaires to also explore the role of parents in early childhood education in Ikeja, Lagos State, Nigeria. It was revealed that parental involvement, that is emotional care and support

has a very big influence on early childhood education, particularly the academic performance of the child and the age which the child is being sent to school. Chikutuma and Mawere (2013) also conducted a research on the quality of administration, teaching and learning of Early Childhood Development B learners (5-6 year olds) of Grade Zero in Zimbabwe. They found that the Early Childhood Development B inclusion in primary schools was not quite viable as it failed to cater for the all-round development of learners. For instance, age appropriate equipment were not available and appropriate activities were not being administered and thus the environment itself was not conducive to the age group's needs of learning through play.

Still in Zimbabwe, Moyo, Wadesango and Kurebwa (2010) investigated the factors that affect the implementation of Early Childhood Development Programmes (ECD). Results indicated, among others, that the qualifications of teachers affected their ability to deliver effective lessons. Large classes reduced teacher-pupil interaction. It was also revealed that teachers and parents had positive attitudes towards Early Childhood Development programmes. The quality of ECE education was affected due to inadequate infrastructure and quality teachers. However, the situation among regional governments or devolved units in Kenya has not been focused upon. The present study thus chose to focus in this area.

Implementation of educational programmes has been widespread in the professional world and the question of ECDE is no exception. Moyo, Wadesango, and Kurebwa (2010), while investigating factors that affect the implementation of ECD in Zimbabwe, found that qualifications of teachers affected their ability to deliver effective lessons; large classes reduced teacher-pupil interaction; and that children were vulnerable to deprivation of appropriate experiences because ECD centres were

not well equipped. Contextual processes like curriculum and teaching as well as learning materials (SACMEQ, 2010) is essential for successful rollout of ECE programmes. Gudo and Olel (2011) described quality of education as fitness for purpose and conformance to standards. Fitness for purpose refers to purpose and utility of the product while conformance to standards is standard based approach aligned to the specified standards given by a regulatory agency. Thus, implementation of ECE should be viewed under the lenses of contextual processes and outcomes as set by DICECE. However, information related to implementation of ECDE programmes among public primary schools in Kenya has been scarce, and how county governments have been ensuring that ECDE centres are implementing the same has not been gauged.

In Kenya, Murundu, Indoshi, and Okwara (2010) sought to establish the school factors influencing implementation of ECDE Curriculum in Emuhaya District. They found that lack of suitable teaching and learning resources, inappropriate diet, understaffing, inappropriate medium of instruction and teacher-child ratio, and poor grouping practices were the factors hindering effective implementation of the curriculum in ECDE centres Similarly, Rotumoi and Too (2012) investigated the influence of resource availability on the choice of teaching methodologies by pre-school teachers in Baringo District (Kenya). The data revealed that availability and adequacy of space and number of ECDE children had a great influence on the teaching methods teachers adopted. Inadequate finance, poor storage facilities and lack of commitment were cited as reason for failure of the use of child centered methods of teaching.

It is therefore emerging that implementation of ECDE programmes by devolved units remained unfocused upon ever since the management of the same were devolved to county governments in Kenya. Thus, it was interesting to compare the level of

investment in infrastructure among counties in Kenya, and to compare teaching quality as well as the teaching and learning materials that have been acquired by different county governments for ECE programmes.

Section 26 of the Basic Education Act (Republic of Kenya, 2012) states that the roles of the County Government will include the provision of funds required for the development of the necessary infrastructure for institutions of basic education and training used for conducting pre-primary education, childcare facilities, home craft centres and village polytechnics. The scenario here is that the National Government has been disbursing funds to devolved systems meant to cater for but not limited to education, including ECDE, which has been put under the management of County Governments (Republic of Kenya, 2014).

It was therefore important to compare and determine the status of implementation of ECE among different counties in the country. This study therefore filled this gap by comparing the status of infrastructure, quality teaching, and teaching and learning materials in Homa Bay, Kisumu, Siaya, and Migori Counties.

1.2 Statement of the Problem

The importance of ECDE cannot be gainsaid since it focuses on how well a child is tracking on among others, physical health and wellbeing, social competence, emotional maturity, language and cognitive skills. The Zone of Proximal Distance and the Goals, Context and Agency theories articulate the importance of the learners' environment as critical components in ensuring quality ECDE learning. Thus, for successful implementation of ECDE programmes, there must be adequate infrastructure, quality teaching, and adequate teaching and learning resources. Most governments in the developed countries have put in place infrastructure, qualified teachers as well as teaching and learning resources capable of ensuring success in the

implementation of ECDE. In Kenya, implementation of ECDE programmes have been under the mandate of the National Government in partnership with the community and non-governmental organizations until the year 2013 when the responsibility was devolved to the 47 counties. The 47 County Governments are expected to put up adequate infrastructures, recruit qualified teachers and provide enough teaching and learning materials for the enhancement of quality ECDE in public pre-schools. It is about five years since County Governments were established in Kenya, it is envisaged that the counties have put in place steps to improve ECDE in their respective areas of jurisdiction. The question is: what have county governments done in the provision of quality ECDE? This study therefore sought to investigate the status of implementation of ECDE in public schools in Kenya.

1.3 Significance of the Study

This study compared implementation of ECDE in Homa Bay, Kisumu, Migori, and Siaya Counties between 2010 and 2016. The findings are significant in helping the county governments to understand their strengths and weaknesses in rolling out ECDE programmes in comparison with the period prior to the new dispensation of devolution. Additionally, it would help educational officers charged with implementation of ECDE to identify the areas of weaknesses that they can improve on. Similarly, the findings and recommendations would help ECDE centres in benchmarking their strategies and policies to enhance ECDE. Finally, this study would add to the body of knowledge in the implementation of ECDE programmes, besides opening up new windows for further researcher.

1.4 Purpose of the Study

The purpose of the study was to compare implementation of ECDE in public schools in Homa Bay, Kisumu, Migori and Siaya Counties.

1.5 Specific Objectives

The specific objectives were to:

i. Establish the level of investment in ECDE infrastructure by the National and County Governments in Homa Bay, Kisumu, Migori and Siaya between 2010 and 2016.

ii. Find out the quality of teaching in ECDE schools in Homa Bay, Kisumu, Migori and Siaya Counties between 2010 and 2016.

iii. Assess the level of investment in ECDE teaching and learning resources by the National and County Governments in Homa Bay, Kisumu, Migori and Siaya between 2010 and 2016.

iv. Establish challenges facing implementation of ECDE programmes in Homa Bay, Kisumu, Migori and Siaya Counties between 2013 and 2016.

1.6 Research Questions

The study attempted to answer the following research questions:

i. How much has the National and County Governments of Homa Bay, Kisumu, Migori and Siaya invested on ECDE infrastructure between 2010 and 2016?

ii. What is the quality of teaching in ECDE schools in Homa Bay, Kisumu, Migori, and Siaya Counties between 2010 and 2016?

iii. What is the level of investment in teaching and learning resources in ECDE schools in Homa-Bay, Kisumu, Migori, and Siaya Counties between 2010 and 2016?

iv. Which challenges have faced implementation of ECDE programmes in Homa-Bay, Kisumu, Migori and Siaya Counties between 2013 and 2016?

1.7 Assumptions of the Study

It was assumed ECDE centres had made investments in infrastructure like classrooms for learners as well as teaching and learning materials. Additionally, the study assumed that there were ECDE teachers in each of the preschools. To this end, the study took it that records of investment in infrastructure, teaching and learning resources, and for teachers were available for analysis.

1.8 Scope of the Study

The study covered early childhood education in public schools in Kisumu, Homa Bay, Migori, and Siaya Counties. It involved 27 Sub County officials and 12 County Officers. The study compared ECDE implementation by the national Government (during 2010-2013) and the County Governments (during 2013-1016). The study was carried out between July 2016 and January 2017. Specifically, this study established ECDE implementation in the four counties under the parameters of the level of investment in infrastructure, quality of teaching, level of investment in teaching and learning materials, and the challenges facing implementation of ECDE programmes.

1.9 Limitations of the Study

This study was restricted to the four counties: Homa Bay, Kisumu, Migori, and Siaya. This limited the level of generalization to other counties owing to different economic, social and political dispositions. Similarly, some counties did not have all the documents required for this study. This might have led to missing of vital information. However, care was taken by issuing an open-ended questionnaire to capture important information that the researcher needed.

1.10 Theoretical Framework

This study adopted Vygotsky's Socio-cultural and zone of proximal development Theory and Hawes and Stephens (1990) Theory of Goals, Context and Agency.

1.10.1 Vygotsky's Socio-cultural and zone of proximal development (ZPD) Theory

Vygotsky's (1978) socio-cultural theory of human learning describes learning as a social process and the origination of human intelligence. The major theme of Vygotsky's theory is that social interaction plays a fundamental role in the development of cognition. Vygotsky believed everything is learned at two levels. First, through interaction with others, and then integrated into the individual's mental structure.

A second aspect of Vygotsky's theory is the idea that the potential for cognitive development is limited to a 'zone of proximal development (ZPD). This 'zone' is the area of exploration for which the student is cognitively prepared, but requires help and social interaction to fully develop (Turuk, 2008). A teacher or more experienced peer is able to provide the learner with "scaffolding" to support the student's evolving understanding of knowledge domains or development of complex skills. Collaborative learning, discourse, modeling, and support strategies for supporting the intellectual knowledge and skills of learners and facilitating intentional learning.

A clear application of socio-cultural theory principles in ECE classroom is obvious in the task-based approach. This approach emphasises the importance of social and collaborative aspects of learning. Socio-cultural theory focuses on how the learner accomplishes a task and how the interaction between learners can scaffold and assist in the learning processes (Ellis, 2000). Shayer (2002) postulated that collaboration and interaction among peers create a collective ZPD from which each learner can draw from as a collective pool. Thus ECDE teachers should give more attention to the properties of task that aim to promote communicative efficiency. On the other hand, Seedhouse (1999) assumes that task-based contexts "stimulate learners to mobilise all

their linguistic resources and push their linguistic knowledge to the limit" a point that Seedhouse seems to question. However, task-based activity tends not to be linked to any particular approach, and is therefore a useful method for the teaching of language-centred tasks, learner-centred tasks and learning-centred tasks.

In ECDE, the theory asserts that learning is a collaborative achievement and not an isolated individual's effort, where the learner works unassisted and unmediated. The theory emphasizes that during instruction, awareness of the structure and function of language is developed by using it socially. Thus, Vygotsky's Socio-cultural and zone of proximal development (ZPD) theory is applicable to this study because it articulates the importance of social interaction within a well structured environment or context (infrastructure). Moreover, participation in learning is considered possible through mediation: an interactive process involving ECDE teacher. In addition, the interaction leads to learning when appropriate materials are employed.

However, Vygotsky's Socio-cultural and zone of proximal development (ZPD) theory has been faulted as not supporting Child to Child (CtC) approach of teaching. Rather, it supports historical and repeated standard paradigm of Institutionalized Public Basic Schooling (IPBS) (Serpell and Hatano, 1997). The socio-cultural theory is criticised as ignoring the unique needs of individual learner normally revealed through assessment. Indeed, it is argued that the teacher only acts as an agent as opposed to one who is expected to identify the present and future needs of learners (Serpell, 2004).

1.10.2 Goals, Context and Agency Theory (Hawes and Stephens, 1990)

Hawes and Stephens (1990) theory of goals, context and agency basically focused on education in low income countries and takes an essentially humanist stance on education and development. It proposes that quality can be interpreted as having three strands: efficiency in meeting set goals; relevance to human and environmental needs

and conditions; and "Something more" in relation to the pursuit of excellence and human betterment (Hawes & Stephens, 1990)

Hawes and Stephens (1990) interpreted efficiency as making the most of inputs, or the tools that are available, in order to reach and improve different kinds of standards, including standards of attainment in knowledge and learning skills; standards of creativity and critical thinking and standards of behaviour. Relevance includes relevance to context, relevance to the present and future needs of learners and relevance to humanity. The latter covers the notion that education has social as well as personal benefits for the individual. Hawes and Stephens (1990) do not privilege national economic benefits. The "something more" is explained as that extra quality of inventiveness, stimulation, excitement, and concern for others or happiness which is found, albeit rarely, in schools and teachers (Hawes & Stephens, 1990).

From this starting point, they constructed a model (a wheel for assessment and improvement of quality). Figure 1.1 presents Hawes and Stephens' (1990) Theory of Goals, Context and Agency wheel.

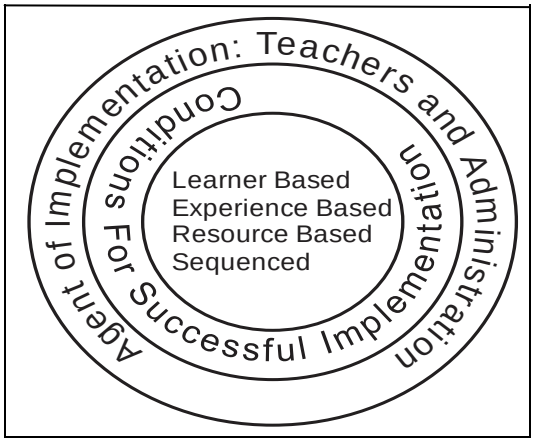

Figure 1.1: Hawes and Stephens (1990) Theory of Goals, Context and Agency wheel

The goals of quality (e.g. promotes human development and survival) and the principles of practice (learner-based, experience-based, resource-based and sequenced) are placed at the hub of the wheel, surrounded by conditions for successful

implementation and an outer circle of agents of implementation (e.g. teachers, administrators). Hence, Hawes and Stephens (1990) privilege the value-basis of education as a measure for assessing quality. Enabling context and the agency of educational stakeholders are identified as key inputs, necessary for quality education.

According to Serpell and Hatano (1997), the theory supports Child to Child (CtC) approach which stands in marked contrast to the standard paradigm of Institutionalized Public Basic Schooling (IPBS) that has been widely established across the world. It supports approaches that tend not to derive their legitimacy partly from historical tradition, and partly from the advocacy of certain economically-oriented technical specialists and agencies (Serpell, 2004). Rather, the theory construes learners, not as a set of organisms to be moulded into a pattern of behaviour specified in advance as educational outcomes, but as newcomers to a community of practice, for whom the desirable outcome of a period of apprenticeship would be appropriate to the system of meanings that informs the community's practices (Serpell, 1997). By appropriating this system, learners are expected to make those meanings on their own, transforming them in the process, and co-constructing with the rest of the community a new, emerging set of cultural practices.

Stephens (2007) asserts that this theory is in the heart of key quality factor in the delivery of learning. There is a strong case that at the heart of the improvement of school quality is an effective relationship between assessment and evaluation. A school improvement approach to raising quality necessitates that assessment data i.e. pupil learning outcomes are used not only as ways to monitor individual progress but also for evaluation purposes: to measure and monitor the quality of the educational system, particularly if value-addedness is to be accounted for (p 22). Crudely it is also a way to ensure that we make the most efficient use of our scarce resources

Theory of goals, context, and agency is considered relevant in this study because quality of ECDE learning is embedded upon set goals (to impart appropriate skills, among others) to the child. For this to be attained, contextual issues like infrastructure (classrooms, desks, among others), pedagogy, and other resources must be adequately put in place. Additionally, there must be an agency (qualified teacher) whose responsibility is to utilize the available resources for the attainment of the set goals. Thus, for implementation of ECDE to be realised, there must be adequate infrastructure (contextual factors), quality teachers (agency) and adequate teaching and learning resources whose goals are to inculcate sufficient skills upon young learner.

1.11 Operational Definitions of Terms

Challenges	Are circumstances related to the national government, county governments, schools and parents that tend to impede implementation of ECDE
Comparative Study	An investigation into the difference between national and county governments in implementation of ECDE programmes
Early Childhood Development and Education	Refer to learning activities or processes provided to children between the age of four to six years
Implementation	Refers to rolling out of education programmes using adequate infrastructure, quality teaching, and adequate teaching and learning resources for learners who are 8 years and below
Infrastructure	Refer to classrooms, furniture, abolition and accommodation blocks or facilities used in

	ECDE centres
Investment	Total amount of money set aside to be spent for the successful implementation of ECDE
Investment in infrastructure	Refers to amount of money set aside to be spent on construction of classrooms and abolition blocks or facilities such as furniture used in ECDE centres
Investment in teaching and learning resources	Is the amount of money set aside to be spent on the purchase of text books, demonstration equipment, writing resources and equipment used in ECDE centres
Quality of Teaching	Refers to fitness of pedagogy delivery that conforms to standards set by the ministry of education for ECDE implementation
Teaching and Learning resources	Refer to text books, demonstration equipment, writing resources and equipment used in ECDE centres

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of related studies from across the globe, regionally as well as locally. It also presents critiques to the reviewed studies. This review is done in the sequence of the study objectives: investment in ECDE infrastructure; quality of teaching in ECDE; teaching and learning materials in ECDE, and Challenges facing implementation of ECDE.

2.2 Level of investment in Infrastructure in ECDE

Good quality ECE is dependent largely on infrastructural support, as can be seen in the experience of most developed countries where adequate government infrastructures have played an important role in ensuring greater access (Cuyvers et al., 2011). The conditions of physical buildings, space, and furniture as well as equipment are core indicators of adequacy in infrastructure. However, studies focusing on investment in infrastructure for successful implementation of ECDE programmes seem to be limited. De Paola, Ponzo, and Scoppa (2009) examined the effects of class size on students' achievement using data from a project offering special remedial courses in Mathematics and Language skills to freshmen enrolled at an Italian medium sized public university in Italy. It was found that larger classes determine a significant and sizeable negative effect on student performance in Mathematics. Importantly, it was found that the negative effect of class size is significantly larger for low skilled students. On the other hand, class size effects do not appear to be relevant for student achievement in Language Skills. However, it is important to note that this study (De Paola, et al., 2009) focused on University classroom size. Similar attention was thus needed on ECDE classroom size, and the present study sought to fulfill this.

In another study, Bahanshal (2013) sought to ascertain the impact of large classes on the teaching and learning outcomes, and to suggest appropriate strategies Saudi secondary teachers can utilize in their large classes to facilitate English teaching and learning. Six Saudi English teachers from two public schools were interviewed to express their perceptions about teaching in large classes. Research results present that all participants find it daunting to teach large classes. Teachers also comment that despite their efforts to elevate the level of language learning in such context, the outcome of their students is considered to be unsatisfactory. They believe that this can be contributed to the fact that there are big numbers of students in one class and wish for the number to be reduced. Again, Bahanshal (2013) focused on secondary schools while there is also critical need to cover ECDE centres with similar studies.

In South Africa, Mestry and Bodalina (2014) administered a structure questionnaire to investigate the management teams and teachers' perceptions and experiences of the management of physical resources in schools. Findings revealed that many governing bodies lack the necessary financial skills to develop practical budgets and procure physical resources economically for their schools. They are unable to set-up systematic structures and stringent processes, and this has caused wasteful expenditure for schools, and the failure of teachers to maintain and productively use physical resources. However, Mestry and Bodalina (2014) did not focus on physical resources in ECDE centres.

In Zimbabwe, Moyo, Wadesango and Kurebwa (2010) investigated the factors that affect the implementation of ECD. The random sample consisted of 12 primary school heads and 12 Early Childhood Development teachers in the Chiwundura Circuit. Results indicated that the qualifications of teachers affected their ability todeliver effective lessons. Large classes reduced teacher-pupil interaction. It was also revealed

that teachers and parents had positive attitudes towards Early Childhood Development programmes. Furthermore, the study revealed that lack of resources affected teaching and learning processes. Lack of qualified teachers affected professional conduct of Early Childhood Development programmes. The children were vulnerable to deprivation of appropriate experiences because ECDE centres were not well equipped. Still, this study (Moyo et al, 2010) did not focus on specific infrastructural facilities like classrooms, playing fields, and furniture as well as equipment. These were key areas that were compared in the four counties covered in the present study.

In Ghana, Yelkpieri, Namale, Esia-Donkoh and Ofosu-Dwamena (2012) sought to provide views of both lecturers and students on large class size and how it affects teaching and learning of the Winneba Campus of UEW (University of Education, Winneba). Across-sectional sample survey was adopted in this study. Some of the key findings of the study are that lecturers disagreed with the view that large class size affects the quality of their teaching. They also disagreed with the assertion that large class size makes assessment of students difficult. The students, on the other hand, agreed that large class size does not afford lecturers an opportunity to pay attention to weaker students and do remedial teachings. However, Yelkpieri et al (2012) based their study on data collected from universities while similar study was also critical for ECDE centres.

Similarly, Bukaliya and Mubika (2012) assessed the benefits and challenges of Early Childhood Development (ECD) education programme in Zimbabwean primary schools using descriptive survey design. Results revealed that problems facing ECDE centres are inadequate and inappropriate classrooms; Para-professionals are being hired to teach the ECDE classes and there are no Education Officers available for effective supervision. There was no adequate equipment and of standard of available

equipment at the play centres was found to be poor. However, Bukaliya and Mubika (2012) based their study in ECDE centres located within primary schools. The need to investigate similar issues under independent public ECDE centres thus prompted the present study which compared adequacy of ECDE infrastructure among four county governments in Kenya.

In Kenya, Rotumoi and Too (2012) investigated the influence of resource availability on the choice of teaching methodologies by pre-school teachers in Baringo District. The data analysis revealed that availability and adequacy of space and number of ECDE children had a great influence on the teaching methods teachers adopted. Inadequate finance, poor storage facilities and lack of commitment were sighted as reason for failure of the use of child centered methods of teaching. In addition, most rural pre-school centres were managed by primary school teachers who showed less concern. Nonetheless, the new constitution in Kenya devolved the management of ECDEs to the county governments which were expected to handle such issues according to local situations. It was this consideration that informed comparison of quality of ECDE in the four counties of Kenya.

Githinji and Kanga (2011) sought to analyze the current issues facing ECDE in Kenya. Findings revealed that ECDE is currently facing challenges related to the following: funding, policy formulation, low participation rates of target age groups including special learners, lack of curriculum content informed by research based data, inadequate qualified educators, lack of schemes of service for educators, rising number of orphans, conflict in medium of instruction among others. Still, comparison of quality of ECDE among county governments was deemed necessary in the present dispensation in Kenya. This was the drive which guided this study.

Musyoka (2013) assessed the influence of physical infrastructure on the students' performance of Kenya Certificate of Secondary Education in secondary schools in Mwingi Central district. This study used descriptive survey design. The target population of the study was all the 30principals 238 teachers and 2400 students. The researcher used three sets of questionnaires, one for the principal, and the other for the teachers and another for students. The study findings were that schools do not have adequate physical facilities. Such physical facilities include classrooms, laboratories, library, desks and toilets which negatively impacts on their academic performance. The focus of Musyoka's (2013) study was primary schools while the need for a similar study to be done among ECDE centres prompted the current study.

The foregoing reviewed studies have not focused on the status of specific infrastructural facilities for ECDE in the present constitutional dispensation in Kenya. However, it was critical to investigate the adequacy of these facilities in devolved areas since they hold key to quality of ECDE in any country. The present study adequately covered these areas.

2.3 Quality of Teaching in ECDE

If a consensus exists that implementation of ECE depends on quality and well trained teachers (OECD, 2006: 158; UNESCO, 2010: 4), universal realization in many countries remains a distant goal, despite continued progress in the last decade. Among low-and middle-income countries from all over the world, approximately one-third estimates that their pre-primary teachers reached national standards of training (UNESCO–UIS, 2011). A considerable divide exists between those who provide care/education for 1–3 year-olds, including auxiliary staff and volunteers, and trained educators for the 4–6 year-old age group.

Within the OECD countries with "split" regimes (child care/early education), qualified teachers work in early education with children aged over 3 years, while for the under 3-year-olds, a mixture of lower trained staff are employed (OECD, 2006). Little information however, is available for most low income countries, particularly among those which have adopted devolved system in ECDE management like Kenya. In countries with integrated services for children under 6, tertiary-trained teachers or early childhood educators work with children across the age range. Trained assistants, with primary responsibility for care, often work alongside these pedagogues. A few studies have attempted to assess teacher qualities in ECE albeit under local or devolved administrations. For instance, Kilderry (2012) sought to examine teacher decision making at a time when ECDE teachers were relatively autonomous in deciding curriculum content. It was found that despite the absence of the government-mandated curricula framework, pre-school teachers were held accountable for their curricula practices, even though this expertise was ignored by the Victorian Education policy. Still, Kilderry (2012) did not shed light on the skills or level of training of the ECDE teachers under study. The need for such to be investigated therefore informed the present study which carried out in four counties in Kenya.

In Turkey, İnalet al (2009) researched on the difficulties faced by ECDE teachers in the planning and implementation of curriculum. The study sample consisted of a total of 154 teachers working at private and government kindergartens in Ankara and Afyon. It was found that the biggest difficulties teachers faced were in preparing annual plans and choosing objectives, teaching methodologies, and goals for the whole year. This (İnal, et al, 2009) study did not the quality (like training levels) of ECDE teachers which render them incapable of designing appropriate methodologies (for example). These were some of the areas addressed by the present study.

Schneider (2013) explored what two Grade R teachers understand literacy to be and how it is enacted in their classrooms in South Africa. The findings showed that teachers understand literacy in a sophisticated way: literacy is about meaning making and communication. The observations revealed that this understanding is enacted in practice. Children have access to multimodal and semiotic resources and learn that literacy had a range of social uses and purposes. However, Schneider (2013) did not present the training level of ECDE teachers that shaped their understanding of literacy. The need for an inquiry of training level and the number of teachers employed for quality of ECDE informed part of the present study.

Gina, Chowa, Masa, Ramos, and Ansong (2013) used Youth Save Data in Ghana to obtain a sample of 4,993 youths and 89 schools to investigate how students and school characteristics influence youth academic performance. It was found that student traits, including academic self-efficacy and commitment to school, were positively associated with math and English scores. Class size and presence of a toilet facility are significant predictors of English scores. It is however important to note that although Gina, et al (2013) attempted to establish factors affecting performance of youths, their study did not focus upon ECDE learners. Additionally, they did not pay attention to teacher factors like number of teachers employed as well as training levels of teachers. These were the areas that the present study endeavored to cover through a study among four counties in Kenya.

Chikutuma and Mawere (2013) conducted a research on the quality of administration, teaching and learning of Early Childhood Development B learners (5-6 year olds) of Grade Zero in Zimbabwe. Results revealed that the Early Childhood Development B inclusion in primary schools was not quite viable as it failed to cater for the all-round development of learners. For instance, age appropriate equipment were not available

and appropriate activities were not being administered and thus the environment itself was not conducive to the age group's needs of learning through play. Equally important, although overlooked by Chikutuma and Mawere (2013), was the need for assessment of teacher quality in terms of training level (for example). This was covered by the present researcher through a study in Homa Bay, Kisumu, Siaya, and Migori Counties in Kenya.

Murundu, Indoshi, and Okwara (2010) sought to establish the school factors influencing implementation of ECDE Curriculum. The study involved 65 ECDE teachers drawn from 32 ECDE centres in Emuhaya District. The study found that lack of suitable teaching and learning resources, inappropriate diet, understaffing, inappropriate medium of instruction and teacher-child ratio, and poor grouping practices were the factors hindering effective implementation of the curriculum in ECDE centres. Owing that the current constitutional dispensation bestows the responsibility of providing factors that are revealed in Murundu, et al's (2010) study to county governments, the extent to which the same have been provided remained unknown. These were thus investigated in the present study.

While still in Kenya, Mukuna and Mutsotso (2011) used a sample of 108 pre-school in-service teachers in teacher training institutions in Narok Municipality to investigate the factors influencing the gender imbalance in preschool teaching workforce using a case study. This study revealed that culture was the main determinant of feminization of pre-school teaching profession. Men were getting interested in pre-school education but to perform administrative duties not necessarily to teach. But the extent to which the same factors affected quality of teaching in ECDE centres was not revealed in Mukuna and Mutsotso's (2011) study. Factors like number of teachers employed and

the ratio of learners per teacher was also not provided. These were factors which the present study endeavored to cover.

2.4 Teaching and Learning materials in ECDE

Different approaches to teaching and learning have been intensely debated in the developing world. On the more traditional side is an emphasis on "basics" and the acquisition of solid skills, with structured teaching methods, pre-specified objectives and measurable results (Bartlett, 2010). The phonics and whole language approaches to literacy can be roughly equated here with the traditional and progressive schools of pedagogy (Chabbott, 2008). The phonics-based approach views reading as a set of discrete skills, sequentially acquired like building blocks; a certain level of speed or fluency in decoding syllables is seen as an essential step in achieving comprehension. However, these approaches must be supported by adequate materials in order to realise quality of ECDE.

Some studies have tempted to focus on the relationship between teaching and learning materials and quality of ECDE, although little focus has been made towards ECDEs under the management of devolved units or governments. For instance, Holland (2011) investigated young children's perception of melodic construction aimed at finding clues about their (children's) broader cognitive development in non-musical domains. Analysis of data revealed common themes with varied results of eagerness or hesitancy to participate, whether bells were moved or played, (c) exploration of bells, internalization of rhythm, cognitive readiness for melodic construction, and role of visual representation. But as whether teaching and learning materials were provided for melodic construction was not indicated by Holland (2011). The importance of revealing adequacy of teaching and learning materials for quality ECDE among preschools thus informed part of the present comparative study.

Costa-Giomi (2004) also carried out a study in Canada to investigate the effects of piano instruction on children's development using randomized control research design on a sample of 117 children (58 girls; 59 boys) aged 6-10 years. This study found that literacy and numeracy improves much when piano instruction is employed on ECDE learners. However, the need to establish the adequacy of investment in such teaching and learning materials like piano for quality ECDE in Kenya formed part of the present study.

Fagbeminiyi (2011) used survey approach through self-administered questionnaires to explore the role of parents in early childhood education in Ikeja, Lagos State, Nigeria. The study revealed that parental involvement, that is emotional care and support has a very big influence on early childhood education, particularly the academic performance of the child and the age which the child is being sent to school. This implies that the extent or level of the parental educational attainment and exposure determines the age at which the child is being enrolled at school. It was also discovered that, the residential setting of the parents (respondents) has nothing to do with the educational performance of the child. However, Fagbeminiyi (2011) did not indicate how parental involvement leads to investment in teaching and learning materials for quality ECDE.

Furthermore, Ejuu (2012) explored the introduction of early childhood development in Ugandan policy and government interventions from 1960 to 2011. The results indicated trends of events that have not been given full attention by young professionals, policy makers and academics in the field of early childhood development in Uganda. Still, investment in teaching and learning resources seemed to have been given limited attention in Ejuu's (2012) study.

Njoroge (2011), on the other hand investigated the constraints on enrolment to Early Childhood Education and Development in Thogoto and Karai Zones in Kikuyu District. The study established that there is low enrolment rate of children in ECDE institutions due to some factors such as poor infrastructure, parents' ignorance on the importance of Early Childhood Education, Parents' level of education, parents' economic status as a result of poor climatic conditions among other constraints.

In another related study, Onyango (2014) explored the relationship between teaching and learning resources on preschool learners in transition to class one in Rachuonyo South Sub County using case study research design. The research found out that teaching and learning materials when appropriately acquired, used and kept safely, increases the transition rate of the preschool learners. The research therefore concluded that teaching and learning materials should be used in teaching the preschool children. However, level of investment in teaching and learning materials was not indicated.

Wangui (2012) sought to find out the effects of Early Childhood Education on children with hearing impairment (HI) in Kiambu, Murang'a and Nyeri counties, Kenya. The findings revealed that 70% of children with HI are enrolled for ECDE when they are over age that is, at the age of 6 years and above. Those enrolled benefit especially in acquisition of social skills. Teachers exposed the children in ECDE activity areas effectively, however parents delayed in their roles of identification of HI, taking intervention measures and enrolment of their children for ECDE. Teachers faced communication problems as the main constraints in the teaching and learning of ECDE children.

Further studies done in Kenya seem to be silent regarding investment in teaching and learning resources. For instance, Andang'o (2012) sought to examine musical contexts

as bridge-builders in early childhood music education in Kenya. The study found that children often sing at home the songs that they are taught in school, and sometimes even listen to songs that they (children) upload from the internet via their cell phones. However, the level of investment on music equipment by various schools has not been captured by Andang'o (2012).

2.5 Challenges facing implementation of ECDE

Implementation of ECDE programmes in public schools has faced various challenges, as has been established by several authors. The World Bank estimated that provision of adequate infrastructural facilities for ECDE in Sub Saharan Africa requires close to US$ 30 billion. However, there is evidence that programmes under county government seem to have suffered a dearth of information. In Turkey, Erden (2010) investigated the challenges preschool teachers face in the curriculum implementation and whether these challenges differ in relation to teachers' level of education, department they graduated from, the type of the school they are working in, teaching experience and level of in-service training. The results indicated that the most frequently reported issues were the problems related to evaluation and physical facilities followed by the ones related to planning science and math activities, organizing field trips, providing parent involvement and inclusion. Erden (2010) did however not focused on ECDE implementation under devolved governments.

A study by DevTech Systems Inc. (2007) evaluated the effectiveness of Aga Khan Foundation's (AKF) Releasing Confidence and Creativity (RCC) Program, and Children's Resources International's (CRI) Creating Democratic Schools (CDS) Program, to determine the effectiveness of both programmes in regards to cost as well as to stated program goals and objectives. It was found that for the RCC program, the "separate classroom, separate teacher" concept created disconnects with the

government system; community teachers were not recognized by the government system, as had been hoped by RCC. On the other hand, for the CDS program, there was a missing link between the training teachers received and the implementation of the methodology in the classrooms on a consistent basis; weak technical assistance in terms of monitoring teachers' practice; and weak parent involvement, a large component of the program, in Karachi-based schools. DevTech Systems Inc. (2007), however, did not focus specifically on ECDE implementation with the aid of tested programmes.

Akpan (2014) analysed the perception of principals on parents' involvement in the management of public secondary schools and the challenges of involving them in school management practices in Cross River State, Nigeria. The survey research design was adopted for the study. Stratified random sampling technique was used to select 200 principals from a population of 232 principals. The results of the study revealed that parents, to some extent, were involved in school-based management practices. The findings showed that parents were mostly involved in partnering with school to improve students' discipline, followed by involvement in policy/decision making, and the school development projects, with involvement in financial supports to school being the least. Generally, principals identified parental apathy, lack of time and expertise in school administration, working parents, and poor socioeconomic background of parents as major challenges in involving parents in school management practices. It is however critical to note that Akpan (2014) involved secondary schools as opposed to ECDE schools in his study.

Another study by Mugweni and Dakwa (2013) explored the provision of education for all (EFA) in relation to the implementation of early childhood education (ECE) in Zimbabwe. It was found that EFA is implemented in the ECDE sub-sector with both

successes and challenges. There are barriers to attaining EFA especially for children with special needs. The specific challenges include, lack of trained ECDE specialists with expertise in special needs education (SNE); shortage of equipment and material resources as well as infrastructure. The study also established that regarding EFA in ECDE in Zimbabwe, the implementation is biased towards policy for action and not in action. It is however critical to note that Mugweni and Dakwa (2013) did not explore ECDE implementation under the management of devolved governments.

In Kenya, Kang'ethe, Wakahiu, and Karanja (2015) assessed the implementation of early childhood development policy in Ruiru district using a mixed method approach. Findings indicate that the ECDE policy has achieved gains including teacher employment and enhanced quality education standards. Comparatively, learning outcomes indicate that teacher-student ratio impact education outcomes significantly. Results indicate that government should consider prioritization of teacher employment and training them on ECE policy standards. Parents and communities should take part in the improvement of ECE class infrastructure especially in rural areas where ECE is mainly provided in public facilities. Nonetheless, Kang'ethe, et al's (2015) study did not focus upon challenges faced with regard to ECDE investments by county governments.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the study area, research design, the target population, the sampling procedures and sample size, data collection instruments and validity and reliability, the piloting, the data collection procedures, and data analysis.

3.2 Study Area

The study covered public pre-schools in Homa Bay, Kisumu, Migori, and Siaya Counties. The selected areas were found to be relevant in the sense that they are predominantly urban and rural, and shared almost similar social and economic circumstances. Additionally, each county has an area covered by Lake Victoria with inhabitants who engage in fishing activities. According to Republic of Kenya (2012) records, Homa Bay County covers an area of 3,183.3 sq km with a population of 1,177,181 people (564, 843 males and 612, 338 females). It lies between latitude $0^o15'$ South and $0^o52'$ South, and between longitudes 34^o East and 35^o East. The county covers an area of 4,267.1 Km^2 inclusive of the water surface which on its own covers an area of 1,227 km^2. Figure 3.1 presents the map of Homa Bay County.

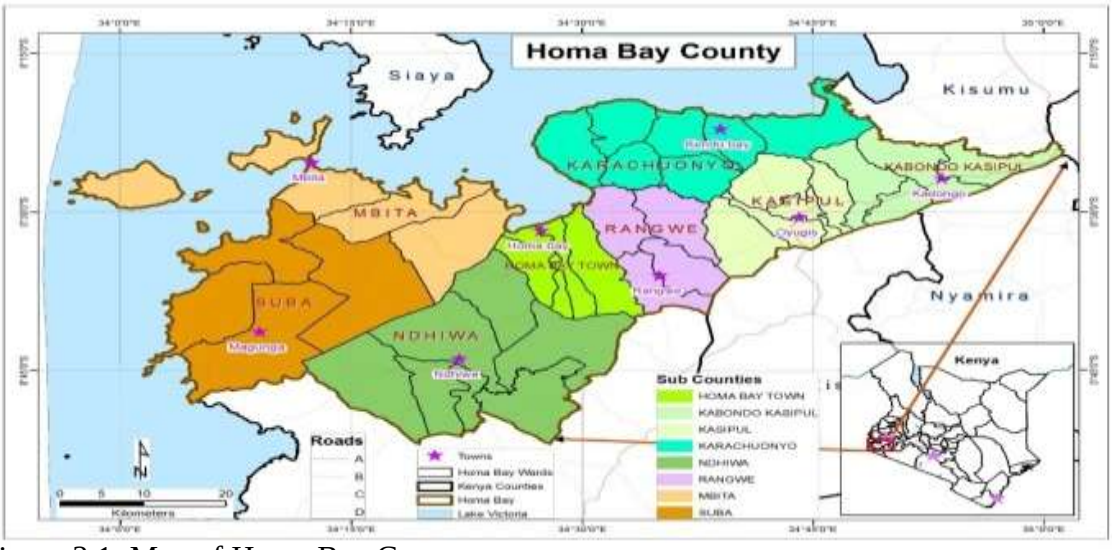

Figure 3.1: Map of Homa Bay County

Similarly, Kisumu County occupies a total area of 2, 085.9 km^2 and a water mass of 567 km^2. The county has a total arable land of 1, 342 km^2 and non arable land of 209 km^2 (Republic of Kenya, 2012). The population of the county is 1,145,749 people, with 561,351males and 584,396 females. It lies within longitudes 33° 20'E and 35° 20'E and latitudes 0° 20'South and 0° 50'South. Figure 3.2 presents the map of Kisumu County.

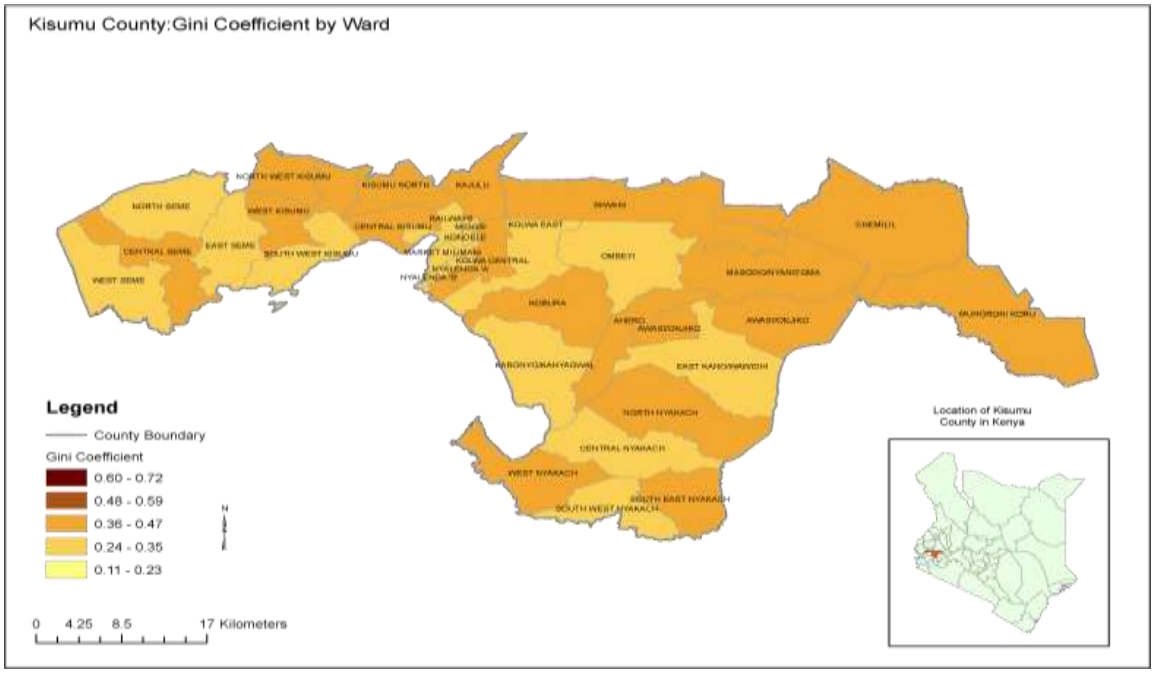

Figure 3.2: Kisumu County Map

Migori County has a population size of 1,006,499 (Males - 438,693 and females - 468,806). The county covers an area of 2,597 KM square (Republic of Kenya, 2012). Migori County borders Homa Bay to the South, Republic of Tanzania to the South and South West, Kisii to the North East, Narok to the East and North East and Lake Victoria to the West. The county has a Population density of 355 per KM square and the poverty level is estimated at 43% as at the year 2013. It lies between latitude $0^o16'$ South and $0^o54'$ South, and between longitudes 35^o East and 37^o East. Figure 3.3 presents the map of Migori County.

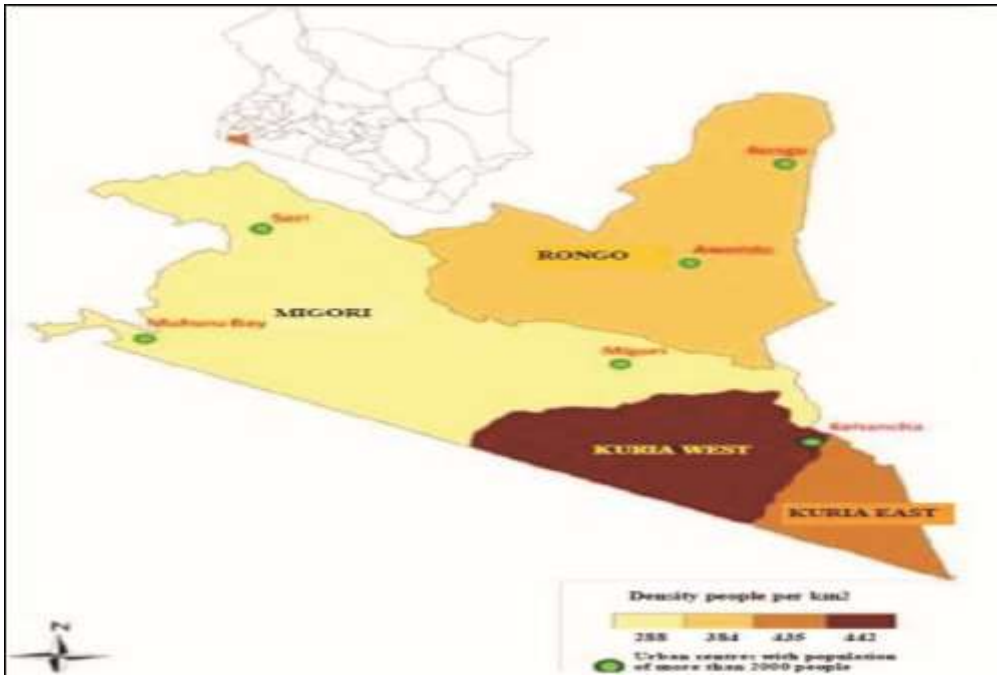

Figure 3.3: Map of Migori County

Siaya County occupies 2,530.5 Km ^{2} with a population size of 964,390 people (Male – 456,441 and Female – 507,949) (Republic of Kenya, 2012). The land surface area of Siaya County is 2,530km² and the water surface area is 1,005 km^2. It is bordered by Busia County to the North West, Vihiga and Kakamega counties to the North East, Kisumu County to the South East and Homa Bay County across the Winam Gulf to the South. The water surface area forms part of Lake Victoria (the third largest fresh water lake in the world). It approximately lies between latitude 0º 26´ South to 0º 18´ North and longitude 33º 58´ and 34º 33´ East.

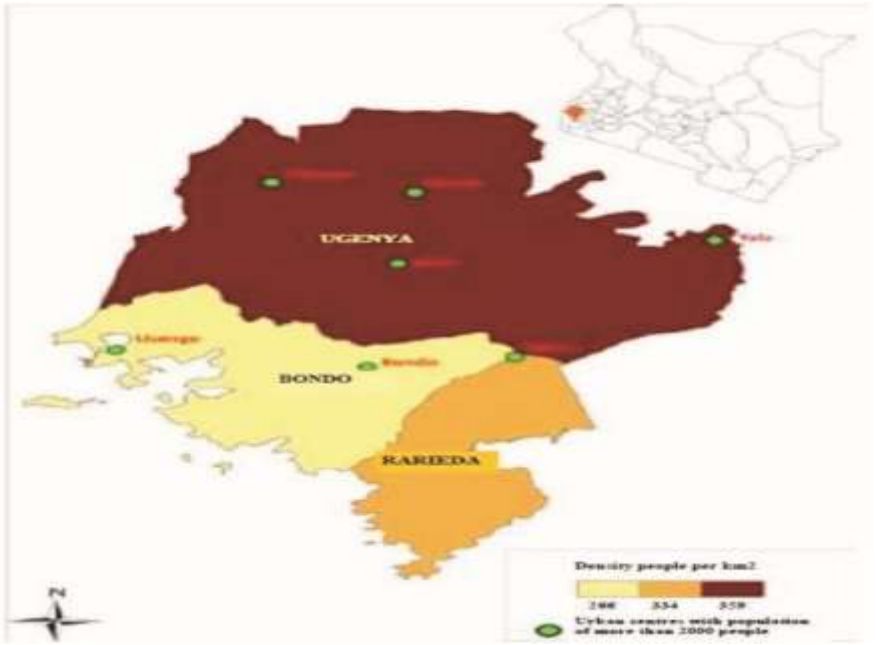

Figure 3.4: Map of Siaya County

3.3 Research Design

This study adopted a descriptive survey research design using qualitative methods of data collection. The goal of descriptive research is to describe a phenomenon and its characteristics. Therefore, observation and survey tools are often used to gather data (Gall, Gall, & Borg, 2007). In this research, the data was collected qualitatively. According to Nassaji (2015), qualitative research is more holistic and often involves a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives, and attitudes. Thus, the method of analysis was also primarily qualitative. This often involved an inductive exploration of the data to identify recurring themes, patterns, or concepts and then describing and interpreting those categories. This design was desired by the researcher due to the fact that implementation of ECDE programmes by the county governments is a new dispensation and little information is yet to be known about it.

3.4 Target population

The target population is the population to which a researcher wants to generalize the results of the study (Mugenda & Mugenda, 2003). In this study, the target population was thirty-nine; 27sub county administrators and three officials from the Governor's office in each of the four counties, totaling to 12 county officials (Homa Bay, Kisumu, Migori, and Siaya). The officials were the county executive member in charge of education, the Chief Officer in the department of education, and the director of ECDE. Sub county administrators were also included in the study by the researcher owing to the fact that these are the officers who account for ECDE resources in each sub county. They were able to understand the resources required for successful implementation of ECDE programmes in their respective sub counties. On the other hand, the county officials were selected because they are the ones responsible for coordinating education programmes in general, alongside ECDE programmes in the county. They are also responsible for providing advice for the improvement of ECDE infrastructure in schools, overseeing employment and deployment of teachers, training of teachers, and ensuring that appropriate teaching and learning materials are procured, as well as remuneration of ECDE teachers.

3.5 Sampling Procedure and Sample Size

A sample refers to the actual number of the population from where data for a particular study is collected (Kombo, 2006). There are several approaches to determine sample size. The study adopted census sampling method. According to Oso and Onen (2009), census sampling method is appropriate for small populations. This involves including in the study all the characters within the population. Thus, all the 27 sub county administrators and 3 county officials from the Governor's office in the 4 counties were selected as respondents. These comprised the County Executive Committee Member,

the Chief Officer in education department, and the Director of ECDE. Table 3.1 presents the sample size and sample distribution.

Table 3.1: Sample size and sample distribution

County	County Officials	Sub County Administrators	Total
Kisumu	3	7	10
Homa Bay	3	6	9
Migori	3	8	11
Siaya	3	6	9
Total	**12**	**27**	**39**

3.6 Instrumentation

Open ended questionnaires and document analysis guide were used for data collection in this study.

3.6.1 Study questionnaire

The researcher developed an open ended questionnaire which was used to collect data from the selected sub county officers and directors of ECDE. The researcher used the questionnaire to gather data on the fourth objective of the study: challenges facing implementation of ECDE programmes in Homa Bay, Kisumu, Migori, and Siaya Counties. Based on various challenges identified from reviewed studies, the researcher presented open ended questions related to the same (challenges) to the respondents upon which they were expected to state (in writing) their views or knowledge and experience. Given that the selected officers from whom data was collected often have tight schedules, the researcher left the questionnaires with the respondents for collection after one week. The questionnaire that was used for data collection is presented in Appendix II.

3.6.2 Document Analysis

Document analysis is a method of gathering information by carefully studying written materials, or visual information from documents (Amin, 2005). It is a critical examination of public and private recorded information related to the issue under investigation (Oso &Onen, 2009). Document analysis technique was used to obtain information such as budgetary allocations and disbursements, teacher establishment records, records of teacher recruitment and deployment, teacher training levels, and pupils' enrollment records. Similarly, Instructional Materials Inventory (IMI) which contains records of teaching and learning materials was also analyzed. These documents were important in providing written evidence of factual details of the study phenomena. Written evidence enabled the researcher to provide facts and figures in the report. Document analysis guide used in the study is found in Appendix IV.

3.6.3Validity Test

According to Mugenda and Mugenda (2003), instrument validity represents the extent to which the instrument measures what it purports to measure; it is the degree to which the analysed data actually represents the phenomenon under study. To ensure instrument validity, the data collection instruments were appraised by six experts (lecturers) from Kisii University: two lecturers from the department of social research, two from ECDE department, and another two from the department of administration and planning. The ratings of the six experts were then compared in a session involving the six together with the researcher, one week before data collection commenced, and necessary adjustments were made.

3.6.4Reliability of Qualitative data

To ensure reliability in qualitative research, examination of trustworthiness is crucial. While reliability refers to the consistency of the findings if the study is replicated, in

qualitative studies, there is a possibility of variability in findings, because the change in context and time matters a lot. Cohen, Manion and Morrison (2007) assert that two studies conducted at the same place may have two different findings and still remain to be reliable or dependable, provided that both represent what is really happening in the society concerned at that particular time. Trustworthiness of research instrument in a qualitative study is counted by the extent to which the variations can be tracked and explained (Ary, Jacobs and Sorensen, 2010).

Trustworthiness and credibility depend on rigorous methods, the credibility of the study and the philosophical belief in the value of the research. Qualitative interpreters relate credibility with more than one way of analyzing experience. They believe that there is no single correct interpretation. However, several strategies were followed to ensure trustworthiness and credibility in this study. Multiple sources of data support the concept of 'triangulation' which also allows the researcher to cross-check some information, and assess the authenticity of individual accounts. Heikkinen, Huttunen and Syrjälä, (2007) assert that trustworthiness referred to dependability in qualitative research, which closely corresponds to the notion of reliability in quantitative research. Mattsson and Kemmis (2007) further emphasized inquiry audit as one measure which might enhance the dependability of qualitative research. This assessment contributed to validation of the research process.

3.6.5 Pilot Study

This is a mock test of the study instrument meant to ‘identify the weaknesses (if any) of the questions and also of the survey techniques”, according to Kothari (2004, p.101). A pilot study was done in three Sub Counties in three Counties: Kisumu West Sub County in Kisumu; Kuria East in Migori County; and Rarieda in Siaya County. These sub counties were eventually dropped out of the main study. The aim of the

pilot study was to aid the refining of the study questionnaire and document analysis guide. The sub counties selected are in the same counties where the main study was conducted and shared similar socio economic conditions with the sampled sub counties. As a result of the pilot study, some questions were adjusted so as to make them clear.

3.7 Data Collection Procedure

The researcher obtained a research permit from the National Council for Science, Technology and Innovation using an introductory letter from the school of Graduate Studies of Kisii University (Appendix III). A letter from each of the County Education Offices of the four counties was obtained to enable the researcher visit respective sub county offices for data collection.

The process of data collection involved the researcher presenting an introductory letter to sub county offices before approaching the sampled chief officers, sub county administrators, and the Directors of ECDE in each county with the study instruments. The contents of the questionnaire and the document analysis guide were clearly explained to the respondents then an appointment was made with each officer for data collection. This process took three months instead of the anticipated three weeks due to busy schedules of the respondents.

3.8 Data Analysis

The qualitative data obtained from open ended questions in the fourth objective was analyzed thematically. This involved categorizing generated answers into outstanding themes or forms. The qualitative data was used to compliment the information obtained from analysed documents. Table 3.2 presents thematic analysis steps.

Table 3.2 Steps of Thematic Analysis

Steps	Description of the process
Familiarizing self with data	Reading and re-reading the data while noting ideas
Generating initial codes	Coding Interesting feature of the data in a systematic fashion across the entire data set relating each code to the relevant data
Searching for themes	Grouping code into potential themes, gathering all data relevant to each potential theme.
Reviewing themes	Checking if the themes work in relation to the coded extracts and the entire data set generating a thematic 'map' of analysis
Defining and naming themes	Ongoing analysis to refine the specifics of each theme and the overall story the analysis tells; generating clear definitions and names for each theme.
Producing the report	The final opportunity for analysis, selection of vivid, compelling extract examples, final analysis to the research question and literature producing a scholarly report of the analysis.

Table 3.2 represents thematic analysis steps used for analysing data in the study. Although Braun and Clarke (2013) emphasize 6 phases as adequate in analyzing qualitative data through thematic analysis, the study used 5 phases by merging the fourth and the fifth themes. Themes and codes generated using thematic analysis is presented in Table 3.3.

Table 3.3: Themes and codes of Thematic Analysis

Objective	Themes	Code
Determine the level of investment in infrastructure in ECDE	• Infrastructure in terms of ECDE enrolment trend between 2010 and 2016	I_1
	• Infrastructure in terms of expenditure by the National government on ECDE programmes between 2010 and 2016	I_2
	• Infrastructure in terms of total sub county budget on ECDE since 2013 until 2016	I_3
	• Infrastructure in terms of investment by the County Government in ECDE infrastructure from 2013 to 2016	I_4
	• Infrastructure in terms of classrooms used by ECDE learners in the Sub County	I_5
Establish the quality of teaching in ECDE schools	• Quality with regard to the number of ECDE teachers since 2010 until 2016	Q_1
	• Quality in terms of level of training of ECDE teachers in the Sub County	Q_2
Determine the level of investment in teaching and learning resources in ECDE	• Level of investment in teaching and learning resources in terms of money spent by the National Government in the sub county before 2013	$T\&L_1$
	• Level of investment in teaching and learning resources in terms of the county budget between 2013 and 2016	$T\&L_2$
	• Level of investment in teaching and learning resources in terms of money spent by the sub county since 2013 until 2016	$T\&L_3$
Investigate challenges facing implementation of ECDE programmes	• Challenges at school level	C_1
	• Challenges arising from parents or home factors	C_2
	• Challenges arising from learners	C_3

Table 3.3 describes the codes which denote themes generated through thematic analysis. The themes are based upon study objectives, and are illustrated by codes which highlight the investment in Infrastructure (I_1; I_2; I_3; I_4; I_5); Quality teaching (Q_1; Q_2); Teaching and Learning materials ($T\&L_1$; $T\&L_2$; $T\&L_3$); and finally Challenges (C_1; C_2; C_3). These were the key aspects of quality of ECDE that the study investigated.

3.9 Ethical Considerations

Ethics is the moral ideologies in designing, conducting and writing research outcomes, with essential moral standards focusing on the right and the wrong (Lincoln and Guba, 1985). Thus, an authorization from Kisii University (Appendix III) was obtained. This letter aided the researcher to acquire a research permit from the National Commission for science, Technology and Innovation (Appendix XII). In order to access County and Sub County offices in the 4 counties for the purposes of data collection, permission was obtained from the County Commissioners' offices of each county: Homa Bay (Appendix V); Siaya (Appendix VII); Migori (Appendix IX); Kisumu (Appendix X). Similarly, permission to collect data from each county education offices, permits were obtained from the directorate offices of Homa Bay (Appendix IV); Siaya (Appendix VI); Migori (Appendix VIII); Kisumu (Appendix XI).

Conversely, in qualitative reference, ethics involves protection and respect for the respondent taking part in the study (Payne & Payne, 2004). Transparency, openness privacy and honesty were the guiding principle during this research. In this study, the ethical issues entailed respecting the respondents' individual rights to either participate or withdraw participation in data collection. Further Charmaz (2006) stated that research is governed by rules and regulations which help to reduce conflicts and misunderstandings among researchers and respondents. To take care of ethical

consideration, the respondents were selected on the basis of their willingness and interest to participate in the study. Once they had been briefed on what it entails, it was ensured that the participants felt comfortable and had time to participate in the study.

All data collected was stored under lock and key and only accessible the researcher as well as participants. To maintain the confidentiality of the study participants, the study instruments were not bearing names, addresses or any identifiers that could link the information provided to the respondents. The respondents were assured of confidentiality and anonymity in connection with the information they provided (Kombo & Tromp 2006). The consideration of these issues was necessary for the purpose of ensuring the privacy and the security of participants.

CHAPTER FOUR:

4.0 FINDINGS, INTERPRETATION AND DISCUSSION

4.1Introduction

The purpose of this study was to compare implementation of ECE in public schools in Homa Bay, Kisumu, Migori and Siaya Counties. This chapter presents the findings of this study along the specific objectives, starting with background information or the characteristics of the sampled respondents.

The study drew a sample size of 12 county officials and 27 sub county administrators in the study area. The researcher was able to obtain records from eight county officials from the four counties and 21 sub county administrators from the sampled 27 sub counties. This represented 74.4% coverage of the sample size. The following sections present the study findings.

4.2 Demographic Characteristics of Informants

The first section of the study instruments sought information on the demographic characteristics of the study respondents. To this end, the study considered gender, level of education and work experience of the study respondents. The following sections presents the findings related to demographic characteristics.

4.2.1 Distribution of Respondents by Gender

The respondents were asked to indicate their gender. Table 4.1 presents the distribution of respondents by gender of teachers.

Table 4.1: Distribution of Respondents by Gender

Gender	Frequency	Percent
Males	12	41
Females	17	59
Total	29	100.0

Table 4.1 illustrates that majority (59%) of the county officials and sub county administrators in charge of ECDE were females while 41% were males. This signifies that majority of those who undertake the management of ECE in the counties is of female gender. This tends to suggest that the child care role of females extend up to the ECDE centres.

4.2.2 Distribution of Respondents by Age

The second part of demographic information was about age of respondents. Table 4.2 illustrates distribution of respondents by age.

Table 4.2: Distribution of Respondents by Age

Age (years)	Frequency	Percent
20 – 25	00	00
26 – 30	00	00
31 – 35	00	00
36 – 40	7	24.1
41 – 45	11	37.9
46 – 50	7	24.1
51 – 55	4	13.8
Total	29	100.0

Table 4.2 illustrates that most (37.9%) of the sampled county officials and sub county administrators were between 41 and 45 years old; 24.1% were of between 35 and 40 years of age; another 24.1% were also between 46 and 50 years of age; while the remaining 13.8% were between 51 and 55 years of age. None of the sampled respondents aged 35 years and below. This finding illustrates that county officials and sub county administrators responsible for supervising implementation of ECDE in the study area were women and men of mature age; that is, from 36 years old and above. Thus, they were expected to demonstrate sufficient commitment towards implementation of ECDE, besides being capable to provide adequate descriptions of how the process has been undertaken in their respective counties.

4.2.3 Distribution of Respondents by Education Level

The next part of the study instrument under demographic information assessed level of education of the sampled county officials and sub county administrators. The distribution of respondents by education level is shown in Table 4.3.

Table 4.3: Distribution of Respondents by Education level

Education level	Frequency	Percent
Certificate	00	00
Diploma	3	10.3
Bachelor Degree	23	79.3
Masters Degree	3	10.3
Others	00	00
Total	29	100.0

Table 4.3 indicates that majority (79.3%) of the sampled county officials and sub county administrators had Bachelor degree level of education while 10.3% of them

had diploma level of education. The remaining 10.3% of the study respondents had Masters Degree level of education. None of the sampled respondents had certificate or any other level of education apart from the ones reported. The finding denotes that the administrators whose duty is to oversee implementation of ECDE education in the study area have adequate educational qualifications that sufficiently match the demand of their tasks.

4.2.4 Distribution of Respondents by Work Experience

The researcher further obtained the work experience of the sampled respondents. Table 4.4 presents the distribution of respondents by work experience.

Table 4.4: Distribution of Respondents by Work Experience

Years of Experience	Frequency	Percent
Below one year	00	00
1 – 4 years	00	00
5 - 8 years	7	24.1
9 - 12 years	3	10.3
13 - 16 years	6	20.7
17 years and above	13	44.8
Total	29	100.0

Table 4.4 illustrates that most (44.8%) of the sampled county officials and sub county administrators had over 17 years of working experience, while 24.1% of them had between 5 and 8 years of working experience; 20.7% had between 13 and 16 years of work experience. The remaining 10.3% of the sampled county officials and sub county administrators had between nine and twelve years of work experience. The findings indicate that none of the respondents had less than four years of work experience. This finding implies that the officials and administrators whose responsibility is to oversee

implementation of ECDE programmes in the counties are experienced in the field of education and are capable of comprehending the situation on the ground.

4.3 Implementation of ECDE in Public Schools

In inquiring the implementation of ECE in public schools, the researcher presented a document analysis guide and an open ended questionnaire to county officials as well as sub county administrators in Homa Bay, Kisumu, Migori and Siaya Counties. For the purpose of maintaining confidentiality in the study, the sub counties and the counties are reported in this study using codes. For example, the sub counties were given alphabetical codes such as: Sub County A (SC – A) to Sub County T (SC – T). This coding style was thought to be appropriate for the purposes of confidentiality. In addition, the four counties were also provided with codes as: County 1 (C-1) to County 4 (C-4).

4.3.1 Level of Investment in Infrastructure

The first objective of the study intended to establish the level of investment in ECDE infrastructure among the four counties. In order to establish the level of investment in infrastructure, analyses of records provided by the sampled officers generated five themes:

i. Infrastructure in terms of ECDE enrolment trend between 2010 and 2016
ii. Infrastructure in terms of expenditure by the National government on ECDE programmes between 2010 and 2016
iii. Infrastructure in terms of total sub county budget on ECDE since 2013 until 2016
iv. Infrastructure in terms of investment by the County Government in ECDE infrastructure from 2013 to 2016
v. Infrastructure in terms of classrooms used by ECDE learners in the Sub County

4.3.1.1 Infrastructure in terms of enrolment between 2010 and 2016 (Code I_1)

Establishing ECDE enrolment was deemed essential in measuring infrastructural requirements such as classrooms needed for implementation of quality ECDE programmes. Table 4.5 presents the distribution of ECDE enrolment in the sampled Sub Counties.

Table 4.5: ECDE Enrolment in each Sub County between 2010 and 2016

Years	2010		2011		2012		2013		2014		2015		2016	
S.C	M	F	M	F	M	F	M	F	M	F	M	F	M	F
SC. A	0	0	0	0	0	0	2530	3672	2610	3736	2621	3811	2641	3831
SC.B	0	0	0	0	0	0	0	0	3243	2975	3291	2987	3301	3045
SC. C	2231	2142	2084	2145	2142	2061	2905	2166	3042	2041	4542	5538	4935	5721
SC. D	4288	4167	4169	4301	0	0	4762	4791	4869	5200	0	0	0	0
SC. E	2431	3532	3121	4121	3886	3883	3423	3924	4341	5250	6300	6178	7075	6798
SC. F	0	0	0	0	0	0	0	0	0	0	0	0	4672	5138
SC. G	0	0	0	0	0	0	0	0	0	0	0	0	6350	5863
SC. H	0	0	0	0	0	0	3115	3621	3131	3672	3211	3670	3320	3681
SC. I	0	0	0	0	0	0	0	0	0	0	0	0	6435	6122
SC J	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SC. K	0	0	0	0	0	0	0	0	0	0	0	0	3765	5120
SC. L	2843	2601	2951	2580	2971	2563	3000	2650	3283	2600	3291	2615	3340	2790
SC. M	0	0	0	0	0	0	3105	2650	3215	2720	3300	2766	3340	2790
SC. N	0	0	0	0	0	0	0	0	0	0	0	0	5371	4933
SC. O	0	0	0	0	0	0	0	0	3489	4619	3515	4635	3573	4681
SC. P	0	0	0	0	0	0	0	0	0	0	7539	7789	0	0
SC. Q	0	0	0	0	0	0	0	0	2783	3540	2815	3572	2910	3583
SC. R	3450	2840	3510	2915	3611	2972	3619	2977	3702	3000	3715	3017	3731	3115
SC. S	0	0	0	0	0	0	0	0	2135	2315	2211	2327	2231	2340
SC. T	0	0	0	0	0	0	0	0	0	0	0	0	3975	2836

Table 4.5 indicates that one sub county (SC-J) did not have enrolment records. Among the sub counties with enrolment records, only four of them had enrolment records for ECDE from 2010 to 2016. The findings therefore indicate that the sub counties which had enrolment records for the period 2010 – 2016 had higher enrolment of learners in ECDE than the sub counties which did not have all the records. In addition, the findings also indicate that ECDE officers had challenges in record keeping. This finding is therefore inconclusive due to the missing information on enrolment among the sampled Sub Counties.

The study proceeded to analyse enrolment records as held by the County officials. Findings are presented in Table 4.6.

Table 4.6: ECDE Enrolment trend between 2010 and 2016

	2010		2011		2012		2013		2014		2015		2016	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
C 1	0	0	0	0	0	0	0	0	39,850	41,585	40,334	42,055	41,950	43,100
C 2	0	0	0	0	0	0	0	0	0	0	45,911	44,340	47,929	46,520
C 3	36,125	32,335	36,336	31,337	33,413	30,727	35,336	31,230	36,412	33,621	40,337	41,322	42,413	40,334
C 4	0	0	0	0	23,011	22,819	25,567	25,354	28,407	28,171	31,563	31,301	35,070	34,778

As shown in Table 4.6, analysis of county education records revealed that only one county (C-3) had enrolment records for 2010 to 2016. The rest of the counties did not have complete enrolment records from 2012 to 2016. This implies that records of ECDE enrolment seem not to have been given adequate importance by some of the county governments under study. It might also suggest that transfer of records from the previous dispensation to the present one was not done in an appropriate manner.

In the county with 2010 enrolment data (C-3), it was revealed that there were 36,125 males and 32,335 females, totaling to 68,460 ECDE learners enrolled in public pre-schools. Equally, 36,336 males and 31, 337 females, totaling to 66,673 learners were enrolled in 2011 in the same county (C-3). This shows a decline of 1, 787 (789 males and 998 females) in enrolment of ECE learners in the county between 2010 and 2011.

Two counties (C-3 and C-4) were found with properly kept ECDE enrolment data for 2012 to 2016. The other county (C-2) had ECDE enrolment records for 2015 and 2016. Table 4.5 also illustrates that there was an increase in enrolment of 9000 males and 9605 females between 2012 and 2016 in C-3, while C-4 recorded an increase in enrolment of 12059 males and 11959 females in the same period. This finding points at the disparities in the increase in enrolment of ECDE learners within regions which calls for different levels of investment in ECDE infrastructure. Additionally, records analysed from county 2 (C-2) indicate that there was an increase in enrolment of 4,218 learners between 2015 and 2016, being 2018 males and 2200 females. In overall, C-2 had the highest enrolment (94,449) learners followed by C-1 (85,050) learners; C-3 had 82,747 learners, and finally C-4 (39,848) learners.

Lack of appropriately kept records could be attributed to lack of supervision on one hand, and poor management of the ECDE centres. Acute lack of qualified education officers to supervise ECDE programmes was similarly found by Bukaliya and Mubika (2012) in a

study done in Zimbabwe. In fact, Muthaa (2015) specifically established that ECDE centres in Imenti South District were rarely supervised by government education officers in a study that sought to determine the factors that affect the implementation of ECDE Programmes. Despite lack of proper supervision, Mukiti (2016) established in a study that investigated the institutional based factors influencing the implementation of ECDE programmes in public ECDE centres in Matungulu Sub-County (Kenya) that head teachers' supervision influenced the implementation of ECDE programmes in public ECDE centres in Matungulu Sub-County (Kenya) that head teachers' supervision influenced the implementation of ECDE programmes.

Additionally, findings indicating high enrolment (Table 4.5) tend to suggest that large class sizes are common problems in the sampled ECDE schools. This contrasts the articulations proposed in Hawes and Stephens (1990) Theory of Goals, Context and Agency for quality education: that enabling context and the agency of educational stakeholders are important inputs, necessary for quality education. Large class sizes are not uncommon among public schools, although focus has never been directed towards preschools. Bahanshal (2013) established that there is unsatisfactory outcome in a study done in Saudi Arabian secondary schools to ascertain the impact of large classes. Mestry and Bodalina (2014) indicated in a study done in South Africa that governing bodies lack the necessary financial skills to develop practical budgets and procure physical resources economically for their schools. Perhaps large classes reported in Table 4.5 could be attributed to among other things lack proper budgeting for procurement of physical resources in pre-schools.

4.3.1.2 Infrastructure in terms of expenditure by the National government on ECDE programmes between 2010 and 2016 (Code I_2)

The second part of level of investment enquired was the amount that the national government has spent in ECDE in the sampled sub counties before 2013. To this end, the study did not find records for the national government expenditure in C-1 and C-4. Table 4.7 presents the expenditure in ECDE by the national government in county 2 (C-2) and county 3 (C-3) indicated that

Table 4.7: National Government ECDE Expenditure before 2013

County	2010	2011	2012
County 1 (C-1)	0	0	0
County 2 (C-2)	305807	89113	122409
County 3 (C-3)	150000	2000000	3000000
County 4 (C-4)	0	0	0

Table 4.7 illustrates that there was a decrease of Kshs 183398 in national government expenditure in C-2 between 2010 and 2012 while in C-3, there was an increase in national expenditure of Kshs 2,850,000 during the same period. This tends to suggest that there was need for decrease in expenditure in C-2 and an increase in C-3 by the national government, probably owing to response regarding ECDE enrolment in the two counties.

With regard to the total amount spent by the National Government in ECDE in each sub county before 2013, the researcher found relevant records from only 5 sub counties out of 20 sub counties that participated in the study. However, among the 5 sub counties, only sub county J (SC-J) had records for all the 3 years (2010 to 2012). Table 4.8 presents the distribution of government expenditure on ECDE in the sample sub counties.

Table 4.8: National Government ECDE Expenditure Sub County before 2013

Sub County	2010	2011	2012
SC. J	305,807	89113	122,409
SC. L	300,000	200,000	0
SC. M	330,000	220,000	0
SC. R	750000	750000	0
SC. T	0	0	2,100,000

Table 4.8 indicates that 17 sub counties that participated in the study did not have records for the national government's ECDE expenditure before 2013. The table also indicates that among the 5 sub counties with available national government expenditure records before 2013, SC-T had received the highest amount (2,100,000 shillings) in 2012. Sub county R (SC-R) received 750,000 in 2010 and 2011, with no expenditure records for 2012. On the other hand, the national government spent Kshs 330,000 on ECDE in SC-M in 2010 and Kshs 220,000 in 2011, while that of SC-L was Kshs 300,000 for 2010 and Kshs 200,000 for 2011. For SC-J, the national government spent Kshs 305,000 in 2010; Kshs 89,113 in 2011; and Kshs 122,409 in 2012. This finding tends to imply that the amount of money that the national government was spending on ECDE in each county was not informed by population of the ECDE learners. This was because population of children as seen in enrolment records in Table 4.5 tend to rise and it is only expected that expenditure in ECDE should correspondingly rise.

From Table 4.7 and 4.8, it can be deduced that the national government's expenditure in ECDE prior to 2013 was meager. For instance, in C-3 which had complete records, the national government seem to have spent approximately Kshs 46.77 on each child in 2012

(Kshs 3000,000 /64,140 learners). This directly points to lack of adequate funds for the management of ECDE programmes. Similar findings were established by Osho, Aliyu, Okolieand Onifade (2014) who assessed the level of implementation of ECE in Chanchaga local government area in Nigeria. They found that while the ECDE enrolment level was high, basic teaching/learning and infrastructure were sparsely available, and most of the ECE centres were overpopulated. This is an indication that expenditure towards quality ECDE was not accorded similar attention as other levels of education. Another study done in Kenya by Muganga (2015) found funding a major challenge in maintenance of infrastructure of ECDE. It is thus emerging that due consideration in terms of funding has not been adequately directed towards successful implementation of ECDE.

4.3.1.3 Infrastructure in terms of total sub county budget on ECDE between 2013 and 2016 (Code I_3)

Regarding the total sub county budget for ECDE between 2013 and 2016, the researcher found only 4 sub counties with relevant records. Table 4.9 presents the distribution by sub counties with ECDE budget since 2013.

Table 4.9: Distribution by Sub County Budget for ECDE since 2013

Sub County	2013	2014	2015	2016
SC. J	67069	0	0	0
SC. L	0	9,600,000	0	0
SC. M	0	1,200,000	0	0
SC. R	0	9,600,000	0	0

Table 4.9 indicates that SC-L and SC-R both had ECDE budget of Kshs 9,600,000 in 2014, with no available record for 2013; 2015; and 2016. Equally, SC-M is indicated by Table 4.9

to have had a budget for ECDE of Kshs 1,200,000 for the year 2014. Sub county J (SC-J) was found to have had a budget of Kshs 67,069 for ECDE during 2013. This finding seems to be in conformity with enrolment records noted for SC-L (40,078) and SC-R (46,174) in Table 4.4, although it would have been expected that SC-R could have allocated more funds for ECDE than SC-L, going by the enrolment in the area.

Concerning total county budget allocation between 2013 and 2016, the study was able to obtain complete records for 2013 to 2016 in C -1 and C-3: Counties 2 and 4 (C-2 and C-4) did not have complete records for all the 4 years. Table 4.10 presents county budget allocations for ECDE between 2013 and 2016.

Table 4.10: County Budget Allocations for ECDE between 2013 and 2016.

County	2013	2014	2015	2016
1 (C-1)	205,800,000	21,000,000	36,988,000	373,000,000
2 (C-2)	67,064,000	158,497,985	157,560,000	193,980,000
3 (C-3)	505,000,000	505,000,000	505,000,000	505,000,000
4 (C-4)	0	150,000,000	250,000,000	200,000,000

As presented in Table 4.10, increase in budgetary allocation for ECDE in County 2 (C-2) between 2013 and 2016, although records for 2014 were not available. In this regard, Table 4.8 indicates that between 2013 and 2016, budget allocation for C-2 increased by 126,916,000 from 67,064,000 in 2013 to 193,980,000 in 2016. This increase in allocation seems to reflect increase in enrolment in the county (C-2) as shown in Table 4.6. Similarly, Table 4.10 indicates that C-3 had the highest allocation in their budget for ECDE between 2013 and 2016 of a flat rate of Kshs 505,000,000 for each year. On the other hand, C-4 had allocations of Kshs 150,000,000 for 2014; Kshs 250,000,000 for 2015, and Kshs

200,000,000 for 2016, while records for 2013 were not found. In C-1, the allocation for ECDE in 2013 was Kshs 205,800,000; Kshs 21,000,000 in 2014; Kshs 36,988,000, and Kshs 373,000,000. These findings suggest that county 3 (C-3) had the highest allocation for ECDE, followed by C-4 and C-2 respectively. County 1 (C-1) had the lowest allocation in their budget for ECDE between 2013 and 2016.

The study further compared the ECDE enrolment for period 2010 to 2012 and for the period 2013 to2016 with the budgetary expenditure and allocation to obtain the average expenditure and allocation per learner during the respective periods. This comparison was only possible with C-3 which had complete ECDE enrolment data for 2013. Table 4.11presents ECDE expenditure per learner for 2010 to 2012 in C-3.

Table 4.11: Distribution of ECDE expenditure per learner for 2010 to 2012 in C-3

Year	Number of Learners	Amount of expenditure (Kshs)	Ratio
2010	36,125	150,000.00	1: 4.15
2011	32,335	2,000,000.00	1: 61.85
2012	33413	3, 000,000.00	1: 89.80

Table 4.11 indicates that the amount of ECDE expenditure per learners in C-3 between 2010 and 2012 was very small. In 2010 for instance, only an average of Kshs 4.15 was spent on each ECDE learner. Similarly, a paltry average of Kshs 61.00 was spent on each ECDE learners in 2011 in the same county. The table also indicates that an average of Kshs 89.80 on each ECDE learner in 2012. This finding tend to point at the neglect that implementation of ECDE suffered prior to the period 2013 to 2016.

The researcher proceeded to analyse ECDE budgetary allocation per learner in each county for the period ending 2016. Table 4.12 presents the distribution of budgetary allocation per learner for 2016.

Table 4.12: Distribution of Budgetary allocation per learner for 2016

County	No Learners	Budgetary allocation for 2016 (Kshs)	Ratio
C-1	85,050	373, 000,000.00	1: 4, 385.00
C-2	94,449	193, 980,000.00	1: 2,053.00
C-3	82,747	505, 000,000.00	1: 6,102.00
C-4	69,848	200,000,000.00	1: 2, 863.00

Findings in Table 4.12 illustrates that the budget allocation for each ECDE learner in C-1 was Kshs 4,385.00; C-2 allocated Kshs 2,053.00 to each learner; C-3 allocated Kshs 6,102.00, while C-4 allocated Kshs 2, 863.00 to each ECDE learner in 2016. These findings tend to suggest that C-3 and C-1 had comparatively higher budgetary allocations than C-2 and C-4. This finding indicates a major increase in budgetary allocation in the period ending 2016 as compared to 2012 when budgetary expenditure per learner in C-3 was an average of Kshs 89.80.

4.3.1.4 Infrastructure in terms of investment by the County Government in ECDE infrastructure from 2013 to 2016 (Code I_4)

Concerning the amount of money that the County Government has invested in ECDE infrastructure since 2013, only County 3 (C-3) was found with records for each of the 4 years. Table 4.13 presents distribution of amount of money spent on infrastructure by county governments under study.

Table 4.13: Distribution of Amounts spent on ECDE Infrastructure

COUNTIES	2013	2014	2015	2016	Totals
C- 1	0	78800000	22000000	160,000000	268,800,000
C- 2	1650000	84100000	32,400,000	29,700,000	147,850,000
C- 3	12,000,000	10,000,000	10,000,000	10,000,000	42,000,000
C-4	0	110,000,000	211,000,000	190,000,000	511,000,000

Table 4.13 illustrates that C-1 and C-4 did not have ECDE infrastructure expenditure records for 2013. The table further indicates that C-4 has the highest expenditure (Kshs 511,000,000) on ECDE infrastructure, followed by C-1 (Kshs 268,800,000); C-2 (Kshs 147,850,000) and lastly C-3 (Kshs 42,000,000. This finding suggests that C-4 has the highest expenditure in infrastructure (e.g classrooms, among others) followed by C-1; C-2; and C-3 respectively.

Findings in Table 4.13 illustrate a sharp increase in ECDE expenditure since 2013. For instance, compared with the period before 2013 as shown in Table 4.7, expenditure in ECDE infrastructure increased to Kshs 12,000,000 in 2013 from an overall amount of Kshs 122, 409.00 in 2012 in C-3. It can be noted that there was an average increase of over Kshs 10,000,000.00 in ECDE expenditure after 2013 in each of the four counties.

Investment in ECDE infrastructure by the county government was also assessed in each of the sampled sub counties that participated in the study. Accordingly, records for investment were found in only four sub counties, with SC-R the only sub county with records for each year between 2013 and 2016. Table 4.14 presents investment in infrastructure in the sub counties.

Table 4.14: County Government Investment in Infrastructure in Sub Counties

SCs	2013	2014	2015	2016	Total
SC.B	0	2,000,000	2,000,000	2,000,000	6,000,000
SC. L	0	9600000	0	0	9,600,000
SC. M	0	0	12,000,000	0	12,000,000
SC. R	0	0	0	0	9,600,000

It is illustrated in Table 4.14 that only five sub counties had records for investment in ECDE infrastructure. However, it should be noted that records for investment in ECDE infrastructure were incomplete for all the four years (2013 to 2016) in each of the five sub counties. The table also illustrates that between 2013 and 2016, the county government spent the largest amount (Kshs 12,000,000) on infrastructure in SC-M; counties also spent Kshs 9,600,000 in each (SC-L and SC-R) sub county on infrastructure. Similarly, the county government spent Kshs 6,000,000 on infrastructure in SC-B. These findings tend to suggest that there could have been need for higher investment in ECDE infrastructure in SC-M compared to other three sub counties with records for county government ECDE expenditure.

4.3.1.5 Infrastructure in terms of classrooms used by ECDE learners in the Sub County (Code I_5)

The study also established the number of classrooms being used by ECDE learners between 2010 and 2016. Table 4.15 presents the number of classrooms used by ECDE learners in each county between 2010 and 2016.

Table 4.15: Distribution of Classrooms used by ECDE learners

Counties	2010	2011	2012	2013	2014	2015	2016
C-1	00	00	00	899	941	983	1025
C- 2	00	00	692	692	810	877	895
C- 3	526	634	650	660	720	806	814
C- 4	00	00	00	1285	1750	2010	2100

Table 4.15 illustrates that C-1 and C-4 did not have records of the number of classrooms constructed in 2010 up to 2012. Similarly, C-2 did not have records of the number of classrooms used by ECDE learners for 2010 and 2011. However, C-4had the highest number of classrooms (2,100 classrooms) by end of 2016, followed by C-1; C-2, and C-3 respectively. County 3 provided records showing a steady increase in the number of classrooms during 2010 – 2016 (288 classrooms), with the number being 814 by end of 2016. Similarly, C-1 had an increase of 336 classrooms while C-2 had an increase of 203 by the end of 2016. These findings seem to suggest that C-4 had invested more on classrooms than the other three counties, followed by C-3, C-1, and C-2 respectively.

Based on enrolment records in Table 4.6, the study was able to analyse the class size in the counties with both enrolment data as well as records of the number of classroom for the period ending 2016. Table 4.16 presents the number of learners per classroom by end of 2016.

Table 4.16: Distribution by Ratio of Classrooms to Learners

County	No of Learners	No of Classroom	Ratio of Classroom to Learners
C-1	85,050	1025	1: 82
C-2	94,449	895	1: 105
C-3	82,747	814	1: 101
C-4	69,848	2100	1: 33

Findings in Table 4.16 illustrates that an average of 82 learners were packed in each classroom in C-1; C-2 had an average population of 105 learners per classroom; C-3 had an average population of 101 learners per classroom, while C-4 had an average population of 33 learners per classroom. This finding seems to imply that three counties (C-1; C-2; and C-3) had abnormally large population of learners per classroom.

Regarding the number of classrooms being used by ECDE learners, the study was also able to gather records from sub counties composing the four counties under study. It was essential to establish the number of ECDE classrooms in each region since it is within these rooms that interaction with the teacher takes place. Table 4.17 presents distribution of classrooms used for ECDE learners in the sub counties since 2010 to 2016.

Table 4.17: Distribution of ECDE classrooms in the Sub Counties

SCs	2010	2011	2012	2013	2014	2015	2016
SC. A	0	0	0	0	93	115	126
SC.B	0	0	0	73	80	80	85
SC. C		35	38	40	56	64	76
SC. D	20	20	20	20	31	25	35
SC. F	0	0	0	0	0	0	147
SC. G	0	0	0	165	0	173	173
SC. H	0	0	0	0	0	0	108
SC. I	0	0	0	0	0	0	183
SC. K	0	0	0	0	0	0	154
SC. L	10	10	10	24	24	24	24
SC. M	111	111	111	126	126	126	126
SC. N	0	0	0	0	0	0	123
SC. R	0	0	0	0	25	25	25
SC. T	0	0	0	0	105	117	117

In Table 4.17, it can be noted that records from six sub counties were not available for analysis and the rest of the sub counties apart from SC-M and SC-D provided records for a few years as well as the aggregated data by end of 2016. The table also illustrates that the number of ECDE classroom continued to increase among the sub counties covered in the study except for SC-L and SC-R which had 24 and 25 classrooms from 2013 to 2016 consecutively. Consequently, SC-I had the highest number of ECDE classrooms by the end of 2016, followed by SC-G (173 classrooms); SC-K (154 classrooms); and SC-F (147 classrooms). Other sub counties: SC-A (126 classrooms); SC-M (126 classrooms); SC-N (123 classrooms); SC-H (108 classrooms); SC-B (85 classrooms); SC-C (76 classrooms); and SC-D (35 classrooms). This implies that SC-I has invested more on classrooms than the rest of the sampled sub counties which participated in the study.

According to Vygotsky, instruction is crucial to ECE learners in the classroom, and such instruction should be geared to the zone of proximal development that is beyond the learner's actual development level. However, population of learners per classroom in C-2

and C-3 seems to be large. For instance, in C-2, the population of ECDE learners in 2016 was 94,449 while the number of ECDE classrooms was 895. This tends to suggest that in each classroom, there were 105learners. Equally, C-3 could be housing 101 learners per classroom. The only county that had reasonable population per class was C-4, with a population of 33 learners per classroom. This finding seems to concur with the World Bank's Report (2013) assertion that in Sub-Saharan Africa, the challenge of providing adequate early childhood education infrastructural facilities is huge, and an estimated cost of up to US$ 30 billion was needed to build up to 10 million classrooms.

Nafungo (2015) also established that Nairobi county government and national government were not allocating enough finances for ECD infrastructure in the Kibera slums. Nonetheless, Randi (2011) observed that the value for money in construction and maintenance allowed a greater emphasis to be put on how infrastructure supports other educational inputs, how buildings were used and maintained, where resources were targeted and what added value can be incorporated into the construction process. To this end, it was worth noting the increase of expenditure in ECDE infrastructure in each of the four counties since 2013. In analysing Table 4.7 in comparison with Table 4.12, it was noted that funding for infrastructure increased from an average of Kshs 1,000,000.00 before 2013 to above Kshs 10,000,000.00 in each year since 2013. This was an indication that each of the four counties was prepared to enhance quality of ECDE.

4.3.2 Quality of teaching in ECDE schools

The second objective sought to establish the quality of teaching in the public ECDE centres in each of the counties and sub counties. To this end, the researcher analysed data related to the total number of ECDE teachers in each county and Sub County between 2010 and 2016. Analyses of records provided by the sampled officers generated two themes:

i. Quality with regard to the number of ECDE teachers since 2010 until 2016

ii. Quality in terms of level of training of ECDE teachers in the Sub County

4.3.2.1Quality in terms of number of ECDE teachers between 2010 and 2016 (Code Q_1)

The first part under quality of ECDE teaching assessed the number of ECDE teachers between 2010 and 2016).Table 4.18 presents the number of ECDE teachers in each of the 4 counties between 2010 and 2016.

Table 4.18: Distribution of ECDE Teachers by Counties

	2010		2011		2012		2013		2014		2015		2016	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
C 1											25	1064	25	1064
C 2											72	1623	60	1812
C 3	3	620	4	630	6	640	5	866	8	907	8	1272	10	1272
C 4											110	1855	121	1879

Findings in Table 4.18 indicate that only C3 had complete records for 2010 to 2016, while C1; C2; and C4 had records for 2015 and 2016 only. The table also illustrates that the three counties (C2; C3; C4) increased the number of ECDE teachers each year. By end of 2016, C-1 had 389 ECDE teachers; C-2 had 1872 teachers; C-3 had 1282 teachers for ECDE learners, while C-4 had 2000 ECDE teachers.

The study further compared ECDE enrolment with teachers prior to the period 2013 to obtain the distribution of ECDE learners per teacher. This analysis was only possible in C-3 which had complete ECDE enrolment (Table 6) as well as teachers' (Table 4.17) records for the period ending 2012 and 2016 respectively. Table 4.19 presents the distribution of ECDE learners per teacher between 2010 and 2012 in C-3.

Table 4.19: Ratio of teacher to ECDE learners between 2010 and 2012 in C-3

Year	No of Learners	No of ECDE teachers	Ratio of Learners per Teacher
2010	36,125	623	1: 58
2011	32,335	634	1: 51
2012	33413	646	1: 52

Table 4.19 illustrates a high ratio of ECDE learners per teacher between 2010 and 2012 in C-3. For instance, ECDE teacher to learners' ratio was 1:58 in 2010; 1:51 in 2011; and 1:52 in 2012. This shows a large class size in C-3.

In addition, compared with the enrolment records in Table 4.6, the study was able to estimate the average ratio of ECDE learners per teacher in each of the four counties by end of 2016. Table 4.20 presents the distribution of ECDE learners per teacher in the four counties.

Table 4.20: Distribution of ECDE teacher to learners in 2016

County	Number of Learners	No of ECDE teachers in 2016	Ratio of pupils per teacher
C-1	85,050	1089	1: 78
C-2	94,449	1872	1: 50
C-3	82,747	1282	1: 64
C-4	69,848	2000	1: 35

Table 4.20 shows that teacher pupils' ratio for C-1 was 1:78; C-2 was 1: 50; C-3 was 1: 64; and 1:35 in C-4 in 2016. This implies that class sizes in C-1; C-2, and C-3 were relatively large. The class size in C-4 seemed to be moderate, although this was still not meeting internationally acceptable standards that requires teacher learner ratio for children below 2

years at 1:4; for 2-3 years, 1:10; for 3-4 years, 1:15; for 4-5 years, 1:25; for 5-6 years, 1:30, and for 6-8 years at 1:40 (Atieno, 2017). With regard to C-3 which had complete ECDE enrolment records for the period ending 2012 when implementation of ECDE was devolved to counties, the ratio of learners to teachers in 2016 seemed to be higher (1:64) compared to 2012 (1:52) [Table 4.19]. It was however observed that the numbers of learners and the teachers more than doubled within the period under reference. Thus, the quality of ECDE was improved in terms of increased access.

Records of ECDE teachers from the sub county offices were also analysed, and results are presented in Table 4.21.

Table 4.21: Distribution of ECDE Teachers in each Sub County

SC	2010		2011		2012		2013		2014		2015		2016	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
SC. A	0	0	0	0	0	0	3	56	10	93	13	107	19	123
SC.B	0	0	0	0	0	0	1	87	2	98	1	103	2	115
SC. C	0	0	0	0	5	95	5	115	8	142	12	144	12	144
SC. D	11	89	15	91	17	91	17	92	17	98	26	112	28	121
SC. E	37	103	46	106	52	117	67	128	96	136	102	148	104	152
SC. F	0	0	0	0	0	0	0	0	0	0	0	0	6	296
SC. G	0	0	0	0	0	0	0	0	0	0	12	291	10	362
SC. H	0	0	0	0	0	0	0	0	0	0	11	285	7	342
SC. I	0	0	0	0	0	0	0	0	0	0	0	0	12	310
SC. J								0	0	0	8	162	8	179
SC. K									0	0	10	283	7	300
SC. L									0	0	0	0	6	31
SC. M									0	0	0	0	8	33
SC. N									0	0	0	0	4	250
SC. O									30	129	35	118	40	120
SC. P									0	0	18	196	0	0
SC. Q									0	0	0	0	15	128
SC. R									0	0	0	0	11	140
SC. S									0	0	0	0	22	189
SC. T									0	0	19	209	17	262

Table 4.21 indicates that in all the sub counties that had records of ECDE teachers, SC-G had the highest number (372) of teachers, followed by SC-H (349); SCI-I (322); SC-K (307); SC-F (302); SC-T (279); and SC-N (254). It was thus expected by the end of 2016, ECDE enrolment in SC-G could have been higher than other sub counties covered by the present study.

4.3.2.2 Quality in terms of level of training of ECDE teachers in the Sub County (Q_2)

The other part of quality teaching that the study assessed comprised distribution of teachers in terms of teacher training. Table 4.22 presents the distribution of ECDE teachers by levels of training.

Table 4.22: Distribution of ECDE Teachers by Training Level

	Qualifications	2010	2011	2012	2013	2014	2015	2016
C 1	Untrained	0	0	0	0	0	25	25
	Certificate	0	0	0	225	0	1003	1003
	Diploma	0	0	0	175	0	0	0
	Degree	0	0	0	0	0	60	60
	TOTALS	**0**	**0**	**0**	**398**	**0**	**0**	**1089**
C 2	Untrained	0	0	0	0	0	403	478
	Certificate	0	0	0	0	0		
	Diploma	0	0	0	0	0		
	Degree	0	0	0	0	0		
	TOTALS	**0**	**0**	**0**	**0**	**0**	**1695**	**1872**
C 3	Untrained	0	0	0	0	0	0	0
	Certificate	00	00	00	880	777	932	932
	Diploma	00	00	00	100	190	300	300
	Degree	00	00	00	00	15	50	50
	TOTALS	**00**	**00**	**00**	**980**	**982**	**1282**	**1282**
C 4	Untrained	0	0	0	0	0	900	900
	Certificate	0	0	0	0	0	860	860
	Diploma	0	0	0	0	0	233	233
	Degree	0	0	0	0	0	7	7
	TOTALS	**0**	**0**	**0**	**0**	**0**	**2000**	**2000**

Table 4.22 indicates that there were incomplete records covering training level of ECDE teachers in C-1, C-2, C-3, and C-4. The table also illustrates that C-1 had 60 ECDE teachers with degree level of training and C-4 with 7 teachers with degree level of training. County 3 (C-3) was however leading in the number of ECDE teachers with diploma qualifications (300 teachers), while C-1 had the highest number (1003 teachers) of teachers with certificates by end of 2016. County 4 (C-4) was leading in the number of untrained ECDE teachers (900 teachers) by end of 2016.

The finding reveals that most of the ECDE teachers were trained professionals. They were therefore expected to deliver quality ECDE. This conforms to the tenets of theory of goal, context and agency: that there must be an agency whose responsibility is to utilize the available resources for the attainment of the set goals. Teachers of ECDE centres need to be adequately prepared with the requisite skills to ensure achievement of ECDE education. The training levels established by the analysed records therefore tend to imply that the teachers are competent and are able to implement the set curriculum to ECDE learners in every centre within the four counties.

According to Vygotsky, the ZPD concept teachers, as the mediator, to know the limits of their learners and teach to the limits of their ZPD and no further. Determining a learner's ZPD is an act of negotiated discovery that should be realised through interaction between the learner(s) and the teacher. This therefore seems to place some requisite level of training upon the teacher for this interaction to result into learning (Vygotsky, 1978). This mediation becomes the means for mediating the individual's own mental functioning.

The findings tend to imply that ECDE teacher training level among the sampled counties is fairly sufficient. The ration of ECDE learners to teachers seems to be high. For instance, 50 ECDE learners to one teacher or 44 learners to one teacher is comparatively high taking into consideration the caliber of the learners. According to Atieno (2017), teacher learner ratio for children below 2 years should be 1:4; for 2-3 years, 1:10; for 3-4 years, 1:15; for 4-5 years, 1:25; for 5-6 years, 1:30, and for 6-8 years. 1:40. It is therefore clear that there was understaffing of ECDE teachers in all of the sampled counties during 2016.

These findings concur with what Atieno (2017) found out: that there is low teacher to learners ratio in a study that was conducted among public ECDE centres in Muhoroni. Understaffing was also found by Murundu, et al (2010) to be affecting implementation of ECDE curriculum in a study that was done in Emuhaya District, Kenya. Quality of teaching

among the county governments under study could therefore be impaired due to low ratio of teachers to learners.

4.3.3 Level of investment in teaching and learning resources

The third objective of the study sought to compare the level of investment that the counties under study have made towards teaching and learning resources for ECDE. The study categorised themes derived from the records provided by the sampled respondents as:

i. Level of investment in teaching and learning resources in terms of money spent by the National Government in the sub county before 2013
ii. Level of investment in teaching and learning resources in terms of the county budget since 2013 until 2016
iii. Level of investment in teaching and learning resources in terms of money spent by the sub county since 2013 until 2016

4.3.4.1 Level of investment in teaching and learning resources in terms of money spent by the National Government in the sub county before 2013 (Code $T\&L_1$)

The study analysed records from the counties to establish the amount of money that the national government has spent on teaching and learning for ECDE between 2010 and 2013. All the sampled counties however, did not have any records showing the national government expenditure prior to 2013.

4.3.4.2 Level of investment in teaching and learning resources in terms of the county budget between 2013 and 2016 ($T\&L_2$)

Additionally, the study also sought to establish the amount of money that the county governments have budgeted for teaching and learning materials of ECDE since 2013. To this end, the study failed to obtain any records for C-1 and C-4. County 3 (C-3) only provided records for 2014, while county 2 (C-2) provided records for 2015 and 2016. Table 4.23 presents the distribution of amounts budgeted for teaching and learning materials.

Table 4.23: Amounts budgeted for ECDE Teaching and Learning Materials

Years	2013	2014	2015	2016	Totals
C 1	0	0	0	0	0
C 2	0	0	7,200,000	7,200,000	14,400,000
C 3	0	5,000,000	0	0	5,000,000
C 4	0	0	0	0	0

Table 4.23 illustrates that C-2 budgeted to spend more money (Kshs 14,400,000) for teaching and learning materials of ECDE than C-3 (Kshs 5,000,000 between 2013 and 2016. It would therefore be expected that such budgeted amount matches with the ECDE enrolment during the same period.

4.3.4.3 Level of investment in teaching and learning resources in terms of money spent by the sub county between 2013 and 2016 (T&L$_3$)

The study further sought to establish the amount of money that was actually spent on ECDE teaching and learning materials between 2013 and 2016. Table 4.24 presents the amount of money spent for teaching and learning resources as obtained from records in each of the four counties under study.

Table 4.24: Amounts spent for ECDE teaching and Learning Materials

Counties	2013	2014	2015	2016	Totals
C 1	0	0	0	0	0
C 2			7,200,000	7,200,000	14,400,000
C 3	0	5,000,000	0	0	5,000,000
C 4	0	0	0	0	0

According to Table 4.24, C-2 is indicated to have spent Kshs 14,400,000, while C-3 spent Kshs 5,000,000 between 2013 and 2016 for ECDE teaching and learning materials. The rest of the counties (C-1 and C-4) did not provide records for amounts of money spent on ECDE teaching and learning materials. This tends to suggest that C-1 and C-4 do not keep appropriate records of expenditure for ECDE teaching and learning materials. Equally, C-2 seems to be spending more on teaching and learning materials than the other counties.

Considering the two counties with the records of ECDE expenditure in teaching and learning materials, the amount of money spent to provide teaching and learning material to each learner is considerably very low. For instance, the total amount spent on each child in C-2 between 2013 and 2016 is Kshs 152.45 (Kshs 14, 400,000/94449 learners) while that in C-3 is Kshs 60 (Kshs 5,000,000/82747 learners) during the same period. This implies that the ECDE learners in the sampled counties have to make do with limited teaching and learning resources in the centres: this could be disadvantageous to quality teaching and learning.

Social interaction theory espoused in Vygotsky (1968) asserts that through interaction with the peers and seniors as well as with the environment, the learner is assisted to expand his/her zone of discovery. Teaching and learning materials like charts, toys, carvings and drawings aid the child to make discoveries of animals, features, and activities among others. In goal, context, and agency theory, the importance of teaching and learning materials in meeting set goals is clearly stated. The efficiency strand emphasised by Hawes & Stephens (1990) ensures that inputs, or the tools that are available, are optimally utilised in order to reach and improve different kinds of standards, including standards of attainment in knowledge and learning skills; standards of creativity and critical thinking and standards of behaviour. In the absence of adequate teaching and learning materials, it would be interesting to establish how quality learning is attained in these counties.

Inadequacy of teaching and learning materials has, however, been established by many other researchers, particularly in public ECDE centres. Mukiti (2016) found in a study that that teaching and learning resources which are important for implementation of the ECDE programmes are inadequate among ECDE centres in Matungulu (Kenya). These include charts and posters, teaching aids, teachers' guides, pictures, learners' writing materials, toys and outdoor activity materials-balls, skipping ropes. Similar findings were also made by Onyango (2014) in an exploration of the relationship between ECDE teaching and learning resources on transition to class one in Rachuonyo South Sub County (Kenya). It was found that public ECDE centres are faced with inadequacy of teaching and learning materials.

4.3.4 Challenges facing implementation of ECDE programmes

After assessing the level of investment in ECDE infrastructure, quality teaching, and teaching as well as learning materials, the study sought to find out the challenges that have faced implementation of ECDE programmes in the four counties. The challenges were grouped as school level challenges, home level challenges, challenges arising from the national government, and challenges arising from the learners themselves.

4.3.4.1 Challenges at School Level (C_1)

Using an open ended question, the sampled respondents were requested to state the challenges that they know as facing ECDE implementation based at the school level. The themes derived from written responses were grouped according to frequencies or the number of times they were indicated by the respondents. In this regard, the most outstanding challenges were stated as:

1. Inadequate teaching materials
2. Inadequate teachers
3. Inadequate infrastructure
4. Lack of understanding by preschool administration

The aforementioned challenges imply that at school level, lack of adequate teaching materials, teachers, and infrastructure were major hindrance to successful implementation of ECDE programmes among the four counties. These findings tend to concur with a study by Erden (2010) who investigated the challenges preschool teachers face in the curriculum implementation in Turkey: it revealed that the most frequently reported issues were the problems related to physical facilities followed by the ones related to planning science and math activities, organizing field trips, providing parent involvement and inclusion. The situation created by the mentioned challenges is perhaps worsened by factors listed with low frequencies: low parental participation, irregularity in age for admission, and lack of funds for ECDE activities. For instance, high rate of parental participation may lead to hiring of extra teachers, admission of learners at the right age, and appropriate support for ECDE activities.

4.3.4.2 Challenges arising from Parents (C_2)

The study also requested the sampled administrators and officials to list the challenges facing ECDE implementation that emanate from homes or parents of the learners. Statements provided by respondents were drawn into three main themes deduced from common statements obtained from the questionnaire. These were:

1. Poor payment of fee by parents which lead to low finances at the ECDE centre
2. Ignorance of parents with regard to ECDE programmes such expected learning outcomes
3. Inadequate provision of learning materials like exercise books, markings, playing gadgets, among others

The aforementioned challenges imply that lack of adequate participation among parents tend to hinder implementation of ECDE programmes in public preschools. Similar findings were made by Akpan (2014) in a study done in Nigeria to assess the challenges faced in

involving parents in the school management in Nigeria. It revealed that parental apathy, lack of time and expertise in school administration, working parents, and poor socioeconomic background are major challenges in involving parents in school management practices. Perhaps lack financial contribution and provision of learning materials on the side of parents is attributed to poverty situations facing households whose children attend public ECDEs.

4.3.4.3 National Government Challenges

Part of the study instrument compared the challenges facing implementation of ECDE programmes among the four counties emanating from the national government. The study instrument filled up by the sampled administrators and officers generated responses that were categorised into the following major themes:

1. Inadequate funding
2. Lack of clear ECDE syllabus or curriculum
3. Lack of guidelines regulating roles of primary school and ECDE centres
4. Political interference like nepotism in the employment of staffs at ECDE centres.

These revelations seem to answer the questions related to inadequate coordination of ECDE programmes in general, particularly enforcement of education policies with regard to ECDE. There is disconnect between what is articulated in the policy and the reality on the ground in as far as implementation is concerned. This finding seems to concur with a study by DevTech Systems Inc. (2007) which evaluated the effectiveness of Aga Khan Foundation's (AKF) Releasing Confidence and Creativity (RCC) Program on costs and goal achievement. It found that the program created disconnects with the government system; there was a missing link between the training teachers received and the implementation of the methodology in the classrooms. This therefore seems to suggest that

policy guidelines for ECDE does not address situations at the grassroots, hence the missing links between what is expected and the actual happenings at ECDE schools.

4.3.4.4 Challenges from Learners (C_4)

The challenges facing implementation of ECDE programmes attributable to learners were also assessed by the study among the sampled counties. The listed challenges were critically analysed and three themes were derived by the researcher:

1. Lack of learning materials
2. Malnutrition hence inactive learners
3. Underage enrolment.

These findings suggest that low economic status of parents is a major challenge in the implementation of ECDE. In addition, parents seemed to be ignorant with regard to admission age expected of a child. In this regard, parental apathy, lack of time and expertise in school matters, and poor socioeconomic background of parents are major challenges among learners including those in ECDE. These confirms what Akpan (2014) established in a study done in Nigeria, that involvement of parents in financial support is minimal among public schools ostensibly because of poor socioeconomic status.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section presents the summary of the study findings, conclusions as well as recommendations for improvement in implementation of ECDE and areas for further research.

5.2 Summary of Findings

The study found that only four of the 20 sub counties had enrolment records for ECDE from 2010 to 2016. The order of enrolment from highest to lowest between 2010 and 2016 by Sub County is: SC-E (64, 263); SC-R (46, 174); SC-C (43, 695); SC-L (40,078); SC-D (36, 547); SC-H (27, 421); SC-A (25,452); SC-O (24, 512); SC-M (23,886); SC-Q (19,203); SC-B (18842); SC-P (15,328); SC-S (13,559); SC-I (12,557); SC-G (12,213); and SC-N (10304); SC-K (8,885); and SC-T (6,811) (Table 4.5). According to inter county records, it was found that there was steady rise in enrolment of ECDE learners between 2013 and 2016. The sequence of enrolment from the highest to the lowest during the period is: County 2 (C-2) had an increase in enrolment of 4,218 (2018 males and 2200 females); C-3 had an increase in enrolment of 18,607 (9,000 males and 9607 females); C-4 had an increase in enrolment of 24,020 (12,061 males and 11,959 females), and C-1 had an increase of 3,515 learners (2100 males and 1515 females) (Table 4.6).

With regard to the national government's ECDE expenditure prior to 2013, there were no records for the national government expenditure in C-1 and C-4. Similarly, only SC-T; SC-R; SC- SC-M; SC-L and SC-J had records for ECDE national government's expenditure during the same period (Table 7).

The study found that there was a decrease of Kshs 183,398 in national government expenditure in C-2 between 2010 and 2012 while in C-3, while there was an increase in

national expenditure of Kshs 2,850,000 during the same period (Table 8). Findings also revealed that SC-T received the highest expenditure (2,100,000 shillings) in 2012; SC-R Kshs750, 000 in 2010 and 2011, with no expenditure records for 2012; SC-M (Table 4.8). The national government equally spent Kshs 330,000 on ECDE in SC-M in 2010 and Kshs 220,000 in 2011, while that of SC-L was Kshs 300,000 for 2010 and Kshs 200,000 for 2011. For SC-J, expenditure was Kshs 305,000 in 2010; Kshs 89,113 in 2011; and Kshs 122,409 in 2012.

With regard to sub county ECDE budget since 2013, only four sub counties were found with relevant records (Table 4.8). Findings were that SC-L and SC-R both had ECDE budget of Kshs 9,600,000 in 2014, with no available record for 2013; 2015; and 2016. Equally, SC-M had a budget for ECDE of Kshs 1,200,000 for 2014; SC-J had a budget of Kshs 67,069 during 2013 (Table 4.9).

Consequently, the study obtained complete records of ECDE budgetary allocations for 2013 to 2016 in C-1, C-2 and C-3, whileC-4 did not have complete records for all the 4 years (Table 4.10). County level findings reveal that C-2 has incremental allocation for ECDE by Kshs114, 316,000 from Kshs 67,064,000 in 2013 to Kshs 193,980,000 in 2016; C-3 has the highest allocation of a flat rate of Kshs 505,000,000 for each year; C-4 had allocations of Kshs 150,000,000 for 2014; Kshs 250,000,000 for 2015, and Kshs 200,000,000 for 2016. Similarly, C-1 had ECDE allocation of Kshs 205,800,000 in 2013; Kshs 21,000,000 in 2014; Kshs 36,988,000; and Kshs 373,000,000 in 2015 and 2016 respectively (Table 4.10).

It was established that three counties did not have ECDE expenditure records from 2010 to 2012 except C-3. The amount of ECDE expenditure per learner in 2010 averaged to Kshs 4.15; an average of Kshs 61.00 in 2011; and an average of Kshs 89.80 on each ECDE

learner in 2012 in C-3 (Table 4.11). However, in 2016, the amount of investment per learner had improved to amount of Kshs 2,053 to Kshs 6,102

It was also found that only C-2 and C-3 had complete records of amount spent by the county government for 2013 to 2016 (Table 4.12). During the period, findings revealed that C-4 had the highest expenditure (Kshs 511,000,000) on ECDE infrastructure; C-1 (Kshs 268,800,000); C-2 (Kshs 147,850,000) and C-3 (Kshs 42,000,000 (Table 4.13). In the sub counties, only SC-R had records for 2013 to 2016 (Table 4.14). County government spent the highest amount in SC-M (Kshs 12, 000,000) on infrastructure; Kshs 9, 600,000 in SC-L and SC-R; and Kshs 6,000,000 in SC-B.

Analysis of records also found data concerning number of classrooms used for ECDE for 2010 to 2016 in C-3 (Table 4.14). Consequently, C-4 had the highest number (2,100) classrooms by end of 2016; C-3 had 814; C-1 had 1025; and C-2 had 895 by end of 2016 (Table 4.15).

This translated to an average of 82 learners per each classroom in C-1; C-2 had an average population of 105 learners per classroom; C-3 had an average population of 101 learners per classroom, while C-4 had an average population of 33 learners per classroom (Table 4.16).

Records of classrooms being used for ECDE from six sub counties were not found by end of 2016 (Table 4.17). Analysis of the number of ECDE classrooms among sub counties reveal that SC-I had 183 classrooms by end of 2016; SC-G had 173 classrooms; SC-K had 154 classrooms; had SC-F 147 classrooms; SC-A had 126 classrooms; SC-M had 126 classrooms; SC-N had 123 classrooms; SC-H had 108 classrooms; SC-B had 85 classrooms; SC-C had 76 classrooms.

5.2.1 Quality of teaching in ECDE schools

With regard to quality of teaching in ECDE schools among the four counties, only C-3 had complete records for 2010 to 2016 of total number of ECDE teachers (Table 4.16). The study found that there was an increase of ECDE teachers in C-2; C-3; and C-4 between 2013 and 2016. Consequently, C-2 has employed 1,872 teachers since 2010 to 2016; C4 2,000 teachers; C3 1,282 teachers and C1 1089 teachers (Table 4.18).

County 3 with ECDE enrolment records for 2010 to 2012 had a ratio of ECDE teacher to learners' at 1:58 in 2010; 1:51 in 2011; and 1:52 in 2012 (Table 4.19). In addition, compared with the enrolment records in Table 6, the study was able to estimate the average ratio of ECDE learners per teacher in each of the four counties by end of 2016. The distribution of ECDE learners per teacher in the four counties translated to teacher pupils' ratio of 1:78 in C-1; 1: 50 in C-2; 1: 64 in C-3; and 1:35 in C-4 during 2016 (Table 4.20).

Among the sub counties, findings revealed that SC-G had 372 (362 females and 10 males) teachers; SC-H 349 (342 females and 7 males) teachers; SCI-I 322 (310 females and 12 males) teachers; SC-K 307 (300 females and 7 males) teachers; SC-F 302 (296 females and 6 males) teachers; SC-T 279 (262 females and 17 males) teachers; and SC-N 254 (250 females and 4 males) teachers (Table 4.21).

Concerning training level of ECDE teachers, C-2 had 1394 teachers with unspecified level of training; C-3 had 300 diploma level ECDE teachers as well as 932 teachers with certificate holders; and C-4 had 900 untrained ECDE teachers forming majority in each category (Table 4.22).

5.2.2 Findings on Level of investment in teaching and learning resources

Findings regarding investment in teaching and learning resources revealed that the four counties under study did not have any records showing the national government expenditure prior to 2013. The study did not also have records for amount of money

budgeted for ECDE for C-1 and C-4 (Table 4.23). County 2 (C-2) budgeted to spend Kshs 14,400,000 on teaching and learning materials, while County 3 (C-3) budgeted to spend Kshs 5,000,000 for teaching and learning materials between 2013 and 2016.

It was also found that C-1 and C-4 did not have records for the actual amounts spent on teaching and learning resources between 2013 and 2016 (Table 4.24). For C-2, Kshs 14,400,000 was spent for teaching and learning resources while C-3 spent Kshs 5,000,000 on the same. The total amount spent on each child for learning resources in C-2 between 2013 and 2016 was Kshs 152.45 while that in C-3 was Kshs 60 during the same period. This implies that the ECDE learners in the sampled counties have to make do with limited teaching and learning resources in the centres: this could be disadvantageous to quality teaching and learning.

5.2.3 Findings on Challenges faced in Implementation of ECDE

Concerning challenges faced in implementation of ECDE, the study found that school level challenges include inadequate teaching materials, inadequate teachers, inadequate infrastructure, and misunderstanding by preschool administration. These challenges are compounded by low participation of parents, irregularity in age for admission of learners as well as lack of funds for ECDE activities.

The study equally found that home based challenges include poor payment of fees by parents, ignorance of parents with regard to ECDE programmes, and non-provision of learning materials. Lack of food provision escalates challenges that arise from homes where preschool learners come from.

Challenges emanating from the national government were found to include inadequate funding of ECDE programmes, lack of clear ECDE syllabus or curriculum, lack of guidelines regulating roles of primary school and ECDE centres, and political interference in ECDE activities. Equally, unregulated publishers of teaching materials for ECDE as well

as lack of scheme of service for ECDE teachers are also some of the challenges found to be arising from the national government.

Similarly, the study also found that inadequate learning materials, malnutrition hence inactive learning, and underage enrolment are some of the challenges arising from learners. Other learner-centred challenges found by the study include language barrier and lack of school going apathy among some ECDE learners. In addition, ineffective enforcement of government policies was also revealed.

5.3 Conclusions

Based on the findings of the study, the study makes the following conclusions:

5.3.1 Investment in Infrastructure

It was concluded that most sub counties have poor management of records of investment in ECDE infrastructure; quality of teaching, and investment in teaching and learning materials for the period 2010 to 2016. The highest number of ECDE enrolment is 64, 263 learners while the lowest enrolment number recorded was 6,811 learners. There was an increase in ECDE enrolment of between 2,018 males and 2,200 females on one hand, and 3,507 males and 3,477 females on the other hand from 2010 to 2016. There was an average of 82 learners per each classroom in C-1; 105 learners in C-2; 101 learners in C-3; and 33 learners in C-4.

Available records show that the national government' expenditure was as low as Kshs 90.00 per ECDE learner prior to 2013. Additionally, such expenditure varied between sub counties during the period before 2013. Few sub counties had records of ECDE budget from 2013 to 2016. Sub counties with records of ECDE budget during this period showed budget statements of lower amounts of money than the actual ECDE expenditure in the same period. With the exception of few counties, county governments under study had incremental ECDE budget allocations since 2013, with the highest being Kshs 505,000,000 and the lowest Kshs 21,000,000.

Budgetary allocation per ECDE learner was Kshs 4,385.00 in C-1; Kshs 2,053.00 in C-2; Kshs 6,102.00 in C-3; and Kshs 2,863.00 in C-4. Of the ECDE budgetary allocations, infrastructure makes the highest expenditure among both counties and sub counties, with C-4 spending Kshs 511,000,000 in infrastructure, which perhaps included putting up 2,100 classrooms by end of 2016. However, C-2 did not spend much of its infrastructural fund (Kshs 62,100,000) by end of 2016 as compared with other counties under study. The

number of classrooms being used for ECDE programmes among sub counties varies a great deal, with some sub counties having as high as 180 classrooms and others as low as 24 classrooms used for ECDE programmes.

5.3.2 Quality Teaching

With regard to quality teaching in ECDE, the study concludes that the number of ECDE teachers employed by each county government compared with ECDE enrolment result into high teacher pupils ratio. However, the teachers have fairly sufficient qualifications to administer ECDE curricular, with majority of the teachers having certificate level of training while untrained teachers being fewest.

5.3.3 Investment in Teaching and Learning resources

Equally, few counties did have records of amounts of money budgeted for ECDE teaching and learning resources. Expenditure on teaching and learning materials match amounts budgeted for the same in the counties which have kept such records. Moreover, budgeted amount as well as spent amounts on teaching and learning materials tends to correspond with ECDE enrolment in each county under investigation. Specific amount of money spent on teaching and learning materials for each learner is as small as Kshs 60 in some counties.

5.2.4 Challenges facing Implementation of ECDE

Challenges that face implementation of ECDE is that there is ineffective enforcement of education policies in this sector. Among ECDE centres in the counties, there was inadequate teaching and learning materials, inadequate teachers, and inadequate infrastructure. These are worsened by low participation of parents, irregularity in age for admission of learners as well as lack of funds for ECDE activities. Additionally, parents were poor in payment of school fees, were ignorant on ECDE programmes, and did not provide adequate learning materials to their children. The national government also provided inadequate funding for ECDE programmes, lack clear ECDE syllabus or

curriculum, provides minimum direction with regard to jurisdictions of ECDE centre and the mother primary school.

5.4 Recommendations

Following the conclusions made by the study, recommendations for improving ECDE implementation and further research are presented in this section.

5.4.1 Recommendations for improving ECDE Implementation

Based on the conclusions drawn by the study, the following recommendations are provided for the improvement of ECDE implementation:

i. With regard to the level of investment in infrastructure, the study recommends that both the counties and sub counties should keep proper records of ECDE enrolment, national government ECDE expenditure, records of ECDE budget and expenditure, and the number of classrooms used for ECDE during each year.

ii. Concerning quality teaching in ECDE, the study recommends that more teachers should be employed to correspond with ECDE enrolment in each County and Sub County. Qualifications of the hired ECDE teachers should also be improved so that quality provided is uniform. In addition, given that gender balance in recruitment of ECDE teachers is quite glaring, a balance should be stricken by employing equal number of male and female teachers. This would enhance role model effects in young male learners.

iii. This study also recommends that adequate records of ECDE teaching and learning materials should be kept by each County and Sub County. This would ensure accountability for resource use on one hand, and monitoring of ECDE quality provision on the other hand. Moreover, County and Sub County ECDE

administrators should ensure that teaching and learning resources matches ECDE enrolment in each ECDE centre, and subsequently appropriate use of the same.

iv. To address the challenges facing implementation of ECDE, the County and Sub County governments should increase provision of teaching and learning materials, teachers, and infrastructure.

v. Equally, parents should be sensitized on the need of participation in ECDE activities so that timely enrolment and high attendance rate is improved. The government should also put forward a clear guideline on ECDE implementation through devolved dispensation.

vi. Education policies with regard to ECDE should be adequately enforced.

5.4.2 Recommendations for Further Research

To widen the scope of research in the area of quality ECDE among devolved units or governments, this study recommends further research on the following areas among public pre-schools.

With regard to the level of investment in infrastructure, the study recommends that further research should be done on strategies to enhance records keeping for ECDE enrolment, national government expenditure, budgetary allocations and the number of classrooms by the county governments.

Concerning quality teaching in ECDE, the study revealed that there is high ratio of learners to teachers and hence more teachers need to be employed to correspond with ECDE enrolment in each County and Sub County. This study therefore recommends that further research should be done on factors determining sufficiency of recruitment of qualified and gendered proportion of ECDE teachers among public pre-schools by county governments.

This study also revealed that there are inadequate records of ECDE teaching and learning materials kept by each County and Sub County offices. This could affect provision of

enough teaching and learning resources for this category of learners and consequently learning outcomes. The study therefore recommends that further research be done on the moderating effects of record keeping on the relationship between enrolment and provision of teaching and learning resources for ECDE in public pre-schools.

To address the challenges facing implementation of ECDE through research, the study recommends that further research be done on factors determining participation of parents in the activities of ECDE and their implications on provision of teaching and learning materials, quality teachers, and infrastructure among public preschools.

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LIST OF APPENDICES

APPENDIX I: LETTER OF INTRODUCTION TO RESPONDENTS

Abuom Patrick Odiwuor
P. O Box 9382,
Kisumu– KENYA,
August 4th, 2016.

To Respondent,

RE: PARTICIPATION IN THE STUDY

I am a postgraduate student at Kisii University. As part of the requirements of the Masters of Educational Foundations (Comparative and International Education), I am required to carry out an independent research project. The research project is titled "Comparative Study of Implementation of Early Childhood Development and Education in Homa Bay, Kisumu, Migori and Siaya Counties". To enable me to successfully carry out the study, a questionnaire and document analysis tool is provided which will be the major basis for the findings of the research.

You are kindly requested to respond to the questions as directed and as honestly as possible. I understand that you have a busy schedule and your participation in this evaluation is greatly appreciated and information given will be treated in strictest confidence.

Sincerely,

Abuom Patrick Odiwuor

0726 309195

APPENDIX II: QUESTIONNAIRE FOR COUNTY OFFICIALS AND SUB COUNTY ADMINISTRATORS

The purpose of this questionnaire is to aid in gathering information on the quality of ECDE among selected Sub County administrators, Chief Officers in Education Department, County Directors of ECDE, and County Executive Committee Members of Education in Homa Bay, Kisumu, Migori, and Siaya Counties. The researcher intends to use the information gathered from these interviews purely for academic work.

All the information gathered will be used for this study only and will be treated confidentially. You are therefore requested to respond to these questions honestly and accurately.

(*Tick √ where appropriate or fill in your opinion where applicable)*

SECTION I: PERSONAL INFORMATION

Kindly provide the following about yourself:

1. **Gender**: i. Male; ☐ ii. Female; ☐

2. Age: i) 20 – 25; ☐ ii) 26 – 30; ☐ iii) 31 – 35; ☐ iv) 35 – 40; ☐ v) 41 – 45; ☐

vi) 46 – 50; ☐ vii) 51 – 55; ☐ viii) 56 and above; ☐

3. Education level: i) Untrained; ☐ ii) Certificate; ☐ iii) Diploma; ☐

iv) Degree; ☐ v) Masters; ☐ vi) Others (Specify) ☐ _____

4. Work Experience: i) Below 1 year; ☐ ii) 1 – 4 years; ☐ iii) 5 – 8 years; ☐

iv) 9 – 12 years; ☐ v) 13 – 16 years; ☐ vi) 17 years and above; ☐

SECTION I: Level of investment in Infrastructure

1. State the ECDE enrolment since 2010 as:

Year	Gender		Total
	Male	Female	
2010			
2011			
2012			
2013			
2014			
2015			
2016			
TOTAL			

2. How much money did the national Government spend in ECDE before 2013?

Year	Investment/Expenditure (Kshs
2010	
2011	
2012	
TOTAL	

3. How much is the total County Government budget for ECDE since 2013?

Year	Budget (Kshs)
2013	
2014	
2015	
2016	
TOTAL	

4. How much money has the County Government invested in ECDE infrastructure (classrooms, etc.) since 2013?

Year	Amount spent (Kshs.
2013	
2014	
2015	
2016	
TOTAL	

5. How many classrooms are being used by ECDE learners in your area of jurisdiction?

Year	Number of classes
2010	
2011	
2012	
2013	
2014	
2015	
2016	
TOTAL	

SECTION II: ECDE Teachers

1. Kindly indicate in the spaces provided the number of ECDE teachers in the County/Sub County since 2010

Year	Number of Teachers	Male	Female
2010			
2011			
2012			
2013			
2014			
2015			
2016			
TOTAL			

2. Kindly indicate the distribution of ECDE teachers in the County in terms of levels of training

Year	Untrained	Certificate	Diploma	Degree
2010				
2011				
2012				
2013				
2014				
2015				
2016				
TOTAL				

SECTION III: Teaching and Learning Resources

1. How much money did the National Government spend on teaching and learning resources before 2013?

Year	Amount in Shillings
2010	
2011	
2012	
TOTAL	

2. How much money did the County Government budget to spend on teaching and learning resources since 2013?

Year	Amount in Shillings
2013	
2014	
2015	
2016	
TOTAL	

3. How much has the County Government spent in ECDE teaching and learning resources since 2013?

Year	Amount in Shillings
2013	
2014	
2015	
2016	
TOTAL	

SECTION IV: CHALLENGES FACED IN THE IMPLEMENTATION OF ECDE PROGRAMMES

With regard to challenges faced in the implementation of ECDE programmes, kindly indicate some major challenges in your county as:

a) Challenges at school level

i. _____
ii. _____
iii. _____
iv. _____
v. _____

b) Challenges arising from parents or home factors

i. _____
ii. _____
iii. _____
iv. _____
v. _____

c) Challenges arising from the National Government

i. _____
ii. _____
iii. _____
iv. _____
v. _____

d) Challenges arising from learners

i. _____

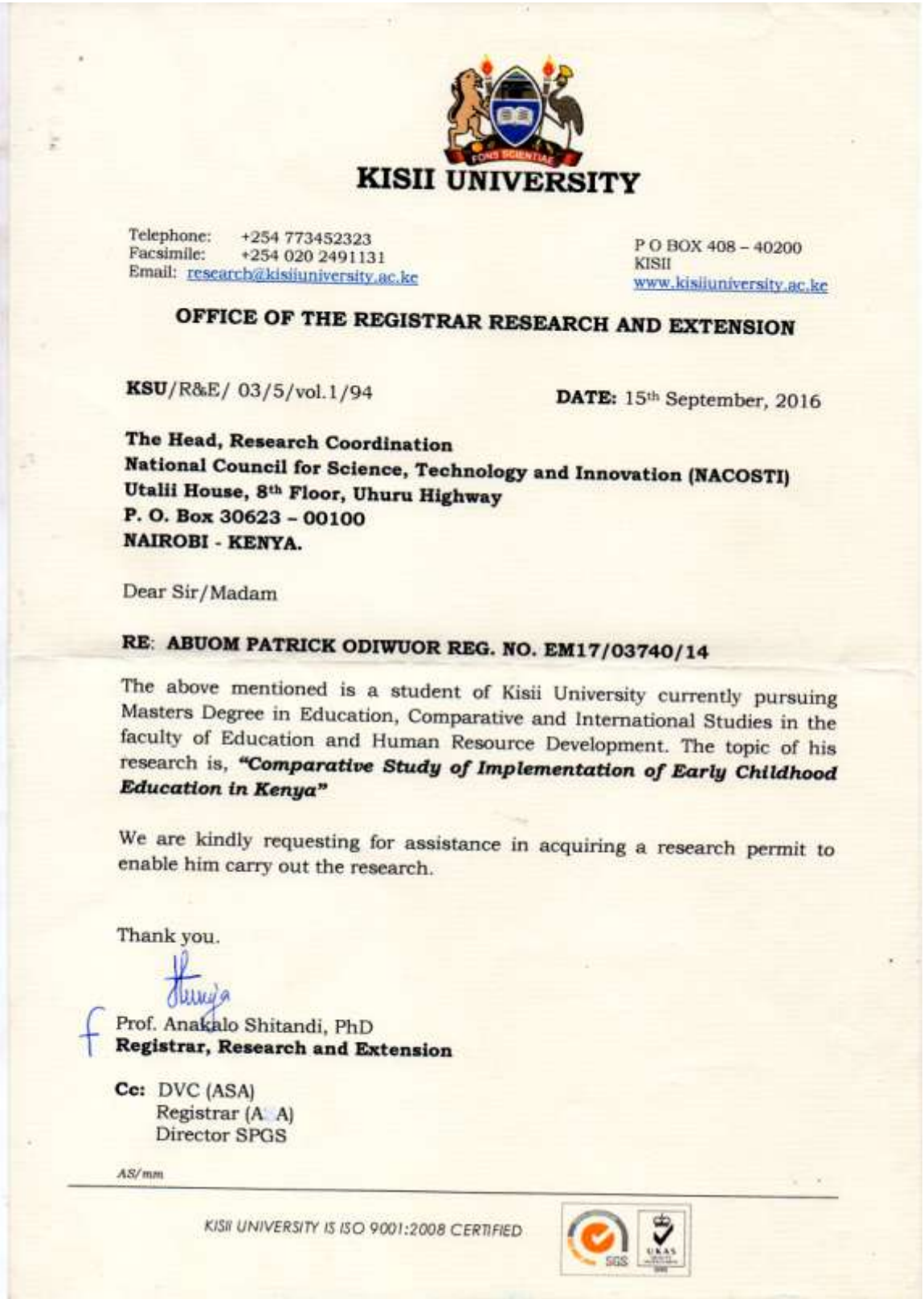
ii. _____

iii. _____

iv. _____

v. _____

APPENDIX III: UNIVERSITY RESEARCH AUTHORIZATION



KISII UNIVERSITY

Telephone: +254 773452323
Facsimile: +254 020 2491131
Email: research@kisiiuniversity.ac.ke

P O BOX 408 – 40200
KISII
www.kisiiuniversity.ac.ke

OFFICE OF THE REGISTRAR RESEARCH AND EXTENSION

KSU/R&E/ 03/5/vol.1/94 **DATE:** 15th September, 2016

The Head, Research Coordination
National Council for Science, Technology and Innovation (NACOSTI)
Utalii House, 8th Floor, Uhuru Highway
P. O. Box 30623 – 00100
NAIROBI - KENYA.

Dear Sir/Madam

RE: ABUOM PATRICK ODIWUOR REG. NO. EM17/03740/14

The above mentioned is a student of Kisii University currently pursuing Masters Degree in Education, Comparative and International Studies in the faculty of Education and Human Resource Development. The topic of his research is, ***"Comparative Study of Implementation of Early Childhood Education in Kenya"***

We are kindly requesting for assistance in acquiring a research permit to enable him carry out the research.

Thank you.

Prof. Anakalo Shitandi, PhD
Registrar, Research and Extension

Cc: DVC (ASA)
Registrar (A A)
Director SPGS

AS/mm

KISII UNIVERSITY IS ISO 9001:2008 CERTIFIED

APPENDIX IV: AUTHORIZATION FROM MINISTRY OF EDUCATION, HOMA BAY COUNTY

REPUBLIC OF KENYA

COUNTY GOVERNMENT OF HOMA BAY

MINISTRY OF EDUCATION & ICT

HOMA BAY COUNTY

Ref: HBC/ECD/GEN/VOL.I/113

23RD FEB 2017

TO

ALL PRIMARY SCHOOL HEADTEACHERS

HOMA BAY COUNTY

Dear Sir/Madam

RE: RESEARCH AUTHORIZATION TO PATRICK ODIWUOR ABUOM

In reference to a research authorization letter ref. No. **NACOSTI/P/16/2016/14084** of 23rd November 2016 from the National Commission for Science Technology and Innovation. The above mentioned student from Kisii University has been authorized to carry out a research on ***"Comporative Study of Implementation of Early Childhood Education in Kenya."***

The purpose of this letter Sir/Madam, is to kindly request you to accord him the necessary assistance.

Yours faithfully,

COUNTY GOVERNMENT OF HOMA-BAY ECDE DIRECTOR

PETER O. OGOLLA,

COUNTY DIRECTOR ECD.

APPENDIX V: AUTHORIZATION FROM COUNTY COMMISSIONER OF HOMA BAY

OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telephone: Homa Bay 22104 or 22105/Fax:22491
E-mail: cc_homabay@yahoo.com
When replying please quote

COUNTY COMMISSIONER
HOMA BAY COUNTY
P. O. BOX I – 40300
HOMA BAY

REF.NO. ED.12/1/VOL.II/168 **13th December, 2016**

All Deputy County Commissioners
HOMA BAY COUNTY.

RE: RESEARCH AUTHORIZATION-PATRICK ODIWUOR ABUOM

The above named person has been authorized to carry out a research on "Comparative Study of Implementation of Early childhood Education in Kenya" in Homa Bay County for the period ending 21st November, 2017.

Please note that all ethical practices must be observed.

J.B.ALUODO
For:COUNTY COMMISSIONER
HOMA BAY.

cc

The County Director of Education
HOMA BAY COUNTY.

**Please note our e-mail address cc_homabay@yahoo.com*

APPENDIX VI: AUTHORIZATION FROM MINISTRY OF EDUCATION, SIAYA COUNTY

REPUBLIC OF KENYA

DEPARTMENT OF EDUCATION, YOUTH AFFAIRS, GENDER AND SOCIAL SERVICES- SIAYA COUNTY

SC/EDS/EDUC/2/2/VOLIII (40) 19/12/2016

DEPARTMENT OF EDUCATION, YOUTH TRAINING, SPORTS & SOCIAL SERVICES
12 DEC 2016
CHIEF OFFICER
P. O. Box 803-40600, SIAYA

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: RESEARCH PROJECT AUTHORITY FOR ABUOM PATRICK ODIWUOR – POST GRADUATE STUDENT OF KISII UNIVERSITY

The above subject refers;

Following your request for authority to carry out research on comparative study of implementation of ECDE in Kenya. Am pleased to inform you that you have been guaranteed authority to undertake research in Siaya County for the period ending 21st November, 2017.

Thanks in advance for choosing Siaya County to be one of the area for your study.

Kind regards

Peter Otieno Odhiambo
Director Education& Vocational Training
Siaya County

APPENDIX VII: AUTHORIZATION FROM MINISTRY OF INTERIOR AND NATIONAL CO-ORDINATION OF SIAYA COUNTY

REPUBLIC OF KENYA

THE PRESIDENCY

MINISTRY OF INTERIOR & CO-ORDINATION OF NATIONAL GOVERNMENT

Office of the
County Commissioner
SIAYA COUNTY
P O Box 83
SIAYA

E-Mail cc.siaya@yahoo.com
When replying please quote

CC/SC/A.31/(117)

15th December, 2016

All Deputy County Commissioners
SIAYA COUNTY

RE: RESEARCH AUTHORIZATION – PATRICK ODIWUOR ABUOM

The person referred to above from Kisii University has been authorized by the Director-General/CEO, National Commission for Science, Technology and Innovation to carry out research on ***"Comparative study of implementation of Early Childhood Education in Kenya"*** in **selected Counties** for the period ending 21st November, 2017.

The purpose of this letter therefore is to ask that you accord him the necessary support as he carries out the research in your Sub Counties.

FAITH N. NJANG'I
For: COUNTY COMMISSIONER
SIAYA COUNTY

Copy to: ✓Patrick Odiwuor Abuom

APPENDIX VIII: AUTHORIZATION FROM MIGORI COUNTY EDUCATION OFFICE

REPUBLIC OF KENYA

MIGORI COUNTY GOVERNMENT

Telegrams: "**MIGORI COUNTY**" Migori
Tel:+254-059-20928
E-mail:migoricountygov@gmail.com

MIGORI COUNTY
P.O BOX 195-40400
SUNA-MIGORI, KENYA

MINISTRY OF EDUCATION, SPORTS, CULTURE & SOCIAL SERVICES

MC/ED/DE/8/S/Vol. .5 (12)

DIRECTOR EDUCATION
P.O. Box 195-40400
SUNA - MIGORI

Date: 22th February, 2017

TO
WHOM IT MAY CONCERN

Dear Sir/ Madam,

RE: RESEARCH AUTHORIZATION
Please refer to the above subject.

This is to request your office Allow Odiwuor Patrick Abuom a student atKisii University to carry out a Research on ***" Comparative study of implementation of Childhood Education in Migori County, Kenya"*** in Migori County for a period ending 21st November, 2017.

Please let him have the required assistance in this course

Yours sincerely,

MIGORI COUNTY GOVERNMENT
P.O. Box 195-40400 MIGORI
21 FEB 2017
DIRECTOR EDUCATION

LAZARUS O. OGUTU
DIRECTOR EDUCATION
MIGORI COUNTY

APPENDIX IX: AUTHORIZATION FROM COUNTY COMMISSIONER OF MIGORI

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telephone: (059) 20511
FAX (059)20361
Email:
countycommissionermigori@yahoo.com

OFFICE OF THE COUNTY COMMISSIONER
MIGORI COUNTY
P.O. BOX 2 - 40400
SUNA- MIGORI.

When replying please quote

Ref. No: ED.12/19 VOL.I/192 **Date:** 14th December, 2016

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION

Patrick Odiwuor Abuom NACOSTI/P/16/20615/14084 a student at Kisii University has been authorized to carry out research on ***"Comparative study of implementation of Early Childhood Education in Migori County, Kenya"*** for the period ending 21st November, 2017.

Accord him the necessary assistance.

COUNTY COMMISSIONER P.O BOX 2 SUNA—MIGORI MIGORI COUNTY

PETER G. MUTU
FOR: COUNTY COMMISSIONER
MIGORI COUNTY

CC
The County Director of Education
MIGORI COUNTY

APPENDIX X: AUTHORIZATION FROM COUNTY COMMISSIONER OF KISUMU

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telephone: Kisumu 2022219/Fax: 2022219
Email: ckisumucounty@gmail.com

COUNTY COMMISSIONER
KISUMU COUNTY
P.O. BOX 1912-40100
KISUMU

CC/KC/RES/1/2/VOL.II(14) **19th December, 2016**

All Deputy County Commissioners
KISUMU COUNTY

RESEARCH AUTHORIZATION -PATRICK ODIWUOR ABUOM

Reference is made to a letter from the National Commission for Science, Technology and Innovation No. NACOSTI/P/16/20615/14084 of 23rd November, 2016 on the above underlined subject matter.

The above named is a student of Kisii University. He has been authorized to carry out a research on ***"Comparative study of implementation of Early Childhood Education in Kenya"***. The Research period ends on 21st November, 2017.

Kindly accord him any assistance he may require.

M. A. MAALIM
COUNTY COMMISSIONER
KISUMU COUNTY

APPENDIX XI: AUTHORIZATION FROM COUNTY EDUCATION OFFFICE OF KISUMU

COUNTY GOVERNMENT OF KISUMU

MINISTRY OF EDUCATION, YOUTH, CULTURE, AND SOCIAL DEVELOPMENT

P.O. BOX 2738 – 40100 KISUMU

Early Childhood Development

REF: CGK/CD/ECD/19/VOL.1 **DATE: 16TH DECEMBER, 2016.**

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION.

The above office has granted Patrick Odiwuor Abuom who is a student at Kisii University and pursuing his Masters of Educational Foundations (Comparative and International Education) authority to carry out an independent research on **'Comparative Study of Implementation of Early Childhood Education in Kenya'** within all Early Childhood Development and Education Centers in Kisumu County.

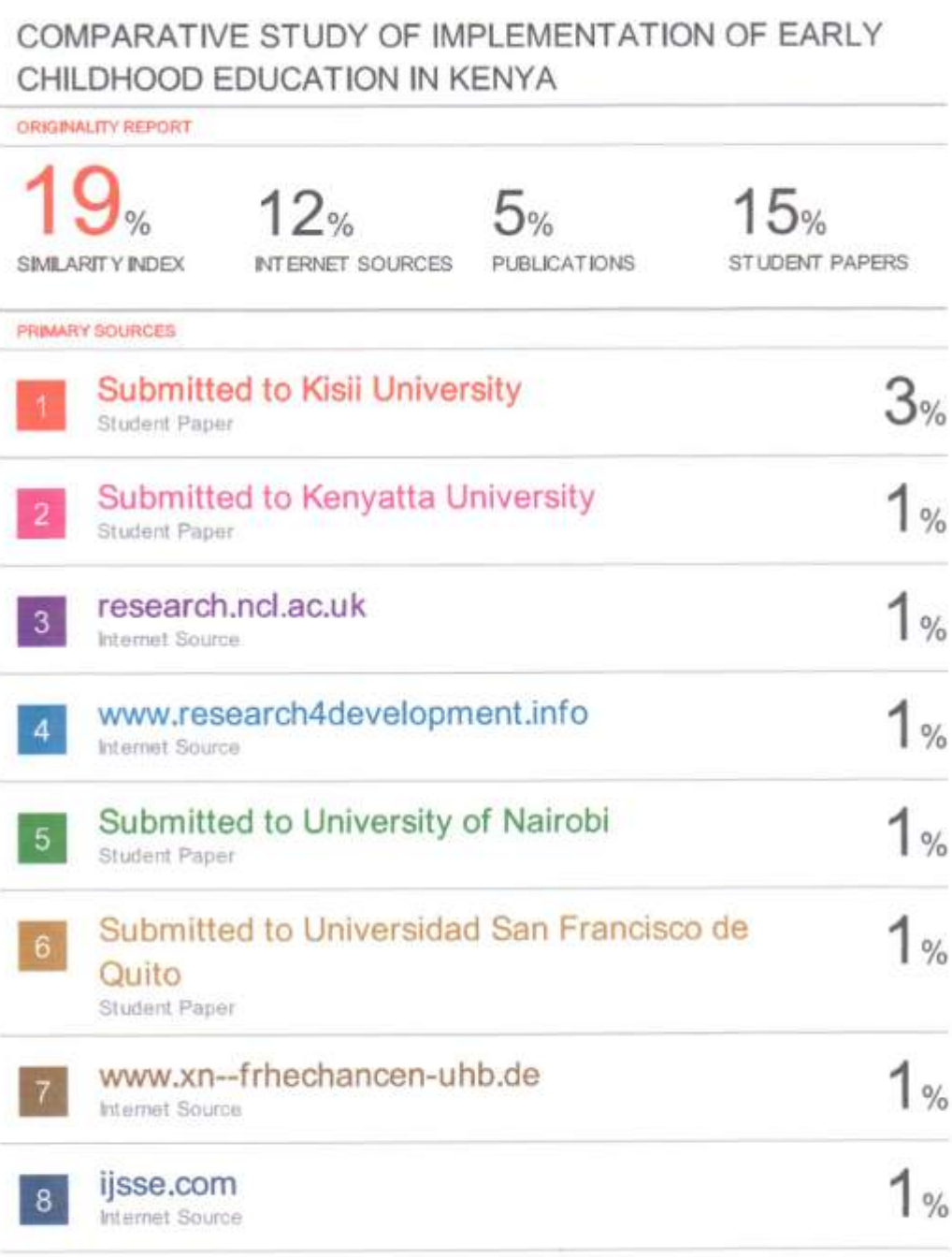
By copy of this letter you will also be able to collect data at County and Sub-County levels.

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

LILIAN ONEYA.
DIRECTOR ECDE – KISUMU COUNTY.

Prosperity House (Former Nyanza Provincial Headquarters Building) 2nd Floor
P.O. Box 2738-40100Kisumu City
E-mail: kisumucounty@kenya.go.ke

APPENDIX XII: PLEGIARISM REPORT



COMPARATIVE STUDY OF IMPLEMENTATION OF EARLY CHILDHOOD EDUCATION IN KENYA

ORIGINALITY REPORT

19%	12%	5%	15%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Kisii University Student Paper	3%
2	Submitted to Kenyatta University Student Paper	1%
3	research.ncl.ac.uk Internet Source	1%
4	www.research4development.info Internet Source	1%
5	Submitted to University of Nairobi Student Paper	1%
6	Submitted to Universidad San Francisco de Quito Student Paper	1%
7	www.xn--frhechancen-uhb.de Internet Source	1%
8	ijsse.com Internet Source	1%

APPENDIX XIII: PUBLICATION FROM INTERNATIONAL JOURNAL OF EDUCATION AND SOCIAL SCIENCE

International Journal of Education and Social Science www.ijessnet.com Vol. 4 No. 11: December 2017

Comparative Study of Implementation of Early Childhood Education in Kenya

Patrick Odiwuor Abuom
Master Degree Student
Kisii University
Kenya

Calleb Owino Gudo
Senior Lecturer
Jaramogi Oginga Odinga University of Science and Technology
Kenya

Abstract

The management of Early Childhood Development and Education (ECDE) in Kenya has been under different organizations which included local authorities, non-governmental organizations, private sector and the national government until 2013 when the county governments took over management of public ECDE. The specific objective of this study was to determine the level of investment in infrastructure in public ECDE schools in Kisumu, Homa Bay, Migori and Siaya Counties since 2013. The researchers adopted Hawe's and Stephen's (1990) Theory of Goals, Context and Agency. Census method was used to select 39 officials in the four counties. Open ended questionnaires were used to collect data. Findings revealed that the counties did not have properly kept ECDE records. The records available indicated that after 2013 there was growth in enrolment and exponential increase in funding to ECDE activities. Expenditure on ECDE was as low as Kshs 90.00 per learner in some counties prior to 2013 while allocation for each ECDE learner was between Kshs 2,053.00 and Kshs 6,102.00 in 2016. Before 2013, class size was between 52 and 64 while in 2016, it was between 33 and 101 learners.

Key words: Early childhood development and education and county government

Introduction

Care and development of young children is a foundation of social relations and starting point of human resource development. According to Education International (EI, 2012), early childhood is the most critical period for cognitive and social development. Children are active learners from birth, and the first years are vital in determining what the person becomes in adulthood, hence early childhood development and education (ECDE) should be recognized as a first step of basic education and a fully integrated sector within national education systems. Provision of ECDE should be universally accessible and free for all children because high quality ECDE provides the foundation for life-long learning and stimulates children's social, emotional, physical, cognitive and linguistic development (Hirst, Jewis, Sojo & Cavagh, 2011).

Early Childhood Development and Education (ECDE) has been defined in different contextual ways. It has universally been defined as the period from birth (or prenatal) to eight years old (UNESCO, 2010; UNICEF, 2008). Early childhood development and education (ECDE) relates to how well a child is tracking in their education over this period. It looks at the physical health and wellbeing; social competence; emotional maturity; language and cognitive skills, and communication skills and general knowledge, according to International Labour Organization (ILO, 2012). The importance of ECDE to the global community prompted the convention of the World Conference on Education for All (EFA) that took place in Jomtien, Thailand, in March 1990 (UNICEF, 2008). The conference articulated the significance of the early years as the foundation for the life of an individual (UNESCO, 2010). Further, the Dakar Convention of 2000 recognises ECDE as number one objective in Education For All (EFA) goal by 2015 (UNICEF, 2008). The spirits of the two conventions called for policy formulations to entrench ECDE as a basic human right of the child.

APPENDIX XIV: PUBLICATION FROM IJRRSSH

ISSN 2349-7831

International Journal of Recent Research in Social Sciences and Humanities (IJRRSSH)
Vol. 5, Issue 2, pp: (14-23), Month: April - June 2018, Available at: www.paperpublications.org

COMPARATIVE STUDY OF TEACHER QUALIFICATION AND STAFFING IN PUBLIC PRE-SCHOOLS: A CASE OF SELECTED COUNTIES IN KENYA

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Abstract: **Appropriate Early Childhood Development and Education (ECDE) programs as well as quality outcomes are directly correlated with better educated and trained teachers. In Kenya, the management of ECDE program has been devolved to the 47 counties across the country since 2013. However, limited information is available with regard to teachers' professional qualifications and staffing levels in public preschools. The purpose of this study therefore, was to establish the similarities and differences in teachers' professional qualifications and teacher to learner ratio in public preschools in Kisumu, Homa Bay, Migori, and Siaya Counties. Specific objectives were to determine the professional qualifications of ECDE teachers employed by the four counties since 2013; and to establish the ratio of teachers to learners in each of the counties. The study was guided by Hawe's and Stephen's (1990) Theory of Goals, Context and Agency which stipulates that quality is interpreted under the lenses of efficiency in meeting set goals; relevance to human and environmental needs and conditions; and pursuit of excellence and human betterment. Census method was used to select 12 officials from the four counties and 27 sub county administrators. Document analysis was used for collecting data on teachers' professional qualifications and teacher to learner ratios. Thematic analysis was used to analyse data. Although the findings revealed that the counties did not have properly kept ECDE records, the concerned teachers in the public preschools had good level of training. The study also revealed that the teacher to learner ratio was slightly higher in 2016 with an average of 1:56 compared to the period prior to 2013 when it was 1:53. It was recommended that the counties employ more teachers so as to improve the teacher to learner ratio to a level that is desired by the international standards. Additionally, the study recommends that further research be done on strategies to improve record keeping with regard to ECDE activities in public pre-schools.**

Keywords: **County Governments, ECDE, Public preschools, Teacher qualifications, Teacher to learner ratio.**

1. INTRODUCTION

Children develop and learn through their interactions with adults and peers more than in any other periods of the life cycle during early childhood (Naudeau, Kataoka, Valerio, Neuman & Elder, 2011). Evidence points to the importance of adult-child interactions to young children's development and learning (Aga Khan Foundation [AKF, 2010]). Several recent international reports highlight the importance of teachers as key determinants of quality ECCE (ILO, 2012; Raikes, 2015; UNESCO,2015). Pre-primary teachers who are well-trained and equipped with the right knowledge, skills, and conditions are more likely to support age-and developmentally-appropriate practices, including the rich reciprocal interactions and content teaching that positively influence children's socio-emotional development, language development, and cognitive skills. Investment in pre-primary teachers' initial formal education, practical in-service training, and ongoing mentoring and coaching is therefore paramount to achieving quality in ECCE programs (Raikes, 2015; Yoshikawa & Kabay, 2015).

APPENDIX XV: RESEARCH AUTHORIZATION FROM NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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P.O. Box 30623-00100
NAIROBI-KENYA

Ref No **NACOSTI/P/16/20615/14084**

Date **23rd November, 2016**

Patrick Odiwuor Abuom
Kisii University
P.O. Box 402-40800
KISII.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Comparative study of implementation of Early Childhood Education in Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Homabay, Kisumu, Migori and Siaya Counties** for the period ending **21st November, 2017.**

You are advised to report to **the County Commissioners and the County Directors of Education, selected Counties** before embarking on the research project.

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

DR. M. K. RUGUTT, PhD, HSC.
DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioners
Selected Counties.

The County Directors of Education
Selected Counties.

APPENDIX XVI: RESEARCH PERMIT FROM NACOSTI

THIS IS TO CERTIFY THAT:
MR. PATRICK ODIWUOR ABUOM
of KISII UNIVERSITY, 0-40109
SONDU,has been permitted to conduct research in *Homabay , Kisumu , Migori , Siaya Counties*

on the topic: *COMPARATIVE STUDY OF IMPLEMENTATION OF EARLY CHILDHOOD EDUCATION IN KENYA.*

for the period ending:
21st November,2017

.....
Applicant's Signature

Permit No : NACOSTI/P/16/20615/14084
Date Of Issue : 23rd November,2016
Fee Recieved :Ksh 1000

Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 12023

CONDITIONS: see back page