

**ASSESSMENT OF SELECTED DETERMINANTS ON IMPLEMENTATION OF
INCLUSIVE EDUCATION IN PUBLIC EARLY CHILDHOOD CENTERS IN
KISUMU COUNTY, KENYA**

BY

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CHILDHOOD EDUCATION**

SCHOOL OF EDUCATION

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DECLARATION

This research thesis is my original work and has not been submitted to any other university by any another person for the award of any degree or diploma.

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DEDICATION

I dedicate this work to my family; parents- Maurice Kundu and Anice Kundu and friends who stood with me throughout the period of this study. God bless you all.

ABSTRACT

Inclusive education has been established as the key mechanism to delivering education to all learners where they have an opportunity to learn and grow together in a regular environment where their needs are identified and responded to appropriately. A baseline survey in Kisumu indicated that there were 662 public ECD centers with 17 known to be having children with diverse needs in their regular schools. Despite this, learners with special needs were still facing challenges hence access was still limited. These children therefore required some adaptations to be done in the school so as to participate effectively in the school activities and the learning process, otherwise their learning would be jeopardized, however little was known on the extent to which these diverse individual needs were being met. The purpose of this study therefore was to assess selected determinants on implementation of inclusive education in public early childhood centers in Kisumu County. The objectives were; determine extent of adaptation of the physical environment, extent of adaptation of the teaching and learning strategies, extent of adaptation of resources and the attitude regular teachers towards learners with special needs. The study was guided by a conceptual framework showing the physical environment adaptation, teaching-learning strategies adaptation, attitude of regular teachers towards learners with special needs and resource adaptation as independent variables and successful implementation of inclusive education as the dependent variable. A descriptive survey design was used. The study population comprised of 17 head teachers and 37 regular teachers. Saturated sampling was used to select 15 head teachers and the 34 regular teachers. Data was collected using questionnaires, observation and interview schedules. Validity of the instruments was ascertained through content and face validity. Reliability was established through test re-test method using 10% of the population. The reliability coefficient for the teachers' questionnaire was 0.86. Quantitative data was analyzed using descriptive statistics; frequency counts, percentage and mean. Qualitative data was transcribed and analyzed through thematic analysis. The study findings revealed that the physical environment of centers in Kisumu County was adapted to a small extent where the teachers' responses had an average mean of $M=2.73$, the attitude of most teachers was positive ($M=3.02$), teaching-learning strategies were adapted to a large extent where the teachers' responses had a mean of $M=4.44$, and the resources adapted to a small extent with mean of ($M=3.09$). This implied that the physical environment was not adequately adapted, the teaching strategies were adequately adapted, the attitude towards learners with special needs was positive and resources adapted to a small extent. This study therefore concludes that implementation of inclusive education had not been done as per the guidelines of implementation of the SNE policy (2018) and UNESCO's guidelines (2010). The study recommends that adaptation be made on the physical environment to ease access by learners with special needs, teachers to continually work with learners with special needs and advocate for positive attitudes and an environment of acceptance for all, teachers to embrace inclusive strategies in order to maintain interactive sessions in classes and teachers to be advised on the importance of all learners participating in the learning sessions and hence receive more guidance on adaptation of resources especially for those learners with special needs. Findings from this study have shed a light on the extent of inclusive education implementation to help enhance effective participation of all learners in the learning process without struggle.

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ABBREVIATIONS AND ACRONYMS

CRPD	-	Convention on the Rights of Persons with Disabilities
CBC	-	Competency Based Curriculum
ECD	-	Early Childhood Development
ECE	-	Early Childhood Education
EFA	-	Education For All
IE	-	Inclusive Education
IECE	-	Inclusive Early Childhood Education
KNCHR	-	Kenya National Commission on Human Rights
MoE	-	Ministry of Education
OFSTED	-	Office of Standards in Education
SEN	-	Special Educational Needs
SN	-	Special Needs
SNE	-	Special Needs Education
SPSS	-	Statistical Package for Social Sciences
UNCRPD	-	United Nations Convention on the Rights of Persons with Disabilities
UNESCO	-	United Nations Education, Science and Cultural Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The concept of inclusive education has gained importance in the recent years since it is a reform that supports and welcomes diversity amongst all learners in schools (Kugelmass, 2004). It involves a transformation of schools and learning centers to cater for the needs of all children since it provides an opportunity for all learners to grow and learn together in a regular school environment where their needs are identified and responded to by those responsible (United Nations Educational, Scientific and Cultural Organization (UNESCO) (2010)). It is defined by the Global campaign on Education as “the process of enabling all children learn and participate effectively within the mainstream school systems, without segregation” (Rieser, 2012). It can be thought of as an approach that seeks to address barriers to learning and participation and provide resources to support learning and participation of all learners in educational activities (Ainscow, M., Booth, T., & Dyson, A. (2006))

According to the Competency Based Curriculum (CBC), KICD (2017) an inclusive environment ensures that the needs of all learners are met and respected, recognizing the different abilities, needs, capabilities and differences each learner has in the school environment. It ensures that the environment, curriculum content and instructional approaches are appropriate for all learners. It provides flexibility for all teachers to adapt the curriculum to suit individual needs and does not demand that all learners learn the same content in the same way, the same number of hours and the same time. Its ultimate aim is to guarantee basic education for learners according to abilities and needs. In the same way, inclusive education involves ‘a process embodying changes and modifications in content, approaches, structures

and strategies in education with a common vision that serves to include all students based on individual needs' (Kenya Institute of Curriculum Development, 2017).

The Kenya Competency based curriculum advocates for learning that is child centered where focus is on the learners and less on the system or the teacher. In the same way, inclusive education calls for education that is learner centered where systems ought to be modified and adapted to cater for the needs of the learner. Furthermore, the implementation guidelines for the SNE policy, (MoE, 2018) advocates for modification and adaptation of resources and the school environment to cater for the needs of all learners.

The Salamanca Statement (1994) states that 'the success of the inclusive school depends considerably on early identification, assessment and stimulation of the very young child with special educational needs' and therefore Inclusive Early Childhood Education (IECE) helps identify children's specific needs and meet them effectively and also prevent aggravation of some disabling conditions since diversity is advocated for.

Kenya has also taken strides in inclusive education where many documents and papers have been published that advocate for inclusive education, some of them include: the Kenyan Constitution (2010), article 53(b) which guarantees the right to free and compulsory basic education for every child. The Basic Education Act (2013) recognizes the right of every child to access free and compulsory basic education and further outlines the need to increase access which ensures the ability to gain quality and relevant education for all learners during the educational process (Aseka & Kanter, 2014). Educational Commissions that advocated for inclusive education include: The Ominde report (1964), the Gachathi report (1976) and the Koech report (1999).

The SNE Policy (MoE 2018) also advocates for every learner with special needs to be enrolled in regular classrooms together with other peers; hence recognizing inclusive education as an overarching principle to be implemented in the country. The Sustainable and Development Goals of the UN Agenda 2030 adopted by Kenya stipulate its agenda four as ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all. This coincides with the principle of educational for all, in order to realize this and the right to every child accessing better and quality basic education, inclusive education is the fundamental key which will help address all forms of exclusion and give opportunities for all learners.

Research findings showed that children with special needs when put into inclusive programs have more engaged instructional time, greater exposure to academic activities, self-esteem and social skills compared to those in special and integrated schools (Harmon, 2018). It provided better opportunities for learning as children with varying abilities are often better motivated when they learn together with others; this also fosters a culture of respect and belonging where children have opportunities to make friendships with one another (Florian, 2005, Westwood 2018).

Therefore, in an inclusive center, learners with special needs are placed in regular classrooms with accommodations, modifications and support for them to thrive and participate effectively where learning is child centered. These accommodations include adaptation of resources, the environment and the teaching and learning methods adapted to meet the individual needs of learners in the class (MoE 2018, KICD 2017). Hence, when regular schools that have learners with special needs and do not prepare to be inclusive, these learners struggle to learn, feel

different from others, isolated, segregated and discriminated from others hence lowering their self-esteem amongst other negative consequences (UNESCO, 2010).

Learners with special needs who may follow the regular curriculum with adaptations include :the gifted and talented, those with visual impairment, hearing impairment, physical disabilities, mild cerebral palsy, learning disabilities, Emotional and Behavioral difficulties and Communication disorders (KICD, 2017).

Physical environment refers to the upkeep and comfort of the buildings and facilities in the school. It has a great effect on student achievement and behavior especially in inclusive schools. The required adaptations in terms of the physical environment according to the SNE policy (2018) for learners with physical disabilities include: doors be wide enough to allow passage, toilets be adapted for their need, tables, chairs and desks be adjusted to cater for their need, ramps or rails be available instead of staircases and pot holes in the pathways and fields be eliminated. For learners with low vision, the lighting system be adjusted, floors be cleared of potholes and rams instead of staircases be provided.

The competency based curriculum (KICD, 2017) requires that it be adapted in an inclusive school to cater for the needs of learners by ensuring quick access to all. According to the implementation guidelines of the Kenya Sector Policy for learners and trainees with disabilities (MoE,2018), the environment should be safe, accessible and learner friendly to all learners, therefore all institutions ought to have barrier-free environments for ease of access by all learners particularly those with special needs (MOE, 2018)

Research by Bendová, Čecháčková & Šádková (2014) in Czech indicated lack of preparedness of teachers in relation to the needs of learners and knowledge, overstaffing and poor methods of teaching in inclusive classrooms.

Şahin, Erden & Akar, (2011) in their study in Turkey found that the physical facilities were accessible to the learners though not so spacious, they also found that the physical environment has an impact on the academic performance of learners since these gave them enough space to manipulate different resources in class.

Research by Ackah & Danso. (2019) examined the physical environment of Ghanaian inclusive schools and found that the environment of most inclusive schools was of poor quality and it was less accessible to children with disabilities. They recommended modification of facilities and redesigning of the school landscape to enhance accessibility.

In 2015, the National Gender and Equality Commission of Kenya (NGEC, 2015) conducted an assessment to find out the extent to which children with disabilities were accessing free primary education and early childhood education in Nyeri, Isiolo, Tharaka Nithi, Elgeyo Marakwet, Taita Taveta and Kisii and found that there was no clear policy on the implementation of inclusive education, no adequate teachers trained to handle children with disabilities, inadequate funding coupled with negative attitude and limited awareness from parents.

Research by Bendová et al and NGEC, (2015) examined the implementation of inclusive education though they focused on other objectives like teacher training, parental involvement other than the physical environment. Čecháčková & Šádková (2014) and (NGEC, 2015) examined the implementation of inclusive education in early childhood centers in Czech, and

Kenya respectively. However, they focused on other than examining the physical environment of inclusive schools. This study focused on the extent of adaptation of the physical environment in inclusive ECD centers in Kisumu. Research by Ackah & Danso (2019) focused on the physical environment of Ghanaian inclusive school, however, this was a case study of one school while the current study involved a larger population size of 17 centers which would make generalization of results more reliable compared to only one school. The study by Sahin, Erden & Akar, (2011) was a correlational study that aimed at getting the relationship between environment and performance; therefore, it used a correlation design while the current study used a descriptive design since the researcher seeks to only establish the state of a situation that is the extent of implementation rather than the relationship between variables.

The gaps identified from the studies of Sahin, Erden & Akar, (2011), Ackah & Danso (2019), Bendová, Čecháčková & Šádková (2014) and (NGEC, 2015) in terms of population, research design, scope and research objective form the basis of my choice of focusing on the extent of adaptation of the physical environment in inclusive ECD centers as an objective in this research. This research used a larger population of 17 centers rather than one as in the study of Ackah & Danso (2019) which would give a better picture in generalization of results. It also used a descriptive design since the researcher sought to only establish the state of a situation, that is the extent of implementation rather than the relationship between variables.

Attitudes are seen as a vital component in ensuring successful inclusion of learners with special needs since regular teachers work closely with them. In general, attitudes can be a barrier or an asset to inclusion. The SNE policy 2018 recommended the organization of inclusive, relevant and needs-based co-curricular and recreational activities for learners with and without disabilities. This would promote positive attitudes since these learners will be interacting with

each other freely in different areas of their abilities and interests. According to these documents, the attitude of inclusive schools should be that of acceptance, embrace diversity.

A study by Salovita (2018) in Finland established that teachers were not intellectually ready to handle learners as most depicted a negative attitude towards learners with special needs in mainstream schools. They felt these learners required help and special support in other schools specifically for them. The researcher examined teacher's attitudes, self-efficacy and work orientation. He used descriptive statistics, t- tests, F -tests and Pearson product moment correlations.

A study in Lesotho indicated poor implementation of the policy of inclusion, negative attitude towards learners with special needs and inadequate knowledge on special Needs (SN) (Johnstone & Chapman (2009). This was a case study done in two schools. It also used a correlation design.

According to a study conducted in Ghana by Kuyini, Desai & Sharma (2018), many regular teachers who felt unprepared and fearful to work with learners with disabilities in regular classes ended up displaying frustration, disillusionment and negative attitude toward inclusive education. This was so because they believed these learners would lead to lower academic standards. This study only focused on learners with autism.

The studies by Salovita (2018), Kuyini, Desai & Sharma (2018) and (Johnstone & Chapman (2009) focused on the attitude of the teacher towards learners with special needs, however, Johnstone & Chapman (2009) did a correlation study in two schools in Lesotho. The study by Kuyini, Desai & Sharma (2018) focused on learners with autism while the study by Salovita (2018) used descriptive statistics, t- tests, F -tests and Pearson product moment correlations.

However, this research used a larger population which would give better conclusive results than one with a small population, it also used descriptive statistics: frequency, percentage and Mean and it also focused on three types of learners with special needs, that is, low vision, hard of hearing and physical disabilities.

These gaps form the basis of my research focusing on attitude of regular learners since it sought to fill the gaps left by the studies in terms of research design, population, scope, methods of analysis and cohort of learners the study focused on.

Teaching and learning strategies in inclusive schools must be flexible and diverse. An inclusive school must offer possibilities and opportunities for a range of working methods and individual treatment to ensure that no child is excluded from companionship and participation in the learning process (UNESCO, 2010). Both the Implementations guidelines for the SNE policy (2018) and the CBC (2017) also recommend adaptation of teaching and learning strategies to cater for diversity in the classroom. Inclusive teaching strategies include: extra time be given for completion of tasks, repetition of concepts, embracing peer tutoring, adapted materials be provided for manipulation, adaptation of teaching and learning methods, language used should cater for individual needs, co-teaching, collaborative planning and teaching, Individualized education plan, universal design for learning, mediated learning and peer tutoring. For learners who are hard of hearing: repetition of concepts, voice projection, minimized auditory distractions, step-by-step directions. For learners with low vision: more of oral instructions be given (SNE policy-MoE, 2018, CBC, 2017).

A research by the Korean Association for Special Education indicated that schools were not well prepared since they lacked the required accommodation for students with disability and

the necessary learning resources to suit all learners (Shin, Lee, & McKenna (2016). This study only focused on learners with intellectual disabilities while the current study focused on learners with low vision, physical disabilities and hard of hearing.

A study in Hong Kong by Zhu, Li, & Hsieh (2019) established that the center demonstrated a variety of inclusive practices including peer support, nutrition and health, environment and curriculum accommodation, positive attitudes, use of varied teaching methods, team work and collaboration of professional, teachers and parents. They observed the lack of professional training of teachers in the area of special needs. This was a case study done in one kindergarten in Hong Kong.

A study by Ghavifekr & Rosdy (2015) on effectiveness of technology as a teaching and learning strategy established that technology was a useful tool especially since it offers various interesting ways like video watching, stimulation of many senses and brainstorming. They however recommended that it be incorporated with other strategies for maximum deliverance of information to learners. This research was carried out in both primary and secondary schools in Malaysia using quantitative methodology.

Wanjiru (2017) carried out a study on teachers' knowledge on the implementation of inclusive education in early childhood centers in Mwea East sub county- Kenya and found that the teachers were not well equipped and prepared to handle learners with diverse needs in the classrooms since they lacked sufficient knowledge and skills, teachers portrayed mixed attitudes. The researcher concluded that inclusion requires adapted teaching and learning methods, resource materials, flexible curriculum, attitude change and modification of infrastructure. This study only recommended the use of adapted methods hence the current study established the extent of adaptation of the strategies used.

Research by Shin, Lee, & McKenna (2016), Kong by Zhu, Li, & Hsieh (2019), Kong by Zhu, Li, & Hsieh (2019) and Wanjiru (2017) focused on teaching and learning strategies in inclusive set ups except the research by Wanjiru (2017) hence my study will fill her gap by not only looking at teaching strategies but also the extent of their adaptation in inclusive set ups. Research by Zhu, Li, & Hsieh (2019) was a case study involving one center, the current study involved a larger population of 17 centers hence generalization of results would be more accurate. The study by Shin, Lee, & McKenna (2016) involved learners with intellectual disabilities only while the current study involved learners with low vision, physical disability and hard of hearing. The study by Ghavifekr *et al* used quantitative methodology only while the current study used both qualitative and quantitative methodology. This would help redress the inherent biases that only one method would give hence expand and strengthen the study's conclusions.

The gaps identified in the researches by Wanjiru (2017), Ghavifekr *et al*, Shin, Lee, & McKenna (2016) and Zhu, Li, & Hsieh (2019) form the basis of my selection of teaching and learning strategies as an objective under study in this research, so as to fill the gaps identified.

Moodley (2013) observed that in order for the learners to be active participants in the learning and teaching process, institutions must ensure that teaching and learning resources/materials are used as well as made available to all the learners with special needs according to their needs. The SNE policy 2018 requires that all learners be provided with quality specialized learning resources and assistive devices and adopt new technologies to improve learning and training for all learners. The CBC also calls for diversification of resources in the classroom to meet the needs of different learners (KICD, 2017).

Boit (2016) in her research in Kericho established that few learners were enrolled in schools; there were inadequate and irrelevant resources since the resources were not well adapted to suit individual needs of learners. She found that most learners struggled to access and participate in the education effectively hence most developed a negative attitude towards learning.

A study conducted by Nizeyimana (2009) on assessment of the implementation of inclusion and availability of resources in Ugandan School found that most of the available resources were inaccessible to learners with special needs hence learners struggled to fit in the system of education and access the learning process. She recommended the provision of resources that are adapted for use for all learners to effectively meet their needs and increase participation in the classrooms. Ahmad (2015) carried out a study to establish the use of assistive technology in inclusive classrooms. He found assistive technology enables learners to access the general education curriculum hence participate in the learning process effectively and with ease.

In Boro division- Siaya sub county, a study by Omondi (2016) concluded that primary schools did not have physical facilities to accommodate learners with disabilities, teachers lacked adequate training to handle students with disabilities hence a negative effect on the implementation of inclusive education and finally the classes were not well managed for proper lesson delivery in an inclusive set up.

The above-mentioned researches focused on implementation of inclusive education, however, the study by Omondi (2016) did not address resources, this study sought to examine the extent of adaptation of resources in inclusive centers. Research by Ahmed (2015) involved the use of assistive technology as a resource in accessing the general curriculum while the current study included the use of varied resources like large print, hearing aids, adapted chair among others.

This would help give a clear picture of how resources are adapted to help learners participate in the learning process. Research by Boit (2016) was a case study of two preschools in Kericho while the current study involved a larger population of 17 schools making generalization of results more reliable and accurate. Nizeyimana's study was on availability of resources in Ugandan schools but the current study sought to establish the extent of adaptation of the resources used in inclusive centers in Kisumu. This would help not only know the resources available but go further to indicate how learner's needs are met through the use of these resources. The objective on resource adaptation was selected as a result of the gaps identified in the researches discussed above. The study sought to fill the gaps.

Form the studies discussed above, many of them focused on different areas of study, used different methods of research different from this study, and had a smaller population while others did not look at the selected determinants. Therefore, as a result of these gaps, this research focused on the four determinants of inclusive education: physical environment, teaching and learning strategies, attitude of teachers and resources in inclusive schools. More so, no such research with the selected determinants has been done in early childhood centers of Kisumu County,

According to a joint report by Kenya Institute of special Education (KISE) and MoE (2018) most schools were ill equipped to support children with special needs. This report indicated that despite a significant number of learners with special needs being enrolled in these schools, the drop rate out was still high due to lack of support services in most learning institutions. This report further indicated that county governments did not support these schools with learners with special needs in terms of personnel, office space and equipment and therefore many learners still struggled to fit in the system. A survey carried out by KISE in 2017

indicates that the most common types of disabilities among learners include Visual Impairment- 3.1%, physical disability-3%, intellectual disability-2.5%, hearing impairment-1.2%, speech and language-0.9% and deafblind-0.2%.this shows that the most common type of disabilities are visual impairment, physical disability and hearing impairment. The study focused on mild disabilities.

A survey in other counties indicated that Kisumu County had the highest number of schools implementing inclusive education especially since the Leonard Cheshire Foundation is known to advocate for this in parts of Kisumu County (Global Campaign for Education, 2016). Many centers in Kisumu County are practicing integration hence the researcher only focused on those schools practicing inclusion of learners with mild disabilities.

Table 1 showing data on number of centers in each county and those with inclusive education.

County	Number of public ECD centers	Number of centers implementing inclusive education
Vihiga	385	9
Homabay	283	11
Siaya	323	8
Kericho	198	12
Kisumu	662	17

Source: Ministry of education, county offices (2018)

A baseline survey carried out in Kisumu showed 662 public ECD centers but only 17 were known to be implementing inclusive education under the Leonard Cheshire Disability Foundation. In the 17 ECD centers, there were 94 learners with special needs who were still facing different challenges as a result of their different needs, difficulties and differences. It

also indicated that the most common types of disabilities experienced by learners in these schools were low vision, hard of hearing and physical disabilities. Therefore, this study only focused on learners with low vision, physical disabilities and hard of hearing. Hence, the purpose of this study was to assess selected determinants on the extent of implementation of inclusive education in public ECD centers in Kisumu County.

This research was guided by the SNE policy 2018 (MoE, 2018) and The UNESCO's policy guidelines on Inclusion, (2010). They outline the indicators of inclusive education and adaptation for them to fit in an inclusive setting. Therefore, in an inclusive school, the learning methods should be diversified and differentiated, the physical environment adapted for ease of access by all learners, the resources be appropriate and adapted according to needs and differences of each individual learners and the attitudes be of acceptance and embracing diversity in so that all learners can effectively participate in the school activities and the learning process.

1.2 Statement of the Problem

Inclusive education is an education approach advocated by many legal documents and policies that adopt a model that focuses on children with special needs learning together in the same mainstream school classroom, using materials appropriate to their various educational needs, and participating in similar lessons and recreation with adapted curriculum and modifications in the learning process. According to a baseline survey carried out in Kisumu, there were 662 public ECD centers with 17 known to be implementing inclusive education under the Leonard Cheshire Disability Foundation. In the 17 ECD centers, there were learners with special needs with different needs, difficulties and differences who were still facing different challenges as a result of their different needs, difficulties and differences hence it was not known to what

extent their needs were being met. Therefore, there was need to carry out a study to assess selected determinants on the implementation of inclusive education in public early childhood centers in Kisumu county

1.3 Purpose of the study

The purpose of this study was to assess selected determinants on implementation of inclusive education in public early childhood centers in Kisumu County, Kenya.

1.4 Objectives of the study

The objectives of the study were to:

- i. Determine the extent to which the physical environment was adapted for ease of access in inclusive ECE centers.
- ii. Determine the attitude of the regular teachers towards learners with special needs in the ECE centers.
- iii. Determine the extent to which teaching-learning strategies were adapted in inclusive ECD classes.
- iv. Determine to what extent the resources were adapted to suit learners with special needs in the inclusive ECE centers.

1.5 Research questions.

The research was guided by the following research questions:

- i) To what extent was the physical environment adapted for ease of accessibility by learners with special needs?
- ii) What was the attitude of the regular teachers towards learners with special needs?
- iii) To what extent were the teaching and learning strategies adapted to suit the needs of the learners?

iv) To what extent were the resources adapted to enable learners with special needs participate fully in the regular classrooms?

1.6 Scope of the Study

The study focused on teaching and learning methods that were used in inclusive centers particularly for learners with special needs: that is low vision, hard of hearing and those with physical disabilities.

Centers under study practiced inclusion of cases that were not profound.

The study was conducted in Kisumu County in selected regular ECE centers that were implementing inclusive education in Nyakach, Nyando, Muhoroni, Kisumu West, Kisumu Central and Kisumu East sub-counties.

1.7 Limitations of the Study

Teaching strategies are different for the three categories of learners, the researcher may not be able to exhaust all of them required hence will only focus on a few.

The study used questionnaires to collect data, which have floor and ceiling effect, as some respondents may give false information to please the researcher. This was minimized by use of observation schedules; Interview schedules were also used.

Carrying out observation of all the three categories of learners with special needs was challenging.

1.8 Assumptions of the Study

- i. All head teachers, teachers and learners had relevant knowledge and were competent enough to give accurate information as per the questionnaires that were given.
- ii. Regular schools that were offering inclusive learning were using the same curriculum and syllabus.

1.9 Significance of the study

This study's findings will help determine the extent of inclusive education and where accommodations and modifications need to be made to increase participation of learners in the mainstream. It will also provide an insight to stakeholders like policy makers, education officers, teachers, parents and quality assurance officers to contribute positively towards the provision of teaching and learning resources to help in the implementation of inclusive learning. This study is also a source/basis for further research areas in topics which are related to inclusive early years education centers.

1.10 Conceptual Framework

This study was guided by a conceptual framework, which is a description that employs the use of a drawing to explain the interrelationship between the variables especially the independent and the dependent variables (Ary, Jacobs, Irvine & Walker, 2018). For effective implementation of inclusive education in early childhood centers, adaptation of the teaching-learning strategies, physical environment and resources was required while attitude of regular teachers be of acceptance.

In the model, the independent variables were the selected factors that determine the extent of implementation of inclusive education which were the teaching and learning strategies, attitude, physical environment and resources. The level of training of the teacher was the

intervening variable since a teacher's level of training would determine how they handled learners with special needs, how they adapted different methods and resources for use by learners with special needs in order to access the general curriculum. Implementation of inclusive education was the dependent variable. When teaching and learning methods were diversified and differentiated, the physical environment adapted for ease of access, resources appropriate, varied and adapted for learner's use and the attitude of the teachers towards those of special needs was positive and embraced diversity, then there would be successful implementation of inclusive education in the school where learners with special needs were able to access the general curriculum, participate in class room activities, other learners were able to appreciate one another and appreciate the diversity in the classroom and there was increased chances of learners with special needs finishing school.

The interrelationship of the variables in the study is shown in Figure 1

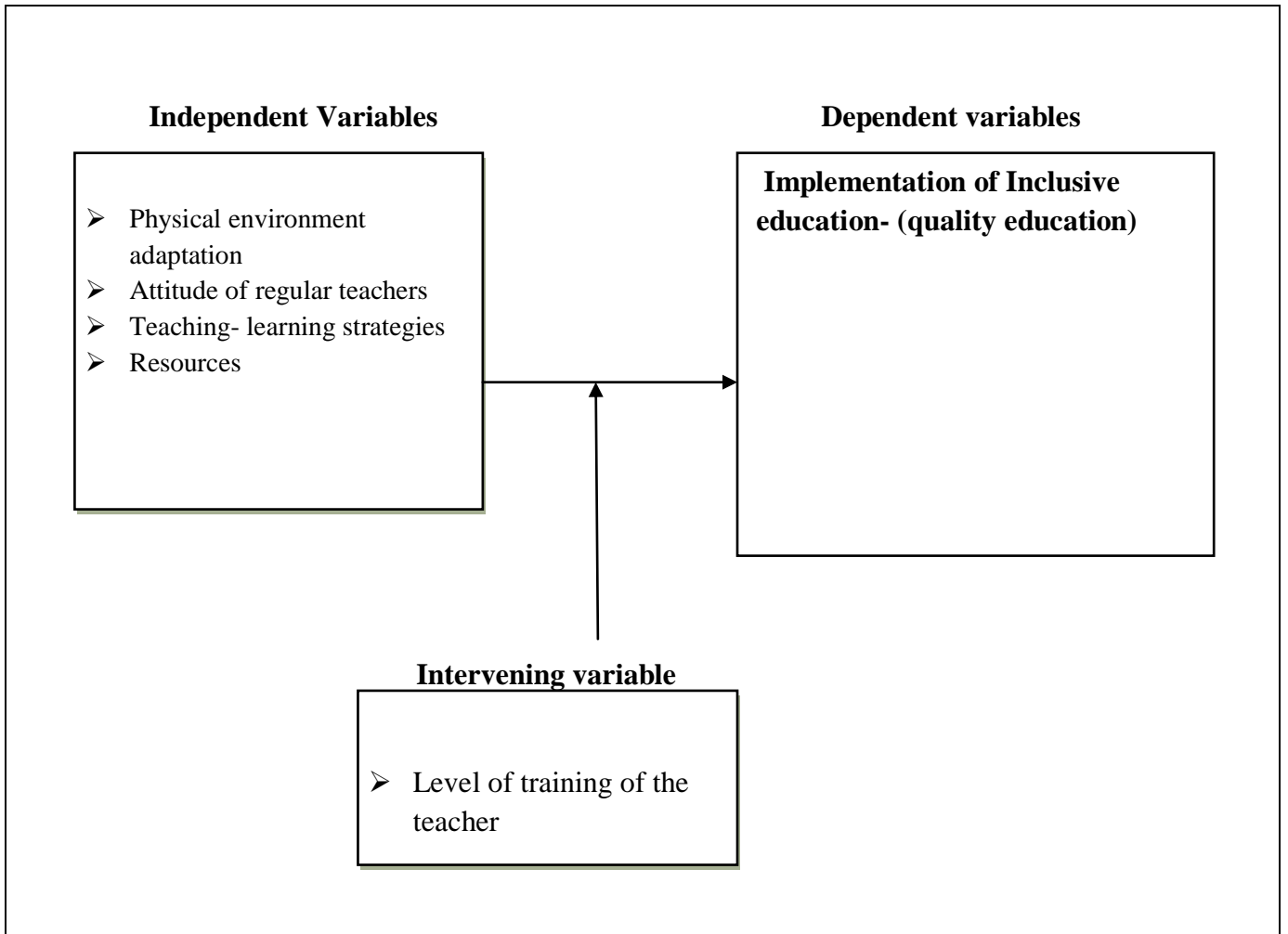


Figure 1: Conceptual framework showing the selected determinants on the implementation of inclusive education

1.11 Operational Definition of Terms

Attitude: state of mind responding either favorably or unfavorably towards someone.

Accommodations- changes done to a program to eliminate interference and provide access to it

Early Childhood Centers – Centers/ schools for early years' education,

Extent – How far inclusion has been done in relation to the specific objectives

Disability: physical or mental condition that limits a person's movements, senses, or activities.

Inclusive education: refers to education which provides appropriate modification in curriculum, teaching methods, educational resource, and medium of communication or the learning environment in order to cater for individual differences in learning, enhancing full participation of all learners.

Inclusion: A philosophy that focuses on the process of adjusting the school so that all children regardless of their differences can have the opportunity to interact, play and experience a sense of belonging in regular schools and develop according to their potential.

Learners with special needs - Learners with low vision, hard of hearing and those with mild physical disabilities.

Physical environment - refers to the upkeep and comfort of the buildings and facilities in the school

Resources: refer to Instructional materials necessary for all learners to learn effectively.

Special needs: conditions or barriers and factors that hinder normal learning and development.

Special educational needs: different abilities and potential in performing educational tasks.

Strategies: Refer to methods and techniques designed by teachers to support Instruction for learners in diverse settings.

CHAPTER TWO

LITERATURE REVIEW

2.1 The Extent of Adaptation of the Physical Environment for Ease of Access in Inclusive Centers.

The quality of a school's physical environment can enhance a student's ability to learn by ensuring that they are healthy, attentive and present. This means that it can impact on how students learn since inappropriate learning environments create barriers to learning. According to Walton (2011) 'inclusive schools ought to carry out a full access audit of the building and the school grounds, involving the learners' this means that for effective learning to take place, the environment should be safe and accessible to all learners regardless of disability or difficulty. The guidelines for inclusion state that schools should have enough classrooms for the recommended teacher to learner ratio which must be accessible to all learners, adequate toilet facilities for all.

Şahin, Erden & Akar (2011) in their study in Turkey found that the physical facilities were accessible to the learners though not so spacious, they also found the physical environment has an impact on the academic performance of learners since these gave them enough space to manipulate different resources in class, move around freely in their exploration hence gain more knowledge on their own since the environment was friendly, safe and accessible. They called for expansion of the physical environment to provide enough space for learners.

Chimwanza (2016) conducted a study in Malawi which concluded that in implementing inclusive education, there were inadequate trained teachers, negative attitudes from teachers, peers and the general community, lack of political goodwill in funding inclusive education projects and the need for collective responsibility of families, communities, schools and other agencies and curriculum adaptation and that teacher training should include SNE to equip them

with necessary skills to handle varied cases of SN in the main stream. This study did not however look at the adaptation of the physical environment

Ackah & Danso (2019) examined the physical environment of Ghanaian inclusive schools and found that the environment of most inclusive schools was of poor quality and it was less accessible to children with disabilities. They recommended modification of facilities and redesigning of the school landscape to enhance accessibility. School environment should be generally accessible by all learners, classes should be spacious for easier movement especially for those learners who use wheelchairs for movement, proper lighting in the classes, correct positioning of the board for viewing with ease by all learners and the grounds leveled and made accessible for all especially for the visually impaired and those with physical disabilities.

A study by Shami and Hussein (2005) revealed that the physical environment had a positive impact on the performance of the learners. It also had an impact on the co-curricular activities of students since schools were not accessible and had no spacious field for these activities hence limited their learners in terms of their interests, abilities and talents. They therefore recommended the restructuring of the school environment to provide enough space for learners to move freely and carry out different activities.

All learners aimed the above researches at finding out if the physical facilities were suitable to enable access. However, the study by Chimwanza (2016) did not look at physical environment. This study will fill this gap by looking at physical environment and the extent of its adaptation for ease of access by learners. The study by Shami and Hussein (2005) focused more on the impact of the physical environment on co-curricular participation by learners, the current study was done in ECD centers using a correlation design. It is different from this study since this

study only sought to establish the extent to which the physical environment was adapted hence using a descriptive design. The study by Sahin, Erden & Akar (2011) was a co relational study that aimed at getting the relationship between environment and performance; therefore, it used a correlation design while the current study used a descriptive design. A descriptive design yielded better results since it focused on one variable, describing its status concerning a phenomenon that is inclusive education. A correlation seeks relationship or influence hence gives the status of one phenomenon using two variables which is not completely reliable in this study as each individual phenomena is important. The study by Ackah & Danso (2019) in Ghana was a case study of one school but the current study involved a larger population of 17 centers hence the generalization of results would be more accurate compared to those of only one school. Different from all the above studies is that this study sought to determine the extent of adaptation of the physical environment for ease of access by learners with special needs in inclusive ECD centers in Kisumu County.

2.2The Attitude of Regular Teachers towards Learners with Special Needs in Inclusive Centers

Teacher's attitudes are seen as a vital component in ensuring successful inclusion of learners with SEN since they work closely with them. Many studies have emphasized the importance of training teachers since it prepared them for inclusion and gave them more professional expertise, which boosts their self-confidence and helped them develop a more positive attitude towards these learners with disabilities and difficulties in class (Burke & Sutherland, 2004).

Peters (2003) explains that if EFA is to be achieved and particularly inclusive education, it has to start with the change of attitudes. This means that how teachers perceive the way learners with disabilities and other difficulties in their environment of learning results in the formation

of particular attitudes. It is mostly exhibited in the way learners carry out their class work and other school activities that teachers display their attitudes.

A study in USA by Rori (2009) on the attitude of elementary regular teachers on learners with special needs in an inclusive school found that attitude of teachers was directly related to the training or their knowledge on special needs hence the ability to handle these learners. They found that teachers had mixed views towards these learners in an inclusive environment depending on the confidence they had to handle these learners. They recommended adequate training of regular teachers in order to gain the ability to handle learners in a regular school and meet their needs adequately. The purpose of this study was to find out the difference between the attitudes of elementary and secondary school teachers on learners with special needs but the current study only focused on the attitude of regular teachers towards learners with special needs in early childhood centers, the study used a correlation design while the current study used a descriptive design.

A study by Salovita (2018) in Finland established that teachers were not intellectually ready to handle learners as most depicted a negative attitude towards learners with special needs in mainstream schools. They felt these learners required help and special support in other schools specifically for them. The researcher examined teacher's attitudes, self-efficacy and work orientation. He used descriptive statistics, t- tests, F -tests and Pearson product moment correlations.

A study in Lesotho by Johnstone & Chapman (2009) indicated poor implementation of the policy of inclusion because of the negative attitudes towards learners with special needs, this was as a result of inadequate knowledge that teachers had on handling learners with special

needs. Consequently, most of them felt the learners were a waste of time in the classroom since they would not learn normally as a result of an inflexible curriculum. This was a case study done in two schools.

According to a study conducted in Ghana by Kuyini, Desai & Sharma (2018) many regular teachers who felt unprepared and fearful to work with learners with disabilities in regular classes ended up displaying frustration, disillusionment and negative attitude toward inclusive education and these learners. This was so because they believed these learners would lead to lower academic standards. This was because learners with disabilities and other difficulties required more instructional time compared to others, which seemed like a waste of time to the teachers. This study was about learners with autism while the current study focused on learners with low vision, physical difficulties and those hard of hearing.

The mentioned studies focused on the attitude of the teacher towards learners with special needs; however, Johnstone & Chapman (2009) did a correlation study in two schools in Lesotho. The current study involved a larger population of 17 schools which would give a better representation in terms of conclusive results. Furthermore, it sought to establish the attitude of teachers and not its influence in relationship to another variable. The study by Rori (2009) used a correlation design to establish the difference between the attitude of elementary teachers and secondary school teachers towards learners with special needs. This study only sought to determine the attitude of regular teachers towards learners with special needs in ECD centers hence a descriptive study. The study by Kuyini, Desai & Sharma (2018) focused on learners with autism while this study focused on three categories of learners, those with low vision, physical disability and those hard of hearing, this would help generalize results of teachers' attitude as compared to only using one type of special need. The study by Salovita

(2018) using descriptive statistics: that is t-tests, F-tests and Pearson's correlation. The current study used means, percentage and frequency. Hence the study intends to fill the gaps in terms of population, design, scope and methodology as explained above.

2.3 The extent of Adaptation of Teaching and Learning Strategies used in inclusive Centers

According to Ambrose *et al.*, (2010), inclusive teaching and learning strategies strive to meet the needs of all learners, regardless of background or identity and support their engagement with subject material. This helps learners to take control of their learning as they draw relevant connection to their lives and responds to their unique concerns. One of the important principles of inclusive education is about teaching for diversity; this means that the teacher has to be flexible and adaptive, recognize that different learners have different ways and styles of learning, interpreting and understanding information (Clough and Corbett, 2011). An inclusive school must offer possibilities and opportunities for a range of working methods and individual treatment to ensure that no child is excluded from companionship and participation in the school (UNESCO, 2009).

Teaching strategies that are valuable for learners with special needs are often valuable for all learners. Pedagogy should be seen as responsive to the needs of an individual, for this to occur focus on empowering the mainstream teacher is a vital element in creating an inclusive pedagogy Florian & Black- Hawkins, (2011).

A study in Hong Kong by Zhu, Li, & Hsieh (2019) established that the center demonstrated a variety of inclusive practices including peer support, nutrition and health, environment and curriculum accommodation, positive attitudes, use of varied teaching methods, teamwork and collaboration of professional, teachers and parents. They observed the lack of professional

training of teachers in the area of special needs. This was a case study done in one kindergarten in Hong Kong.

A case study of teaching and learning strategies was conducted by Motitswe (2012) in South Africa and established that teaching and learning strategies used were flexible, there was use of differentiated methods in teaching and cooperative learning was used. She established that the needs of learners with special needs were well catered for during the teaching and learning process hence learners participated maximally and actively in the lessons. However, the current study involved a larger population and aimed to establish the extent of adaptation of teaching and learning strategies and if learners participate actively in the learning process.

A study by Ghavifekr *et al* (2015) on effectiveness of technology as a teaching and learning strategy established that technology was a useful tool especially since it offers various interesting ways like video watching, stimulation of many senses and brainstorming. They however recommended that it be incorporated with other strategies for maximum deliverance of information to learners. This research was carried out in both primary and secondary schools in Malaysia using quantitative methodology, the current study will focus on many teaching strategies used in ECE centers using both qualitative and quantitative methods of research in Kisumu County.

Wanjiru (2017) carried out a study on teachers' knowledge on the implementation of inclusive education in early childhood centers in Mwea East sub county- Kenya and found that the teachers were not well equipped and prepared to handle learners with diverse needs in the classrooms since they lacked sufficient knowledge and skills, teachers portrayed mixed attitudes. The researcher concluded that inclusion requires adapted teaching and learning methods, resource materials, flexible curriculum, attitude change and modification of

infrastructure. This study only recommended the use of adapted methods hence the current study established the extent of adaptation of the strategies used.

All the above-mentioned studies focused on teaching and learning strategies in inclusive set ups except the research by Wanjiru (2017). This study would fill this gap by not only looking at teaching strategies but also the extent of their adaptation in inclusive sessions. Research by Motsitswe (2012) and Zhu, Li, & Hsieh (2019) were case studies involving one center, the current study involved a larger population of 17 centers hence generalization of results would be more accurate and reliable compared to their studies. The study by Ghavifekr *et al* used quantitative methodology only while the current study used both qualitative and quantitative methodology. This would help redress the inherent biases that only one method would give hence expand and strengthen the study's conclusions.

2.4 The extent of Adaptation of Resources used in Inclusive Centers

According to Seels and Reachey, (2012), instructional materials are tools used in educational lessons used to foster learning and achieve a desired objective. Moodley (2013) observed that in order for the learners to be active participants in the learning and teaching process, institutions must ensure that teaching and learning materials are used as well as made available to all the learners with special needs according to their needs. UNESCO (2004) points out that the learners must be provided with learning materials in formats that meet their individual needs and account for their differences in the classroom situation. In an inclusive setting, learners would require other resources over and above what is provided by the school. These include resources to enhance mobility and communication such as wheel chairs, crutches, positioning devices, optical and non-optical devices and hearing devices (Bulat, Haayes, Macon, Ticha & Abery, 2017)

Buli-Holmberg & Jeyaprabahan (2016) observed the need for teachers to adapt the learning materials in order for all students to participate in the learning process. According to Inclusive Education Guidelines and Adaptations to Support the Implementation of the National Curriculum, adaptation of resources should be done according to the type and level difficulty or disability a learner has in the classroom.

Ahmad (2015) in his research on use of assistive technology in inclusive education to make room for diverse learning needs established that assistive technology enables learners to access the general education curriculum. He recommended the adaptation of these devices to provide learners with difficulties and disabilities a means of completing their work independently without struggle or straining. It also provided the comfort learners need in the learning process to be able to comprehend and hence acquire maximum knowledge. This research was done to establish the use of assistive technology as a resource in accessing the regular curriculum but the current research was to determine the extent of adaptation of different resources used in inclusive classrooms to determine the extent of implementation of inclusive education where learner's needs are adequately met by the adapted resources.

A study conducted by Nizeyimana (2009) on assessment of the implementation of inclusion and availability of resources in Ugandan School found that most of the available resources were inaccessible to learners with special needs and were inadequate hence learners struggled to fit in the system of education and access the learning process. She recommended the provision of resources that are adapted for use for all learners to effectively meet their needs and increase participation in the classrooms. This study's aim was to establish the availability of resources in the schools selected in Uganda but the current study determined the extent of

adaptation of resources to meet the needs of individual learners in the classes in Kisumu County.

Another study by Okongo, Ngao , Rop Wesonga (2015) in Nyamira county sought to establish whether the availability of teaching and learning resources influenced implementation of Inclusive education in ECD centers. It found that resources enhanced curriculum delivery, met the needs of learners and increased retention capacity of the pupils. It established that there were inadequate resources hence recommended that resources be provided for effective implementation of inclusive education. This research sought the influence of availability of resources on implementation of inclusive education but the current research sought to determine the extent of adaptation of the resources used in inclusive education centers in Kisumu County.

A study by KENPRO (2010) revealed that the overall belief in the implementation of inclusive education is that without resources and support, inclusive education would be doomed and possible. They found out that most teachers expressed lack of support from professionals with expertise such as sign language interpreters, Braille transcribers and others. Materials such as Braille and large print were also inadequate in most schools. They called for support from the government in provision of resources to support learning for those learners with special needs.

Boit (2016) in her research in Kericho established that few learners were enrolled in schools; there were inadequate and irrelevant resources since the resources were not well adapted to suit individual needs of learners. She found that most learners struggled to access and participate in the education, hence a negative attitude towards learning. She concluded that resources in inclusive centers should be adequate, diverse, relevant to needs of the learner, varied and

adapted for use. However, this study was a case study while the current study involved a larger population.

The above-mentioned researches focused on implementation of inclusive education, however, research by KENPRO (2010) did not look at resources, the current study would determine the extent of adaptation of resources used in inclusive classes. Research by Ahmed (2015) involved the use of assistive technology as a resource in accessing the general curriculum while the current study included the use of varied resources like large print, hearing aids, adapted chair among others. This would help give a clear picture of how different resources for different learners were adapted to help them participate in the learning process. Research by Boit (2016) was a case study of two preschools in Kericho while the current study involved a larger population of 17 schools making generalization of results more reliable and accurate. Nizeyimana's study was on availability of resources in Ugandan schools but the current study sought to establish the extent of adaptation of the resources used in inclusive centers in Kisumu. This would help not only know the resources available but go further to indicate how learner's needs are met through the use of these resources. Research by Okongo *et al.*, (2015) sought to establish the influence of availability of resources on implementation of inclusive education while the current study sought to establish the extent of adaptation of resources used in inclusive classes.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This research was conducted through a descriptive survey design since it was meant to obtain information concerning the current status of the phenomenon under study and to describe what existed with respect to variables or conditions in a situation (Kothari, 2004). It was therefore suitable for this study because it focused on understanding the current status on the extent of implementation of inclusive education focusing on the adaptation of teaching and learning methods, physical environment, resources and the attitude of teachers towards learners with special needs.

3.2 Area of Study

The study was conducted in centers of early years education in Kisumu county which lies on the western part of Kenya within longitudes 33° 20'E and 35° 20'E and latitudes 0° 20'South and 0° 50'south. The County borders Homa Bay County to the South, Nandi County to the North East, Kericho County to the East, Vihiga County to the North West and Siaya County to the West. The County covers a total land area of 2009.5 km² and another 567 km² covered by water (Kisumu County Integrated Development Plan, 2013/2014 – 2017/2018). It is comprised of Kisumu West, Kisumu East, Kisumu Central, Muhoroni, Nyakach and Nyando sub counties. It had a total of 662 early childhood centers of which 17 were implementing inclusive education under the Leonard Cheshire Disability Foundation. Compared to other counties, this county had the highest number of centers implementing inclusive education hence the area of study.

3.3 Study Population

According to Kothari, (2004), a study population is a comprehensive group of individuals or institutions/ a cohort which has common characteristics and is the interest of the researcher. This study was carried out in 17 early years' education centers that were implementing inclusive education in Kisumu County. The study population comprised of 17 Head teachers and 37 regular teachers.

3.4 Sample Size and Sampling Techniques

Sampling is the process of selecting a sample from a population. Sample size is a group of individuals or subjects that are selected from a general population and is considered a representative of the real population for a specific study (Kothari, 2004) sampling techniques are the methods used to select a representative number from the real population to be used a sample size.

Ten percent of the target population was used for piloting the instruments for research, therefore Saturated sampling was used to select 15 head teachers and 31 regular teachers since the population was too small (Mugenda & Mugenda, 2003).

Table 2 : Sample Frame

Category	Population	sample	%
Head teachers	17	15	88
Regular Teachers	37	33	89

3.5 Instrumentation

The methods of data collection comprised the use of questionnaire, interview schedules and observation. The questionnaire was for teachers and it was used since it is most appropriate for

large populations for data collection and provided quantifiable answers (Kothari, 2004). A structured interview schedule was used to collect data from the head teachers since it provided a detailed/in depth understanding of an issue. The interviewees were given time to respond to each question and explanations allowed for further understanding.

These instruments were used to collect data on the extent of adaptation of the physical environment, the attitude of regular teachers towards learners with special needs, the extent of adaptation of the teaching and learning strategies and resources used in inclusive classes.

3.5.1 Teachers' Questionnaire

This questionnaire was used to collect data from regular teachers about the extent of adaptation of the physical environment, adaptation of the teaching and learning strategies used during the teaching and learning process, the attitude the teachers had towards learners with special needs, the extent of adaptation of resources for learners with special needs. It consisted of close ended questions with a five point likert and rating scales. (Appendix 3).

3.5.2 Head Teachers' interview schedule

This was used to collect information from the head teachers on extent of adaptation of the physical environment, the adaptation of teaching strategies and resources used in class and the attitude of regular teachers towards learners with special needs in inclusive centers (Appendix 4).

3.5.3 Observation

Using an observation schedule, the researcher observed how lessons were delivered in classes, the type of teaching and learning strategies used and how adapted the resources were in class. A lesson was scheduled for 30 minutes hence the researcher observed five lessons in two weeks. The researcher observed five different lessons assessing different skills in learners:

mathematics activities, literacy activities, English language activities, movement and creative activities and religious education and life skills activities. Adaptation of the physical environment was also observed as the researcher moved around the environment observing different facilities to determine the extent to which facilities and the field were adapted for ease of access by learners with different needs. Different learners had different needs and differences in each class, therefore, because not many of the learners had low vision, hearing impairment and physical disabilities, the researcher, by the help of the trained research assistants helped observe them during different times in a class learning session. Data was presented in verbatim as themes and sub themes emerged. (Appendix 5)

3.6 Reliability and Validity of Research Instruments

3.6.1 Reliability

Reliability is a measure of degree to which a research instruments yields consistent data after repeated trial (Mugenda and Mugenda, 2003). To ensure the reliability of the research instruments, the method of test re-test was used where the researcher presented the test to a sample of two head teachers and four teachers selected for piloting and again administered the same test to the same respondents after two weeks.

The results of the teachers' questionnaire were then coded differently and analyzed to obtain their means. The results for the pilot study carried out helped the researcher identify inconsistencies, inadequacies and the weaknesses of the research instruments and necessary corrections were made before using the instruments in the actual research on the target population. The reliability coefficient for the teachers' questionnaire was 0.86; this was above the set coefficient of 0.70. The interview schedules were also piloted and the responses were recorded using a tape recorder and later on the responses were triangulated to establish the

reliability of their responses as per the instruments. The interview schedules were therefore found to be reliable.

3.6.2 Validity

Validity is the extent to which research instruments measure what they are intended to measure (Best & Kahn, 2006.) Content validity was used during the construction of the instruments where the items in the instrument matched the instructional objectives set for the research. To ascertain this, the instruments were presented to experts from the departments of Special Needs Education and Early Childhood Education for verification and judgment and necessary corrections made to them. Face validity was also used by subjecting the instrument to expert judgment in the university before piloting them for the study.

3.7 Data Collection Procedure

Before the process of data collection, the researcher got a letter of permission from the Maseno University Ethical Review Committee to help introduce her and the purpose of the study to all the respondents.

Another letter was drafted to the Parent Teacher Association, through the principal requesting for permission from the parents to involve their children in the study, considering that they were minors. The researcher then took time to train her research assistants who were teachers in the lower grades of early years learning. Questionnaires were then administered to the all the respondents and adequate time given for them to fill and later collected.

3.8 Data Analysis Procedure

To analyze data for the extent of adaptation of physical environment, teaching strategies, resources used and the attitude of teachers the researcher examined raw data collected to detect any errors and omissions and corrected them where possible., coding was done to put data into

a limited number of categories by assigning numbers to symbols. Tabulation was later done in order to arrange the same data in concise and logical order. This facilitated the process of comparison, and also provided the basis for various statistical computations using SPSS version 20. Quantitative data was analyzed using descriptive statistics like mean and results presented in tables. Qualitative data collected from interview schedules is reported in terms of themes and sub-themes. Rating scales of points Very large-5, Large – 4, Small- 3, Very small- 2 Smallest-1 were used to measure extent of implementation while a likert scale of Strongly Agree-5, A- Agree-4, SHA- Somehow Agree-3, D- Disagree-2, SD- Strongly Disagree-1. This would be interpreted as Very large- 4.5- 5.00, Large - 3.5-4.4, Small- 2.5 – 3.4, Very small- 1.5 –2.4, Smallest-1.4 – 1.00 for the rating scale. The likert scale was interpreted as strongly agree- 4.5-5.00, agree - 3.5-4.4, somehow agree- 2.5 – 1.4, disagree- 1.5-2.4 and strongly disagree-1.4 -1.00.

3.9 Ethical Considerations

The respondents were assured of confidentiality of information given and be informed that their views would only be used for the purpose of this research only. Every response given was treated with utmost confidentiality between the researcher and the respondent. Anonymity and privacy were highly observed by not capturing the respondent's names on the questionnaires. The researcher conformed to the principle of voluntary consent whereby the researcher first disclosed the real purpose of the study and also gave the respondents a chance to willingly participate in the study (Pratt & Loizos, 2010)

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter contains the findings obtained from the field and the discussion of these findings as per the objectives of the study. The objectives of the study were to: Determine the extent to which the physical environment was adapted for ease of access in inclusive ECD centers, determine the attitude of teachers towards learners with special needs in the ECD centers, determine the extent to which teaching-learning strategies were adapted in inclusive ECD classes and determine to what extent the resources were adapted to suit learners with special needs in the inclusive ECD centers.

4.2 Response Rate

The chapter begins by presenting the response return rate, general information of the respondents that participated in the study and thereafter, presentations of findings relating to the research objectives of the study.

Table 3: Response rate

Respondents	Sample size f (%)	Responded f(%)	Failed to respond f(%)
Teachers	34 (100.0)	34 (100.0)	0 (0.0)
Total	34(100.0)	34(100.0)	0(0.0)

From the results in Table 3, 34 questionnaires were issued to teachers out of which 34(100%) were adequately filled and returned. The response rate was above 70% and hence over excellent and representative conforming to Mugenda and Mugenda (2003) stipulation

Table 4: Teachers' professional training

professional training	Frequency	Percentage
B.ED special	2	6.4
Diploma in Education	8	25.8
Diploma special education	4	13.0
P1	17	54.8
Total	31	100.0

The results in table 4 revealed that most teachers 17(54.8%) were P1 teachers, 8(25.8%) had diploma in Education, 4(13.0%) had diploma in special education while another 2(6.4%) had a diploma in special education. This means that most teachers who participated most in the study were p1 teachers.

According to the table, most teachers had received prior training therefore the intervening variable of level of teacher training would not have effect on the end result of successful implementation of inclusive education since most teachers had received prior training to handle learners.

4.3Extent to which the physical environment was adapted for ease of access in inclusive ECE centers.

This objective sought to find out the extent to which the physical environment was adapted for ease of access in inclusive ECD centers. To achieve this objective, the researcher asked teachers to fill in a questionnaire concerning state of the physical environment in their schools. The responses of the teachers were measured on a five point type rating scale where, Very large- 5, large-4, Small-3, very small-2 and Smallest-1. The study findings were presented in table 5 using frequencies, percentages and means as displayed.

Table 5: Teachers responses on the extent to which the physical environment is adapted for ease of access in inclusive ECE centers

Statement	Very large f (%)	Large f (%)	Small f (%)	Very Small f (%)	Smallest f (%)	Mean
The physical environment is well adapted to suit the needs of the learner	5(14.7)	3(8.8)	11(32.4)	12(35.3)	3(8.8)	2.85
Railings and slopes are available for learners using wheel chairs	2(5.9)	3(8.8)	1(2.9)	10(29.4)	18(52.9)	1.85
Doors to classrooms and toilets are wide enough to accommodate all learners including those with wheel chairs	6(17.6)	8(23.5)	5(14.7)	8(23.5)	7(20.6)	2.94
There are toilets specifically for learners with physical disabilities	2(5.9)	2(5.9)	0(0.0)	7(20.6)	23(67.6)	1.62
Tables, desks and chairs cater for individual differences	7(20.6)	15(44.1)	5(14.7)	2(5.9)	5(14.7)	3.59
Floors are smooth and non-slippery	9(26.5)	20(58.8)	0(0.0)	0(0.0)	5(14.7)	3.82
The board is adjusted to the level that all learners are comfortable with	6(17.6)	3(8.8)	11(32.4)	8(23.5)	6(17.6)	2.85
The compound is cleared of all potholes for ease of movement of all learners with visual problems	2(5.9)	2(5.9)	4(11.8)	24(70.6)	2(5.9)	2.35
Average Mean						2.73

KEY:

M- Mean.

Very large- 4.5 – 5.00

Large - 3.5 – 4.4

Small- 2.5 – 3.4

Very small- 1.5 – 2.4

Smallest-1.00 - 1.4

The highest mean recorded was 3.82 which had most teachers who said to a large extent, the floors were smooth and slippery and the lowest indicated that to a very small extent, there were toilets specifically adapted for learners with physical disabilities M=1.62. A mean of 1.82 indicated that to a very small extent, railings and slopes were available for ease of movement and an M=2.85 indicated that the physical environment was adapted to a small extent.

The study findings in table 5 revealed that 12(35.3%) and 11(32.4%) of the teachers disagreed that the physical environment in their schools was well adapted to suit the needs of the learners with special needs. However, there were some teachers, 5(14.7%) who strongly agreed and 3(8.8%) who agreed that the physical environment in their schools was well adapted to suit the needs of the learner ($M=2.85$) (to a small extent). Focusing on the specifics of the physical environment, it was evident that in most centers in Kisumu County, railings, slopes and steps were not available for learners using wheel chairs. This was supported by 18(52.9%) and 10(29.4%) teachers who strongly disagreed and disagreed respectively that the railings, slopes and steps fitted learners who had special needs ($M=1.85$).

Concerning the size of doors to classrooms and toilets; 8(23.5%) agreed and another same group disagreed that doors to classrooms and toilets were wide enough to accommodate all learners including those with wheel chairs, 6(17.6%) strongly agreed while 7(20.6%) strongly disagreed that the doors to toilets and classrooms were wide enough to cater for learners with physical disabilities with $M =2.94$ showed that the state of doors was adapted to a small extent. With a mean of 1.62, it was suggestive that there were no toilets specifically for learners with physical impairment. To support this, 23(67.6%) of the teachers strongly disagreed followed by 7(20.6%) who disagreed that there were toilets specifically for the physically challenged.

Concerning the state of tables, chairs and desks, a mean of 3.59 indicated that this was considered in most schools, that is: 15(44.1%) teachers agreed with 7(20.6%) strongly agreeing that tables, chairs and desks catered for the individual differences. The same applied for the state of floors, 20(58.8%) teachers with a mean of 3.82 agreed that floors were smooth and not slippery. 11(32.4%) teachers somehow agreed that the board in their classrooms were adjusted to the level that all learners are comfortable with; ($M=2.85$). This showed that as much as the

boards were adjusted, it was not up to the standard that could make all learners comfortable. 24(70.6%) teachers disagreed with the fact that the compound in their schools were cleared of all potholes to ease the movement of all learners with visual problems, (M=2.35).

Interviews were also conducted and the outcome was as shown in the quotes below by two head teachers.

*“We have tried to work on the environment but generally speaking, it does not favor all learners bearing in mind that we have those with physical and visual impairment. To some percentage, the doors to classrooms and toilets are wide enough to be used by all including the learners who use wheel chairs; however, we are yet to work on the grounds and other facilities in the school to favor all learners especially those with physical impairment. These things require a constant source of income to be able to build them in school, however, with the little we receive, we try our best to ensure all learners are comfortable.” **Head teacher 10***

*“We still have a little problem with our physical environment because it is not fully adapted, there are a lot of potholes and stones around the compound which makes it not so easy for learners to move around freely. Learners are compelled to move with a lot of care to avoid any possible accidents.” **Head teacher 5***

According to the results of the head teachers, teacher and the concerned staff have tried working on the physical environment, the grounds were well leveled for ease of movement by learners with physical disabilities. Another head teacher stated that the physical environment was not well adapted because of lack of financial resources in the school. Most head teachers indicated that the installation of these facilities like toilets meant for only for children with wheel chairs required a lot of finances yet their support was minimal. They indicated that it was expensive to cater for all learners and therefore required more support especially from the county governments.

Head teachers 10 and 5 indicated in their information that the school grounds were not well adapted to facilitate ease of movement for not only learners with special needs but also other

regular learners. These findings concur with the quantitative findings that the environment was not well adapted to an extent of learners moving with ease in the environment.

In relation to the findings from the observation schedule, the following was the case:

The physical environment

From the observation, it was observed that in fourteen classes, the doors were wide enough for passage and the tables and chairs were adjusted to cater for individual differences. However, in 15 centres, it was also noted that there were no specific toilets adapted for learners with physical disabilities. Only two centers had toilets specifically adapted for learners with wheel chairs. and that in most schools; the lighting system was not properly adjusted for learners with low vision. Concerning the state of floors, they were smooth and not slippery, learners who were hard of hearing and those with low vision were placed in front of the class, the lighting was to some extent adjusted to fit learners with low vision, the fields had a lot of potholes and stones lying around.

In school 6, a learner with physical impairment was observed to be sitting close to the classroom door during break time to avoid a lot of movement in the environment because of the barriers.

It was also observed that the pathways had a lot of stones lying around and were not cleared to ease movement, learners could be seen trying to move faster while evading them.

From the observation, it was clear that the physical environment had not been modified to cater for individual differences; both regular learners and those of special needs had a lot of difficulty moving around. These could also affect their co-co-curricular participation since the fields were not child-friendly and therefore learners had difficulty running around freely in

play. It is therefore recommended that an audit be made in all these schools and the physical environment worked on to ensure ease of accessibility by all learners.

The quantitative and qualitative results agree that in early childhood centers in Kisumu County, the physical environment was only adapted to a small extent. This is contrary to what one would expect bearing in mind that the UNESCO's guidelines and the guidelines on the implementation of the sector policy for learners with special needs (SNE policy 2018) state that the environment should be child friendly, for ease of access by all learners, therefore, these schools fall short of these requirements of the adaptation of the physical environment of an inclusive school. Therefore, according to the researcher, these pupils were not comfortable and therefore not able to learn effectively like any other learner. This is because the environment was not suited to enhance healthy learning and therefore this would automatically affect their academic achievement.

These study findings concur with those of Ackah & Danso (2019) who examined the physical environment of Ghanaian inclusive schools and found that the environment of most inclusive schools was of poor quality and it was less accessible to children with disabilities. For that reason, they therefore recommended modification of facilities and redesigning of the school landscape to enhance accessibility. This study is related to the current study in that both focused on physical environment and if learners were able to move with ease and access different facilities without struggle. The present study however, involved a larger population, done in early childhood centers unlike that of Ackah & Danso. (2019) which was a case study in one primary school.

These findings also concur with Shami and Hussein (2005), who found that the physical environment especially school grounds were not friendly (not well adapted) hence affected

learners' activities. However, their study was a case study involving a correlation design while the current research involved a larger population using a descriptive design. Just like Walton, (2011) said, inclusive schools should carry out a full access audit of the building and the school grounds, involving the learners for effective learning to take place.

However, these findings disagree with those of Şahin, Erden & Akar, (2011) in their study in Turkey who found that the physical facilities were accessible to the learners though not so spacious. The researcher established that the physical environment of inclusive ECE centers were not accessible, adapted only to a small extent hence learners struggle to move freely.

4.4The attitude of regular teachers towards learners with special needs in the ECE centers.

The second objective sought to establish the attitude of the regular teachers towards learners with special needs in the ECD centers. The responses were measured on a five point likert scale where strongly agree - 5, Agree-4, Somehow Agree-3, Disagree-2 and strongly disagree-1. The results were presented in tables using frequencies, percentages and means. Table 6 shows the study findings for this objective

Table 6: The attitude of teachers towards learners with special needs

Statement	SA f (%)	A f (%)	SHA f (%)	D f (%)	SD f (%)	Mean
I appreciate the inclusion of learners with special needs in my school	10(29.4)	18(52.9)	4(11.8)	1(2.9)	1(2.9)	4.03
Pupils with special need should be educated in special schools	3(8.8)	0(0.0)	6(17.6)	14(41.2)	11(32.4)	2.12
Inclusion of learners with special needs will have positive effects on their social and emotional development	31(91.8)	3(8.82)	0(0.0)	0(0.0)	0(0.0)	4.83
I recognize and accept learners with difficulties the way they are	10(29.4)	17(50.0)	7(20.6)	0(0.0)	0(0.0)	4.09
I motivate other learners to work and help learners with special needs	14(41.2)	17(50.0)	3(8.8)	0(0.0)	0(0.0)	3.83
Due to a lot of work in class I have less time to focus on a learner with special needs	7(20.6)	5(14.7)	16(47.1)	6(17.6)	0(0.0)	3.38
I feel frustrated when a learner with special needs takes longer to accomplish tasks or understand a concept	4(11.8)	9(26.5)	9(26.5)	8(23.5)	4(11.8)	3.03
I conduct regular observation and documentation of learners' growth especially those with special needs	14(41.2)	7(20.6)	7(20.6)	4(11.8)	2(5.9)	3.79
Learners with special needs pose to many organization problems to lesson delivery	4(11.8)	6(17.6)	8(23.5)	12(35.3)	4(11.8)	2.82
Pupils with special needs lower the quality of instruction for other learners	0(0.0)	2(5.9)	7(20.6)	16(47.1)	9(26.5)	2.06
I consider it a waste of time repeating a concept over and over again	1(2.9)	0(0.0)	11(32.4)	8(23.5)	14(41.2)	2.00
Handling learners with special needs gives me a head ache	0(0.0)	3(8.8)	8(23.5)	3(8.8)	20(58.8)	1.42
Learners with special needs are a burden	0(0.0)	0(0.0)	3(8.8)	22(64.7)	9(26.5)	1.82
Average Mean						3.02

Source: Field data (2019)

KEY:

M- Mean.

SA- 4.5 – 5.00

A- 3.5 – 4.4

SHA- 2.5 – 3.4

D- 1.5 – 2.4

SD-1.00 - 1.4

The study findings in table 6 revealed that the highest recorded mean was 4.83 which indicated that learners with special needs were included in regular schools, then their social emotional development would be positively affected. The lowest mean indicated that handling learners with special needs does not give teachers a headache $M=1.42$. $M=4.03$ indicated that most teachers appreciated the inclusion of learners with special needs in their schools, $M=2.12$ of the responses indicated that learners with special needs should be educated in special schools

Results from the table indicate that teachers still valued having learners with special needs. This is because most of them, 14(41.2%) and 11(32.4%) disagreed and strongly disagreed that pupils with special needs should be educated in special schools, ($M=2.12$). To show that teachers had a positive attitude towards learners with special needs, all the 34(100.0%) teachers strongly agreed that if these learners are included in regular schools, then their social and emotional development would be positively affected ($M=4.83$).

Furthermore, the study findings revealed that most teachers 17(50.0%) and 10(29.4%) recognized and accepted learners with difficulties the way they were ($M=4.09$). It was also shown from the findings that still teachers valued learners with special needs. To be specific, 17(50.0%) and 14(41.2%) teachers agreed and strongly agreed that they motivated learners to work and help those who had special needs ($M=3.83$).

On the contrary, it was shown that most teachers somehow agreed that because of the much work in class, they had less time to focus on a learner with special needs. A mean of 3.38 being

supported by 16 (47.1%) teachers who somehow agreed, showed that as much as teachers valued learners with special needs, they sometimes did not focus on learners with special needs because of having much work.

Furthermore, having a mean of 3.03, it was indicative that most teachers somehow agreed that they were frustrated when a learner with special needs takes longer to accomplish tasks or understand a concept. Table 6 also showed that teachers in most of the public early childhood centres in Kisumu County, conducted regular observation and documentation of learners' growth especially those with special needs; 14(41.2%) teachers strongly agreed with 7(20.6%) agreeing so (M=3.79). The study findings further showed that teachers did not perceive learners with special needs to be posing many organization problems to lesson delivery: most of the teachers 12 (35.3%) disagreed and 8 (23.5%) somehow agreed, (M=2.82). A mean of 2.06 and 2.00 revealed that according to the teachers, pupils with special needs did not lower the quality of instruction for other learners neither did the teachers consider it a waste of time repeating a concept over and over again.

It was again shown that teachers 20(58.8%) strongly disagreed while 3(8.8%) did not perceive learners with special needs as a headache, (M=1.42). And lastly, the study findings revealed that handling learners with special needs did not give teachers a burden, 22(64.7%) and 9(26.5%) teachers disagreed and strongly disagreed respectively M=1.82.

An average mean of 3.02 indicated that teachers had appositve attitude toward learners with special needs.

In addition to the quantitative findings, qualitative findings from the interviews were presented.

“We support our learners who are physically impaired; this flows from the administration to the teachers and the regular learners. We try so much to ensure that they are comfortable so that they be able to learn well. Teachers and fellow learners appreciate them and accept them as they are. Furthermore, other learners work with them in groups and teachers also encourage them to do so. I encourage my teachers to conduct regular observation and documentation of learners' growth especially those with special needs and to repeat a concept over and over again for their sake.” **Head teacher 6**

“Since the introduction of inclusive education in this school, I have seen a positive improvement in the way my staff and pupils relate to those with special needs. We have cultivated an environment of acceptance since we believe these learners are just like us but only with a few differences that we try to accommodate as much as we can. We make sure we don't discriminate them but include them in all our activities.” **Head teacher 12**

Based on the finding of the study, it was established from the interviews that teachers had a positive attitude towards learners with special needs and the general idea of inclusion in regular schools. Principal 12 agreed to have seen a change of attitude in that teachers were constantly developing a positive attitude towards learners with special needs. This therefore meant that the closer they stayed and worked with these learners, the more positive their attitudes became those of acceptance.

The study findings differed with those of a study in Lesotho by Johnstone & Chapman (2009) which indicated that there was poor implementation of the policy of inclusion because of the teachers' negative attitudes towards learners with special needs. They reported that teachers felt learners with special needs were a waste of time in regular classes. This was contrary to the current study since most teachers displayed a positive attitude and strongly disagreed that these learners were a burden. Most teachers accepted these learners and treated them without discrimination.

The findings also differ with those by Kuyini, Desai & Sharma (2018) who conducted a study in Ghana. These findings differ with those of the current study because as the teachers in this study appreciate the learners with special needs, those teachers in Ghana felt unprepared and fearful to work with learners with disabilities in regular classes hence ended up displaying frustration, disillusionment and negative attitude towards these learners and inclusive education. They did this because they believed these learners would lead to lower academic standards. However, teachers in the current research disagreed that learners with special needs lower the quality of instruction for other learners hence they do not affect their performance.

This study also differed with that of Salovita (2018) in Finland established that teachers depicted negative attitudes towards learners with special needs since they were not intellectually ready to handle them for they felt they required help and a lot of expertise in handling them. However, the researcher used descriptive statistics: t- tests, F -tests and Pearson product moment correlations while the current study used a descriptive design and descriptive statistics: mean, frequencies and percentage

Peters (2003) explains that if EFA is to be achieved and particularly inclusive education, it has to start with the change of attitudes. Therefore, the researcher recommends closer relationships of teachers and these learners that will help them understand and hence accept these learners more.

4.5 The extent to which teaching-learning strategies were adapted in inclusive ECD classes.

The third objective sought to determine the extent to which teaching-learning strategies were adapted in inclusive ECE classes. The teachers' responses were measured on a five-point rating scales where Very large- 5, large-4, Small-3, very small-2 and Smallest-1 and Not at all-1,

Smaller extent-2, Small extent-3, Large extent-4 and Largest extent-5. The results were presented in table using frequencies, percentages and means; tables 7 and 8 show the study findings for this objective

Table 7: Teachers’ responses on the Extent to which teaching-learning strategies were adapted in inclusive ECD classes

Statement	Very large f (%)	Large f (%)	Small f (%)	Very Small f (%)	Smallest f (%)	MEAN
My teaching sessions are interactive	27(79.4)	6(17.6)	1(2.9)	0(0.0)	0(0.0)	4.76
I allow learners to work together in different groups	24(70.6)	10(29.4)	0(0.0)	0(0.0)	0(0.0)	4.71
Learners with special educational needs receive extra support from me	12(35.6)	16(47.1)	4(11.8)	0(0.0)	2(5.9)	4.06
The language I use in class is age appropriate and to the level of all learners	27(79.4)	6(17.6)	1(2.9)	0(0.0)	0(0.0)	4.76
Teaching methods are adapted according to different needs of the learner	19(55.9)	8(23.5)	5(14.7)	2(5.9)	0(0.0)	4.29
I give tasks according to the level of performance and individual need of the learner	13(38.2)	17(50.0)	4(11.8)	0(0.0)	0(0.0)	4.26
I do a lot of writing on the chalk board for the sake of learners with hearing impairment	14(41.2)	18(52.9)	0(0.0)	0(0.0)	2(5.9)	4.24
Average Mean						4.44

Source: Field data (2019)

KEY:

M- Mean.

Very large- 4.5 – 5.00

Large - 3.5 – 4.4

Small- 2.5 – 3.4

Very small- 1.5 – 2.4

Smallest-1.00 - 1.4

From table 7, 29(79.4%) teachers strongly agreed that the teaching sessions were interactive with 6(17.6%) agreeing with the idea (M=4.76) and learners with SNs received extra support from teachers (M=4.06). In addition to that, 24(70.6%) teachers strongly agreed and 10(29.4%) agreed that they allowed learners to work together in different groups (M=4.71). Concerning learners with special needs receiving extra support from teachers, 16(47.1%) agreed and 12(35.6%) strongly agreed that they gave extra support to their learners who SENs; a mean of 4.06 supported this.

Furthermore, it was clear from the study findings that the language that teachers used in class was age appropriate and to the level of all learners. In support of this, 27(79.4%) teachers strongly agreed with 6(17.6%) agreeing so (M= 4.76). Similarly, teaching methods were adapted according to the different needs of the learner; 19(55.9%) and 8(23.5%) teachers with a mean of 4.29 strongly agreed and agreed respectively that teaching methods were adapted according to the different needs of the learner. Some the teaching methods embraced were peer tutoring, group work, use of individualized education program and mediated learning. In the same way, it was revealed from the study findings that teachers gave tasks according to the level of performance and individual need of the learner. To support this, 17(50.0%) and 13(38.2%) teachers agreed and strongly agreed that they did so, (M=4.26). Lastly, it was evident from the study findings that teachers did a lot of writing on the chalk board for the sake of learners with hearing impairment; 18(52.9%) and 14(41.2%) teachers agreed and strongly agreed so (M=4.24).

With an average M= 4.44, it was clear that the teaching-learning strategies in inclusive centers were adapted to a large extent, These teaching-learning strategies were adapted in that the teachers' lessons were interactive, teachers allowed learners to work together in different

groups, learners with SENs were given extra time, teachers used a language that was age appropriate and to the level of the learner, the teaching methods were adapted to meet the different needs of the learner, teachers gave tasks according to the level of performance and individual need of the learner and teachers did much writing on the chalk board for the sake of learners with hearing impairment.

The researcher, apart from finding out if the teaching-learning strategies were adapted, also wanted to find out the extent to which certain inclusive adapted teaching and learning strategies were used in inclusive classes. Their responses were rated on a five-point type rating scale where very large-5, large extent-4, small extent-3, very small extent-2, smallest extent-1. The study findings were presented in form of tables using frequencies and their percentages as well as means. Table 8 shows the results

Table 8: teachers' responses on the Extent to which certain teaching-learning strategies are used in inclusive ECD classes

Statement	Very large f (%)	Large extent f (%)	Small extent f (%)	Very small extent f (%)	smallest extent f (%)	MEAN
Co teaching (when two educators work together to plan, organize, instruct and make assessments on the same group of students sharing the same classroom)	4(11.8)	3(8.8)	5(14.7)	9(26.5)	13(38.2)	2.29
Collaborative planning and teaching (teacher receives information from other school professionals, parents and plan lessons that cater for individual needs)	4(11.8)	18(52.9)	6(17.6)	3(8.8)	3(8.8)	3.50
Pull out model (teachers pull pupils out of their general education classes and work with them in small individualized groups)	6(17.6)	4(11.8)	9(26.5)	6(17.6)	9(26.5)	2.68
Individualized education program (teacher uses a written education plan designed to meet a child's learning needs)	13(38.2)	18(52.9)	0(0.0)	1(2.9)	2(5.9)	4.15
Universal design for learning (Teaching and learning that accommodates individual differences)	6(17.6)	22(64.7)	5(14.7)	0(0.0)	1(2.9)	4.51
Mediated learning (Teacher intervenes where a learner has difficulty in understanding)	11(32.4)	19(55.6)	0(0.0)	0(0.0)	4(11.8)	4.21
Learning by doing (teacher provides learners with activities that require manipulation and exploration)	10(29.4)	19(55.9)	0(0.0)	1(2.9)	4(11.8)	4.24
Group work (teacher allows learners to work in different groups like when modeling, drawing etc.)	2(5.9)	26(76.5)	0(0.0)	1(2.9)	5(14.7)	4.26
Mean average						3.93

M- Mean**KEY>****Very large-** 4.5 – 5.00**Large -** 3.5 – 4.4**Small-** 2.5 – 3.4**Very small-** 1.5 – 2.4**Smallest-**1.00 - 1.4

From table 8, the study findings revealed that universal design for learning was the most embraced teaching and learning strategy(M=4.51) while co- teaching was not much embraced by the teachers (used to a smaller extent) (M=2.29)

The study findings revealed that co teaching was not embraced in most of the early childhood centers with inclusive education in Kisumu County. This was evident as supported by 13(38.2%) teachers who said they not at all did co teaching; 9(26.5%) said that did coo teaching to a smaller extent while 5(14.7%) said they did co teaching to a small extent. The teachers who did co teaching to a large and largest extent were few; 3(8.8%) and 4(11.8%) said that they embraced co teaching to a large and to the largest extent respectively, (M=2.29). While co teaching was not popular in these schools, collaborative teaching on the other hand was given an upper hand in majority of the schools. To support this, 18(52.9%) teachers agreed that they conducted collaborative teaching to a large extent and 4(11.8%) said they did so to the largest extent. However, there were those who did not embrace collaborative planning and teaching shown by 6(17.6%) teachers who stated to do it to a small extent while 3(8.8%) said they did collaborative planning and teaching to a smaller extent and not at all.

Using the pull out model where the teachers pull pupils out of their general education classes and work with them in small individualized groups was done to a small and smaller extent and sometimes not at all in most schools; 9(26.5%) teachers used it to the smallest extent, 6(17.6%) to a very small extent, there were teachers in some schools who used the model to the largest

extent as shown by 6(17.6%) and those who used it to a large extent shown by 4(11.8%). When it came to using individualized education program where teacher uses a written education plan designed to meet a child's learning needs, the study findings indicated that it was used in most ECDE centers with inclusive education. In relation to this, 18(52.9%) teachers said that they used this technique to a large extent while 13(38.2%) said they used the technique to the largest extent, (M=4.15).

Similarly, Universal design for learning (Teaching and learning that accommodates individual differences) was used by most teachers. With regards to this, 22(64.7%) teachers agreed that they used the universal design to a large extent while 6(17.6%) teachers said they used the design to the largest extent, (M=4.41). In the same way, mediated teaching (Teacher intervenes where a learner has difficulty in understanding) was given an upper hand in most ECDE centres. There were 19(55.9%) teachers who said they used mediated teaching to a large extent while 11(32.4%) said they used the technique to the largest extent, (M=4.21). The same trend appeared to learning by doing (teacher provides learners with activities that require manipulation and exploration); with a mean of 4.24, 19(55.9%) agreed to be using the learning by doing strategy to a large extent while 10(29.4%) of them said that they used this technique to the largest extent. Lastly, group work (teacher allows learners to work in different groups like when modeling, drawing etc.) was also embraced in the ECDE centres where there was inclusive education. In support of this, 26(76.5%) teachers said that they used group work to a large extent (M=4.26).

With a mean of 3.93: these findings indicated that learning strategies are adapted to a large extent. This therefore means that learners with special needs were able to participate

effectively in the learning process considering that teaching and learning strategies were adapted to suit their individual needs and cater for their differences during learning sessions.

To add to these quantitative findings, findings from the interviews were also presented as shown by the verbatim below.

*“One of our goals in this school is to ensure that our teachers attend to the needs of all the learners. And because we have inclusive education; we try to emphasize the use of adapted teaching methods so as to cater for the differences and needs of each learner in the classrooms.” **Head teacher 8***

*“We acknowledge that learners learn differently especially those with special needs, therefore we ensure that teaching and learning methods cater for the needs of all learners. As a school, we keep files for each learner where we know their strengths and weakness and therefore ensure that they receive extra support from the teacher in the areas that challenge them I have faith in my teachers since we organize workshops to equip on how to handle these learners and diversify their teaching styles for their sake.” **Head Teacher 4***

According to the findings from both head teachers; most inclusive schools in Kisumu County were trying to adapt their teaching and learning methods in order to cater for diversity in their classes. These findings agree with those from the teachers that teaching and learning strategies were adapted.

Extent of adaptation of teaching and learning strategies

The qualitative findings, head teacher 8 indicated that being in an inclusive school, they try to accommodate all learners by adapting the teaching and learning methods in order to ensure that their learner participated fully in the learning process. Head teacher 4 indicated that they keep progress document for these learners in order to provide extra support for them in their areas of difficulty. He also indicated that teachers are trained to diversify teaching methods and therefore it meant that they were able to vary them according to the need of each learner.

Results from the observation schedule indicated that teachers adequately varied their teaching methods (to a large extent) and Extra time was provided for completion of tasks for learners

with special needs though not adequately. However, mediated learning and use of individualized education program was practiced and therefore all learners could benefit from the lesson adequately. It was also observed that peer tutoring was embraced to an adequate extent where learners were observed during some lessons helping one another with the guidance of the teacher.

For instance, in school 10, learners seemed attentive during the teaching and learning process, the teacher was seen using group work and mediated learning most of the time. The teacher was repeating concepts for the sake of learners who were hard of hearing, peer tutoring was also used during a mathematics activities class, auditory distractions were reduced for effective learning of those who were hard of hearing, step by step instructions were given to learners and extra time was given for completion of tasks specifically for learners with special needs.

In school 15, learners were seen organized in groups with plenty of materials in a mathematics class, teacher also intervened where individual learners were finding it difficult to move in a task, more of oral than written instructions were given to learners with low vision, peer tutoring was embraced, a lot of materials to enhance learning were provided. During the English language lesson, the teacher used language that was learner friendly and also used a large font while writing on the chalk board. From the study findings, teachers were using methods that met the needs of all learners hence participation in the learning process was effective.

These study findings agree with the findings of by Motitswe (2012) in South Africa who did a case study of teaching and learning strategies and established that teaching and learning strategies used were flexible, there was use of differentiated methods in teaching and cooperative learning was used. She established that the needs of learners with special needs

were well catered for during the teaching and learning process hence learners participated maximally and actively in the lessons.

However, these study findings differed with those by Bendová, Čecháčková & Šádková (2014) in Czech which indicated teachers were unprepared in relation to the needs of learners and knowledge, and there was overstaffing and poor methods of teaching in inclusive classrooms. In the current research, it is established that teaching and learning strategies were well adapted to cater for learners' needs in class and therefore they were able to participate effectively in the learning process without struggle or being left out.

Ambrose *et. al*, (2010) argues that inclusive teaching and learning strategies strive to meet the needs of all learners, regardless of background or identity and support their engagement with subject material which helps them to take control of their learning as they draw relevant connection to their lives and responds to their unique concerns. And therefore, as stated by (UNESCO, 2009), an inclusive school must offer possibilities and opportunities for a range of working methods and individual treatment to ensure that no child is excluded from companionship and participation in the school.

4.6: The extent to which the resources were adapted to suit learners with special needs in the inclusive ECE centers.

The fourth objective sought to establish extent to which the resources were adapted to suit learners with special needs in the inclusive ECE centers. In order to achieve this objective, teachers and learners were given a questionnaire to fill and their responses were measured on a five-point type rating scale where Very large- 5, large-4, Small-3, very small-2 and Smallest-1. The results were presented in table using frequencies, percentages and means; table 9 shows the study findings for this objective

Table 9: The extent the resources were adapted to suit learners with special needs in the inclusive ECE centers.

Statement	Very large f (%)	Large extent f (%)	Small f (%)	Very Small f (%)	Smallest f (%)	MEAN
The school has enough teaching resources to cater for learners with special needs	5(14.7)	7(20.6)	2(5.9)	15(44.1)	5(14.7)	2.76
Teaching/ learning resources have been adapted to suit learners with special needs	5(14.7)	6(17.6)	15(44.1)	8(23.5)	0(0.0)	3.74
I am not able to use some of the instructional materials available	8(23.5)	10(29.4)	1(2.9)	9(26.5)	6(17.6)	3.15
Instructional materials are not varied	6(17.6)	8(23.5)	4(11.8)	15(44.1)	1(2.9)	3.09
Hearing devices are provided for learners who are hard of hearing	1(2.9)	3(8.8)	13(38.2)	17(50.0)	0(0.0)	2.65
Written materials are provided for learners who are hard of hearing	9(26.5)	12(35.3)	2(5.9)	8(23.5)	3(8.8)	3.24
I provide large printed materials for learners with low vision	2(5.9)	0(0.0)	4(11.8)	12(35.3)	16(47.1)	1.82
Optical devices are provided for learners with low vision	3(8.8)	0(0.0)	3(8.8)	16(47.1)	12(35.3)	2.00
Learners are provided with adequate materials for their manipulations and exploration	4(11.8)	14(41.2)	3(8.8)	6(17.6)	7(20.6)	3.59
Average Mean						3.09

KEY:

M- Mean.

Very large- 4.5 – 5.00

Large - 3.5 – 4.4

Small- 2.5 – 3.4

Very small- 1.5 – 2.4

Smallest-1.00 - 1.4

The study findings indicated that the materials/resources were adapted according to the need of the learner (M=3.74) that large printed materials were provided for learners with low vision (M=1.82). It was indicated that most schools did not have enough teaching resources to cater

for learners with special needs. This was evident because most of the teachers, 15(44.1%) disagreed with the fact that their schools had enough resources for teaching which catered for the needs of the learners with special needs, (M=2.76). The findings further revealed that teachers, 15(44.1%) somehow agreed that the teaching/learning resources in their schools were adapted to suit learners with special needs, (M=3.74). This implied that the teaching/learning resources were adapted just to some extent in these schools to suit the needs of the special needs pupils.

From these findings, it was revealed that there were varied instructional materials in most of these schools; 15(44.1%) disagreed with the fact that the instructional materials were not varied. However, there were schools where the instructional materials were not varied; 8(23.5%) teachers agreed and 6(17.6%) strongly agreed that the instructional materials were not varied in their schools M=3.09. In addition, 17(50.0%) and 13(38.2%) disagreed and somehow agreed respectively that they found it cumbersome to use the different instructional materials, (M=3.533). This implied that to a larger extent, in the schools where learning and teaching materials were available for the learners with special needs, teachers were equipped with the skills to handle them.

In addition, it was evident from the study findings that in most of the early childhood centers in Kisumu County where inclusive learning was implemented, where materials were present, they were adapted according to the needs of a learner. In support of this, 12(35.3%) teachers agreed while 9(26.5%) strongly agreed so; (M=2.129) supports these teachers who said so. On the contrary, as much as teachers claimed that there were materials adapted to suit learners with special needs, it was revealed that most teachers did not provide large printed materials for learners with low vision. In relation to this, 16(47.1%) teachers strongly disagreed and

12(35.3%) disagreed that they provided large printed materials for the learners with low vision (M=1.82). Consequently, having a mean of 2.00, it came out clearly that optical devices were not provided for learners with low vision. In this case, it was revealed that when it came to focusing on specific materials/equipment for the learners with special needs, there was a problem in these schools.

This was in line with the observations made by Moodley (2013) that in order for the learners to be active participants in the learning and teaching process, institutions must ensure that teaching and learning materials are used as well as made available to all the learners with special needs according to their needs.

In addition to the quantitative findings, qualitative findings from the interviews were presented. The findings were a reflection of the quantitative ones. The two quotes below show what transpired when the head teachers were interviewed.

*“We are incapacitated in this school in terms of the learning and teaching resources for the sake of the learners with special needs but I can say those that are available are really helping. The resources that we have do not meet the needs of all learners inclusive of those with SN; some are too expensive for us as a school and therefore we go for only those that can help many in a class in their learning” **Head teacher 7***

*“The resources available are suitable for all learners since we ensure that teachers adapt these resources according to the need of each learner. However, you may find that in some cases it is not easy for it is only one teacher who handles a class during their lesson time at the end of the lesson not all learners may have had what we expect them to get.” **Head teacher 1***

Results from the interviews indicated that most head teachers confirmed the availability of resources that mostly favored the regular learners; therefore, it was evident that learners with special needs struggled in the learning process since most of the resources were not adapted for their use.

Extent of adaptation of resources

Results from the interview indicted that schools had fewer resources especially those for learners with special needs. Head teacher 7 indicted that some of these resources were too expensive for them and therefore could only go for those that would help many learners. Another teacher observed that resources were available and teachers had the ability to adapt them but it was challenging for one teacher to handle learners with different resources adapted for their use since they require individual attention.

From the observation, the researcher observed 5 lessons and found that resources were provided in class for learning though not adequately, especially those for learners with special needs, particularly those with low vision. Teachers were using a lot of picture materials that were beneficial to all learners particularly those hard of hearing, however, in most schools, large print was not provided for learners with low vision and therefore most had to depend on their counterparts to read for them any written instructions.

In school one, the learning session was quite interactive since the teacher had a lot of materials for manipulation for all learners and therefore they seemed to enjoy learning, written materials and visual supplements were provided for those learners who were hard of hearing, however, learners with low vision struggled to participate in the learning process since optical devices and large print were not provided for them. In another school, a learner with low vision was seen struggling to read a printed material that he was given hence relied on the friend to help him read aloud so as to get the instructions.

These study findings agree with those in study conducted by Nizeyimana (2009) on assessment of the implementation of inclusion and availability of resources in Ugandan School who found out that most of the available resources were inaccessible to learners with special needs hence

learners struggled to fit in the system of education and access the learning process. In the current research, resources meant for learners with special needs were only adapted to a small extent hence inadequate; therefore, these learners could not participate effectively in the learning process. This could be because most of the resources required especially for learners with low vision and are hard of hearing were quite expensive hence schools could not afford for each learner.

Therefore, according to this research, just like Buli-Holmberg & Jeyaprabhan (2016) put it, there is need for teachers to adapt the learning materials like have larger prints, optical devices, visual supplements etc. in order for all learners to participate in the learning process in the inclusive ECE centers in Kisumu County. If this is not done timely, there are possibilities of these learners developing a negative attitude towards schooling and the aftermath could be dropping out of school because they may feel left out.

These findings also concur with the findings by KENPRO (2010) that most of the materials for learners with special needs were not adapted according to their need and therefore recommended the adaptation of these materials. The researcher also agrees with the study by Boit (2016) in Kericho who established that most resources were not adapted for use by learners with special needs. Therefore many of them struggled to access the learning process. This study however differs with Boit's in the sense that she conducted a case study while the current study involved a larger population.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

From the study findings, the following summaries were made:

5.1.1: Extent to which the physical environment was adapted for ease of access in inclusive ECE centers.

The extent to which the physical environment was adapted for ease of access in inclusive ECE centers was determined by the following mean: the teachers' responses had an average mean of $M=2.73$. The results revealed that in majority of the public early childhood centers in Kisumu County, the physical environment was only adapted to a small extent and therefore learners were not able to move with ease in the learning environment.

5.1.2: The attitude of both the regular learners and teachers towards learners with special needs in the ECE centers.

The study findings revealed that the attitude of most teachers was positive; their responses had an average $M=3.02$.

5.1.3: Extent to which teaching-learning strategies were adapted in inclusive ECD classes.

Results from this objective indicated that teachers used teaching and learning strategies that were adapted. This is supported by most teachers' responses average mean of 4.44. This implied that the teaching and learning strategies were adapted to a large extent. Therefore, in summary, the teaching and learning strategies were adapted and differentiated to a large extent hence learners were able to participate effectively in the learning process without struggle.

5.1.4: The extent the resources were adapted to suit learners with special needs in the inclusive ECE centers.

According to the results obtained, the summary of the findings from the teachers' responses whose Mean Average was 3.09 indicated that resources were adapted to a small extent, therefore, there was need for more adaptations for the sake of learners with special needs. Therefore, in summary, the resources in inclusive early childhood centers were adapted to a small extent hence much is still needed to be done for all learners to participate effectively in class learning.

5.2: Conclusions

Based on the study findings, the following conclusions were made from each study objective:

5.2.1: Extent to which the physical environment was adapted for ease of access in inclusive ECE centers.

The physical environment was adapted to a small extent.

5.2. 2: The attitude of both the regular learners and teachers towards learners with special needs in the ECE centers.

The attitude of regular teachers towards the learners with special needs was positive.

5.2.3: Extent to which teaching-learning strategies were adapted in inclusive ECD classes.

The teaching-learning strategies were adapted to a large extent.

5.2.4: The extent the resources were adapted to suit learners with special needs in the inclusive ECE centers.

The resources were adapted to a small extent.

5.3: Recommendations

From the study findings, the following recommendations were made;

- i. Based on the findings from the first objective, the researcher recommended that an audit be made on the physical environment and it be worked on to ensure the accessibility of all learners to facilities and the entire school environment.
- ii. According to the findings from the second objective, the researcher recommended that teachers to continually work with learners with special needs and advocate for positive attitudes and an environment of acceptance for all regardless of need and difference of each learner. It is also recommended that teachers cultivate an environment where regular learners interact often with those with special needs in order to build relationships that are an asset to the development of positive attitudes in the society.
- iii. From the third objective of the study, the researcher recommends that teachers embrace all-inclusive strategies and differentiate their methods in order to maintain interactive inclusive sessions in classes.
- iv. In view of the last objective, the researcher recommends that teachers should be advised on the importance of all learners participating in the learning sessions and hence to receive more guidance in the adaptation of resources for all learners especially for those learners with special needs.

5.4: Suggestions for Further Research

Based on the findings of the study, the following topics are worth considering for further studies

- i. The current study established the availability and extent of adaptation of resources in inclusive schools, there is need to carry out a study on the county government's participation in provision of resources in inclusive schools.
- ii. Early childhood Development is a devolved function, there is need therefore to carry out a study on participation of the county government in provision of inclusive education in early childhood education.
- iii. There is need also to carry out a study on the contribution of teachers in the cultivation of positive attitudes in inclusive schools.

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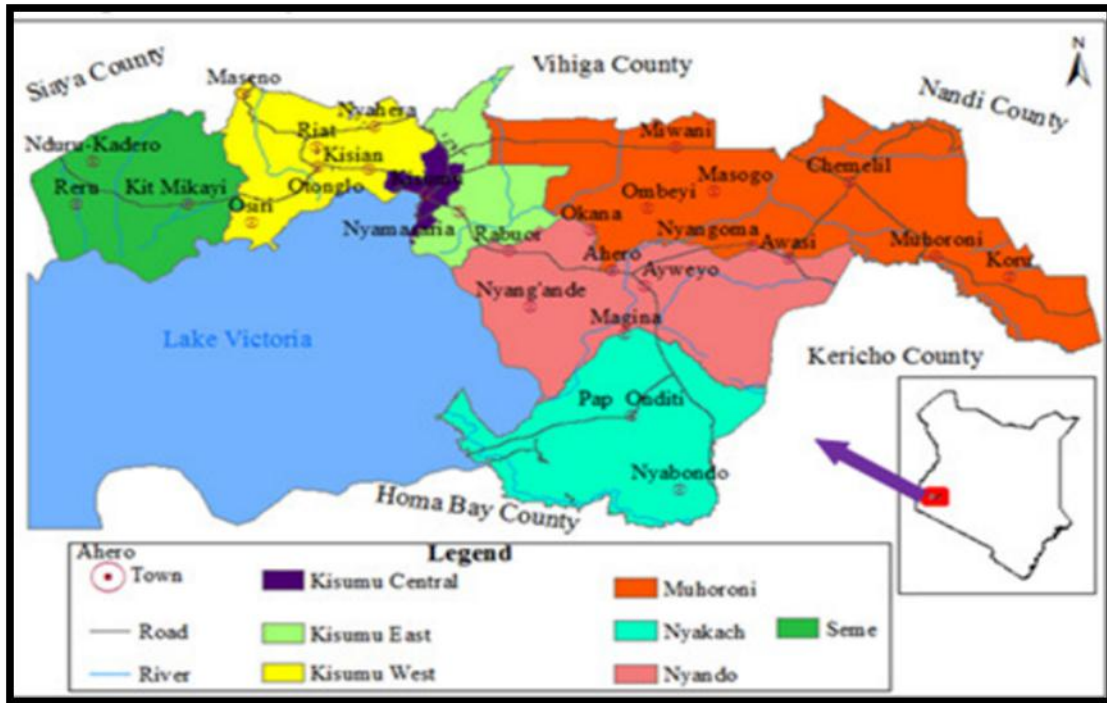
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APPENDICES

Appendix 1: Map for Kisumu County



Appendix 2: **REQUEST FOR DATA COLLECTION**

SCHOLASTIC NAMUKI
KUNDU
MED/ED/000222/016

THE HEAD TEACHER,
.....,
P.O BOX.....,
.....,

Dear sir/madam,

RE: REQUEST FOR DATA COLLECTION

I am writing to request for your participation in a research that seeks to determine the extent of implementation of inclusive education in Early childhood centers in Kisumu County. I am a Master of Education (MED) student at Maseno University in the field of early childhood education. As part of the requirement for the award of the degree, it is expected that one undertakes a research study, hence the purpose of this letter. I would further request for the participation of teachers in the study.

Your cooperation and assistance will be highly appreciated.

Thank you.

Yours faithfully,

Scholastic Namuki

APPENDIX 3: TEACHERS' QUESTIONNAIRE

This questionnaire is intended to gather information to establish the extent of implementation of inclusive education in public early childhood centers in Kisumu County. Any information you provide will be held confidentially and will not be used for any other purpose except for **ACADEMIC PURPOSES only**. Thank you in advance for taking part in this study.

Section A: Personal details

1. Professional training: B.ED Special () Diploma Ed () Diploma Special Ed () PI ()
2. Do you have learners with special needs in your class? Yes () No ()

Section B: Physical Environment adaptation

The following is a list of statements the physical environment of the school. Kindly tick in the box against the words that best describes your views after every statement.

Statement	Very large	Large extent	Small extent	Very small extent	Smallest extent
The physical environment is well adapted to suit the needs of the learner					
Railings and slopes are suitable for learners using wheel chairs					
Doors to classrooms and toilets are wide enough to accommodate all learners including those with wheel chairs					
There are toilets specifically adapted for learners with physical disabilities					
Tables and chairs cater for individual differences					
Floors are smooth and non-slippery					
The board is adjusted to the level that all learners are comfortable					

Section C: Attitude

The following is a list of statements on teacher’s attitude towards learners with special educational needs and other difficulties in an inclusive setting. Kindly tick in the box against the words that best describes your views after every statement. Indicate to what extent you feel about the views. SA- Strongly Agree, A- Agree, SHA- Somehow Agree, D- Disagree, SD- Strongly Disagree

Statement	SA	A	SHA	D	SD
I appreciate inclusion of learners with special needs					
Pupils with special needs be educated in special schools					
Inclusion of learners with special needs will have positive effects on their social and emotional development					
I recognize and accept children with difficulties the way they are					
I motivate other learners to work and help learners with disabilities and other difficulties					
Due to a lot of work in class, I have less time to focus on a learner with special needs					
I feel frustrated when a child with special needs takes longer time to accomplish tasks or understand concepts					
I conduct regular observation and documentation of children’s growth especially those with disabilities and other difficulties					
Learners with special needs pose too many organization problems to lesson delivery					
Pupils with special needs lower the quality of instruction for all the students					
I consider it a waste of time repeating a concept over and over again					
Handling learners with special needs gives me a headache					
Learners with disabilities are a burden					

Section D: Teaching and learning strategies adaptation

- i. The following is a list of statements on teaching learners with special needs in an inclusive setting. Kindly tick in the box against the words that best describes your views after every statement

Statement	Very large extent	Large extent	Small extent	Very small	Smallest extent
My teaching sessions are interactive					
I allow learners are allowed to work together in different groups					
Learners with special educational needs receive extra support from the teacher					
Language i use in class is age appropriate and to the level of all learners					
Teaching methods are adapted according to different age groups					
I give tasks given in class according to the level of performance and individual need of the learner					
I do a lot of writing on the chalkboard for the sake of learners with hearing impairment					

- ii. Indicate to what extent you use the following teaching and learning strategies in your class

Teaching and Learning Strategies	Very large	Large extent	Small extent	Very small extent	smallest extent
Co teaching(when two educators work together to plan, organize, instruct and make assessments on the same group of students, sharing the same classroom					
Collaborative planning and teaching (teacher receives information from other school professional, parents and plan or lessons that cater for individual needs					
Pull-out model(teachers pull students out of their general education classes and work with them in small, individualized groups)					
Individualized Education Program (teacher uses a written education plan designed to					

meet a child's learning needs) Behavior intervention Plan(teacher communicates clearly expected goals and outcomes and guides learners through an action plan)					
Universal Design for Learning(teaching and learning that accommodates individual differences					
Mediated learning(teacher intervenes where a learner has difficulty In understanding)					
Learning by doing(teacher provides learners with activities that require manipulation and exploration)					

Section E: Resource adaptation

The following is a list of statements on the instructional resources used in teaching learners in your inclusive school. Kindly tick in the box against the words that best describes your views after every statement.

Statement	Very large	Large extent	Small extent	Very small extent	Smallest extent
The school has enough/teaching resources to cater for learners with special needs					
Teaching/ learning resources have been adapted to suit learners with special needs					
I am not able to use some of the instructional materials available					
Instructional materials are not varied					
Hearing devices are provided for learners who are hard of hearing					
Written materials are provided for learners with low vision					
I provide large printed materials for learners with low vision					
Optical devices are provided for learners with low vision					
Learners are provided with adequate materials for their manipulation and exploration					

Thank you

APPENDIX 4: INTERVIEW SCHEDULE FOR THE HEADTEACHER

Dear Sir/Madam This interview schedule is intended to help the researcher gather information on the evaluation of inclusive education determinants to establish the extent of its implementation in early childhood centers in Kisumu County.

Section 1 Background Information

1. How long have you been a head teacher? 1 – 5 yrs () 6 – 10 yrs () 11 – above ()

Section B: Information on Inclusive education

1. What is your opinion regarding introduction of inclusion learners with special needs in your school?
2. How adequate and adapted are the physical facilities in your school towards provision of inclusive education?
3. Do you think the teaching of learners with special needs and disabilities in the same class with regular learners affects them and the class performance?
4. How effective are the instruction methods used in regular schools when applied to children with special needs?
5. To what extent are the available teaching/ learning resources adapted to cater for learners with special needs. (Elaborate)

Thank you

Appendix 5: Observation Schedule

1. Extent of adaptation of the Physical environment in inclusive ECE centers in Kisumu County

statement	Very adequate	Adequate	Not adequate	Not at all	Comments
Floors are smooth and non-slippery					
Doors are wide enough to allow passage by learners with wheel chairs and crutches					
Tables and chairs are adjusted to fit individual learners					
There are toilets specifically adapted for learners with wheel chairs					
In case of stair cases, ramps are also available for movement of learners with wheel chairs					
Lighting system is adjusted to suit learners with low vision					
There is noise reduction for the sake of learners who are hard of hearing during lessons					
Learners who are hard of hearing and those with low vision are placed in front, close to the teacher					
Walking devices are provided for learners with mild physical disabilities					

2. Extent of adaptation of the teaching and learning strategies used in inclusive ECE centers

Statement	Very adequate	adequate	Not adequate	Not at all	Comments
Extra time is provided for					

completion of tasks for learners with special needs					
Teacher repeats concepts for the sake of learners who are hard of hearing					
Teacher ensures that auditory distractions are reduced for the sake of learners who are hard of hearing					
Teacher gives step by step directions for learners with special needs					
Peer tutoring is embraced					
Mediated learning is practiced					
More of oral instructions are given for learners with low vision					
Teachers vary teaching and learning methods					

2b. Extent of use of certain inclusive teaching and learning strategies

Co teaching	Very adequate	Adequate	Not adequate	Not at all	Comments
Collaborative planning and teaching					
Individualized education program					
Universal design for learning					
Mediated learning					
Learning by doing					
Group work					
Peer tutoring					

3. Extent of adaptation of resources used in classes in inclusive ECE centers in Kisumu County.

Statement	Very adequate	Adequate	Not adequate	Not at all	Comments
Hearing devices are provided for learners who are hard of hearing					
Written materials are provided for use for those hard of hearing					
Visual supplements are provided for those hard of hearing					
Optical devices are provided for those with low vision					
Large print is provided					
Slant boards are provided to reduce visual strain and avoid glare					
Materials are provide for manipulation and exploration					