ADEQUACY OF TEACHER CHARACTERISTICS, CLASSROOM FACILITIES AND MATERIALS ASSOCIATED WITH QUALITY EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN NAKURU COUNTY, KENYA

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KENYATTA UNIVERSITY.

MARCH, 2018
DECLARATION

I confirm that this project is my original work and has not been presented in any other university/institution for consideration of any certification. This research project has been complemented by referenced sources duly acknowledged. Where text, data, graphics, pictures or tables have been borrowed from other sources, including internet, these are specifically accredited through referencing in accordance with anti-plagiarism regulations.

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Kiyo Isaac Kariuki

E55/OL/23274/2013

Supervisor: I confirm that the work reported in this project was carried out by the candidate under my supervision as University supervisor.

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DEDICATION

I dedicate this work to my dear wife Ann and my son Timothy, my beloved Dad Simon Kiyo, my sisters and brothers for the great support, encouragement and prayers throughout this project.
ACKNOWLEDGEMENT

Greatest gratitude is to the Almighty God, for the gift of life, grace, favor, strength and knowledge to complete this project.

Special thanks to my supervisor Dr. Mary Ndani, of the department of Early Child Studies, Kenyatta University for her guidance and support at every stage of this project. Her advice and insights led to quality work.

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<tr>
<td><strong>DEO</strong> : District Education Officer</td>
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<td><strong>DICECE</strong> : District Centre for Early Childhood Education.</td>
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<td><strong>ECD</strong> : Early Child Development.</td>
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<td><strong>ECDE</strong> : Early Childhood Development and Education.</td>
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<td><strong>ECE</strong> : Early Childhood Education</td>
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<td><strong>EFA</strong> : Education For All.</td>
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<td><strong>KENPRO</strong> : Kenya Projects Organization</td>
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<td><strong>MOE</strong> : Ministry of Education</td>
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<td><strong>MOEST</strong> : Ministry of Education Science and Technology</td>
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<td><strong>NAEYC</strong> : National Association for the Education of Young Children.</td>
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<td><strong>NESP</strong> : National Education Sector Plan</td>
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<td><strong>NICHD</strong> : National Institute of Child Health and Human Development</td>
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<td><strong>UNICEF</strong> : United Nations Children’s Fund</td>
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ABSTRACT

Early childhood development and education forms a strong foundation for children as they get ready to go through formal education. Research confirms that early childhood education can compensate for any disadvantages and vulnerability, regardless of underlying factors in the society. Many early childhood education centres in Kenya could be facing challenges in regard to necessities that enhance quality education. The study sought to establish the situation that could have led to lack of quality education in ECDE centres in Naivasha. The purpose of the study was to determine the level and adequacy of characteristics associated with quality Early Childhood Education in Naivasha central zone, Naivasha sub-county, Nakuru County in order to suggest possible strategies that might be instrumental in improving the quality of education offered to children in ECDE centres. The objectives of this study were to establish the availability of learning facilities used for quality education, determine the level of ECDE teacher characteristics associated with quality education and to find out the adequacy of materials that promote quality education in learning centres. The study was guided by Jean Piaget theory of Cognitive development. The theory stipulates on the need for the right environment for optimal growth and learning. The teacher factors or characteristics are of great importance in enabling children to acquire the necessary and relevant knowledge and skills in life. The provision of quality education will enhance good participation and performance, high completion rates as well as improved living standards in life. The study employed the descriptive survey design. The target population of this study was all the 40 public pre-primary schools in Naivasha central zone, the 40 head teachers/managers and all the 120 ECDE teachers. The centres were selected using purposive and simple random sampling methods. The research tools used to elicit data were two questionnaires administered to head teachers and ECDE teachers. Observation schedule was used to elicit information on the available resources and their conditions. Before the main study, a pilot study was carried out in two ECDE centres in order to test the validity and reliability of the instruments that were to be used. The data obtained was analyzed using frequencies and percentages and presented using tables. The researcher found out that financial challenges inhibited the acquisition of materials, equipment and development of standard and adequate facilities. This was accounted for by the fact that free primary education funding does not incorporate ECDE funding. Most parents with children in the ECDE Centers sensed that free primary education funds should also cater for ECDE and were therefore reluctant to pay fees to the centers. Shortage of text books, inadequate play materials and equipment in the learning centers was also an inhibiting factor. This compromised the quality of Early Childhood Development and Education in the zone.
CHAPTER ONE
INTRODUCTION AND BACKGROUND TO THE STUDY

1.0 Introduction
This chapter presents the background of the study, purpose of the study, problem statement, the objectives, research questions, significance of the study, the assumptions, limitations and delimitations, theoretical and conceptual framework and the operational definition of terms.

1.1 Background to the study
Quality Education refers to a degree of excellence in academic field. It refers to a program that is well structured in terms of a good curriculum, well-built infrastructure – classrooms, toilets, play grounds, play facilities, adequate learning and teaching resources as well as a safe environment where children can be free to learn (Weiss, 2004). This means that the environment set should allow children to explore, manipulate, experiment, and discover new knowledge. Classroom management is a critical part of effective and successful instruction. Effective classroom management, which initiates with well-organized and efficient learning planning preparation, helps a teachers to teach and student to learn.

According to the National Association for the Education of Young Children (NAEYC), a high quality program is one that provides a safe nurturing environment that promotes the physical, social, emotional, and cognitive development of young children, while responding to the needs of families. Other elements that enhance quality education
include; well trained and highly skilled staff, positive interactions with adults and practices that support positive interaction among children. It also entails a language rich environment with efficient monitoring and evaluation (Stewart, 2009).

Numerous studies suggest that attending quality pre-school produces both short term and long term benefits for children Greenberh, Putnam and Walsh (2014). Consistently, Ngode (2014) asserts that, good quality early childhood care and education, both in families and in more structured programs, have a positive impact on the survival, growth, development and learning potential of children. Quality ECE makes children understand their world and therefore become well-adjusted in their lives. They adjust by learning how to get along well with other children and adults around them. Through quality education, children are also able to grasp concepts early enough and learn more vocabularies that help them communicate their ideas more efficiently.

According to Weiss (2004), quality education brings about children who are independent in their way of thinking and have a positive approach to issues of life. Children are also able to achieve better performance in academics, and record good education progression and attainment as well as develop high standard discipline. In addition, Bennett (2011), asserts that good quality education increases cognitive abilities, school achievements and improves learners’ behavior. Such learners are highly motivated, have a high self-esteem, positive self-image, are bold and confident to face challenges that come their way and can use their skills to solve problems (Stewart, 2009). Barnett (2008) says that well designed ECDE programs produce long term improvements in school success, including
higher achievement test scores, lower rates of grade repetition, and higher educational attainment. This means, children who enroll in such programs are more likely to graduate from elementary education, high school and later on in higher institutions of learning. Quality learning also has benefits to society and leads to peace and stability among people. This is because its graduates are able to understand real life issues and are capable of solving conflicts that arise (Santrock, 2011).

As they grow, they learn how to negotiate with a positive mind thus can get solutions to existing problems among people through dialogue. This impacts positively in the society and the country at large, hence having sustainable development. As Santrock (2011) asserts, well educated people are less hostile in their engagements with other people. This is because they can reason out on how to handle an issue and solve it without being violent. This helps the society to do well together in unity ensuring peace prevails amongst themselves. Unfortunately, studies have consistently shown that children are not attaining the knowledge and skills expected at their lower grade levels regionally and locally. There continue to be large gaps in learning outcomes both in academics and essential life skills (Uwezo, 2012-2015). These studies have established that every ten children in standard six do not have standard two (Grade 2) level literacy and numeracy competencies. This may be a problem that is in the early education that children receive. If children go through an education program that does not address all their needs that necessitate for good performance; they may fail to attain their potential and success in life.
According to Uwezo (2015), learning outcomes among children in Kenya have remained low. In the five-year period from 2011 to 2015 for example, children’s learning outcomes improved by less than 5% in literacy and numeracy skills. This is not a significant improvement in performance. The low progression in schools may contribute to a number of children dropping out of school. If this happens, most of them may remain at home idling which may lead to substance and drug abuse, early pregnancies and marriages. Ultimately their lives may become unbearable due to lack of income to sustain them.

Assessments by Uwezo in Kenya have also shown that children in rural and poor areas overwhelmingly underperform on simple tests in Mathematics, English and Kiswahili compared to children in urban and affluent areas (Uwezo, 2012). This posed the need to investigate the factors that contribute to the discrepancy in performance right from the possible roots in early childhood education. In this regard (UNESCO, 2012), observed that lack of well trained and qualified teachers created room for poor performances in education. Ensuring a qualified teaching force therefore translates to providing solid and relevant work force that could address learning needs through skillful instruction, by combining both subject knowledge and pedagogical knowledge simultaneously.

In addition, low teacher motivation has negative impact on quality education. Teacher training must therefore be complemented by teacher motivation so as to increase teacher effectiveness, which is critical to children’s learning (Glewwe, Hanushek, Humpage and Renato, 2010). Further, good working conditions enable teachers to concentrate more on
their work, thereby becoming more efficient. Finally, when they are given good and regular salaries, they get more committed to their work (Glewwe et al, 2010).

Studies in Latin America showed that children whose schools lacked classroom materials, facilities and adequate library resources were likely to show lower test scores and higher grade repetitions than those whose schools were well equipped (Willms, 2000). Other studies in Botswana, Nigeria and New Guinea concur with these findings (Pennycuick, 1993). Similarly, creation of a suitable learning environment helps children to improve their academic performance (Buchong and Sheffer, 2009). This is because children would have all required necessities at their disposal hence concentrate more on academics.

Komendat (2010) pointed out that the inadequacy of teaching-learning resources in the ECDE centres and unsuitable facilities affect performance. Schools that have poorly constructed facilities such as the classrooms, which are semi-permanent or temporal structures, may affect young learners. This is because; children will be exposed to harsh weather hence falling ill frequently. This leads to absenteeism hence compromising on their academic performance. Also, lack of text books, visual aids and play materials makes children passive learners since they are not fully engaged in learning. Schindler, (2006), stipulates that, materials such as reading and number charts, story books, puzzles, flash cards books, teacher guides and hand books contribute to good performance in education. Therefore, if ECDE centres lack such materials the result wills poor performance in early learning.
Unfortunately, most ECDE centres in some parts of Kenya have inadequate physical facilities and resources Mwende (2014). However, even though this situation has been established in Kitui and Emuhaya, it was not known whether teachers in Nakuru County possess the qualities associated with quality education and whether or not available facilities and materials met the required standards to ensure quality education.

1.2 Statement of the Problem

Early childhood development and education is very important because it lays a firm foundation for children. There is increasing consensus that early childhood years set the foundations for later life. Most educationists agree that, having a rich learning environment with adequate resources, well trained, experienced and knowledgeable teachers, together with safe physical facilities contribute much to quality early childhood education. Despite the convincing argument for the importance of early childhood education, ECDE centers in some areas of Kenya are faced with many short comings in regard to the needed essentials, a situation that might have compromised their attainment of the benefits associated with quality early learning.

In Kenya, Children have been found to be underperforming in literacy and numeracy skills, which impacted negatively on realization of their academic potential. This could have been due to lack of adequate teaching-learning resources, suitable facilities and quality of teachers in relation to their academic qualifications, training and experience. The negative implications that such inadequacies have on children are evident in Kitui and Emuhaya. It was however not known whether the teachers in Naivasha central zone possessed the qualities associated with quality education or whether the facilities and
materials available met the required standards that could ensure quality in ECE. This study therefore sought to establish the situation in ECDE centres in Naivasha with regard to availability of facilities, teacher qualities/characteristics and materials that influenced provision of quality early childhood education.

1.3 Purpose of the Study

This study intended to determine the level and adequacy of characteristics associated with quality Early Childhood Education in Naivasha central zone, Naivasha Sub-County, Nakuru County in order to suggest possible strategies that might be instrumental in improving the quality of education offered to children in ECDE centres.

1.4 Objectives of the Study

1. To establish the adequacy of school infrastructure associated with quality education in Naivasha central zone.

2. To find out the extent to which ECDE teachers possessed characteristics associated with quality education in Naivasha central zone.

3. To determine the adequacy of materials that promoted quality education in the learning centres in Naivasha central zone.
1.5 Research Questions

1. What facilities did the pre-primary schools have that were associated with quality education in Naivasha central zone?

2. What characteristics did the ECDE teachers possess that were associated with quality education in Naivasha central zone?

3. To what extent were the materials used adequate to promote quality education in the learning centres in Naivasha central zone?

1.6 Significance of the Study

The study findings may be useful in giving information to the head teachers/managers, in that they will enlighten them on how the physical environment and teaching-learning resources influence children’s learning in their centres. This will encourage them to work on their environments and improve on all conditions if they have to provide quality education to young children. The study will also be useful to teachers as they would see the need of mastering the subject content they deliver to their young learners and how to improve on the use of teaching aids as well as being able to impact on learners appropriately.

In addition, other researchers might use it as a source of information that would help them to carry out their study hence forming a basis to develop their studies. Other researchers could also use the findings to study the state of ECDE in other regions. This study will provide policy makers by the county government with useful information needed in re-examining the capacity of legislation on safeguarding the wellbeing of
ECDE learners and teachers. ECDE children will benefit immensely from the findings of this study since all stakeholders of ECDE addressed will double their effort in ensuring that the learner is provided with the best environment, circumstances and resources for historical development and is thus able to transit comfortably to ECDE learners. Last but not least, the findings of this study may enable parents to see the need for full participation in the ECDE sector and to ensure that they provide the necessities required for the centres to run smoothly.

1.7 Assumptions of the Study

The study assumed that teaching-learning resources were an integral part required to enhance quality education in schools. Hence their availability, adequacy and appropriateness to the purpose would affect the process of learning. The study also presumed that the environment and facilities in the ECDE schools influenced the level of children’s performance. The researcher additionally assumed that expected the respondents would give truthful information needed with no conditions. Since they had been made aware of the purpose of the study.

1.8 Limitations of the Study

The researcher faced the challenge of time, as he sought permission from work then had to travel and walk long distances to reach the schools. The researcher had to create more time to be on the field during school days. The school’s location also posed another challenge as pertaining to the means of transport used to access the centres/schools. This was because some of the schools that had to be visited were far interior in that zone
especially those in rural settings. The fact that there was no any reliable means of transport during day time except in the early morning and late evening. The researcher had to hire a motorcycle for use in order to reach the schools and was able to save time while on the ground as well as getting to the schools that were in the interior. Some respondents declined to give the needed information and the researcher had to assure them that the information given would be kept very confidential and be used for purposes of research only. Otherwise if no measures were taken, to access the information, then the findings could not be adequate to generalize to all ECDE centres in Naivasha central zone. Due to these hard economic times, financial constraints were experienced in the course of carrying out the necessary activities. However, the researcher made use of her savings to try and meet all the cost ahead.

1.9 Delimitations of the Study

The study was carried out in public ECDE institutions and public primary schools in Naivasha Central zone of Naivasha Sub-county, Nakuru County, Kenya. The respondents were head teachers/managers and two teachers from each of the chosen public centres in Naivasha central zone. The research focused on availability of facilities, teacher characteristics/qualities and materials associated with quality Early Childhood Education in Naivasha central zone. Having carried out the study in Naivasha central zone, the results may not be generalized to other populations but they might be used as a basis to conduct a similar research in different places.
1.10 Theoretical Framework

The study was guided by the cognitive development theory by Jean Piaget (1936). The theory emphasizes on having suitable environment where children can learn, manipulate, experiment and discover new knowledge by themselves. Children will always reorganize their thinking processes as they discover new knowledge in their environment. Piaget referred to this as assimilation. When children are given good early child care, there will be positive effects in the lives of children thus developing a strong personality. Piaget argues that, as human beings grow, there is a progressive rearrangement of thought processes which are brought about by biological maturation and environmental experiences. He advocates that children in early childhood development construct an understanding of the world around them, experience the differences between what they already know hence adjusting their ideas accordingly.

According to Jean Piaget, children construct knowledge as they act physically on their environment. They develop mental images or what he named schemas, and then begin to reason logically when they play, explore, manipulate, observe and experiment with objects in their environment. He further states that children learn through use of senses, which means they learn by what they see, touch, smell, hear and taste in their environment (Piaget, 1996). He therefore, recommended that children should be provided with plenty of concrete learning materials, if they have to acquire new knowledge, concepts and skills thus helping them to construct schemas. Children therefore need to be given opportunities to interact with their environment both human
and physical. The environment should therefore be stimulating so that children can construct knowledge and discover things on their own.

This theory was significant to this study since it advocates for the provision of early education in an environment that is suitable for children. He also advocates for use of adequate facilities as well as materials. In addition, the methods of instruction should be child-centred in order to ensure all children learn develop appropriately. The classrooms should also be arranged considering their individual differences such as the physical, social, emotional and cognitive abilities. The teachers should use child-centred approach hence building children’s knowledge from known to unknown. This means that teachers must be qualified and have experience to handle children while imparting knowledge, skills and attitudes to unleash potential in them.
1.11 Conceptual Framework

The conceptual framework employed the use of drawing or diagrams to critique the interrelationships in given variables. Variables and other related factors are put in boxes which have arrows indicating the interconnections between them (Orodho, 2004).

**Independent variables**

**Level of teachers’**
- Academic qualifications
- Training
- Work Experience

**Adequacy of classrooms**
- Size
- Lighting
- Ventilation
- Classroom

**The playground**
- Size
- Ground Leveling, free of sharp objects, holes, fencing
- Play equipment

**Learning materials**
- Books
- Charts
- Pictures
- Puzzles
- Flash cards

**Dependent variable**
- Quality early childhood education.

**Anticipated outcome**
- Good participation
- Good performance
- High completion rates
- Improved living standards
- Good problem solving skills.

**Intervening variables**
- Parent involvement
- Teacher-child ratio
- Positive interactions
- Monitoring and evaluation

Study variables | Non-study variables.

Figure 1.1: Conceptual Framework Showing Level of Teachers’, School Facilities and Materials Associated with Quality Education
The conceptual framework diagram (figure 1.1) shows the relationship between various independent variables with regard to the classroom, playground, teacher factors/characteristics and learning materials. Teacher characteristics/qualities such as level academic qualifications, teacher training and experience play part in enhancing quality of early childhood education. The teacher characteristics will influence the quality of ECDE and therefore teachers must be well trained, be of high academic qualifications and with experience. Poor environment such as lack of proper facilities in classrooms, playgrounds and the necessary materials may also impact negatively on education. There should be well built classrooms according to the right size, good lighting, ventilation and well-arranged classrooms. The playground should be well leveled, fenced and enhances the safety of children. At the same time, there must be enough learning and play materials for children to use. This will always influence the provision of quality ECE. Parents’ involvement, positive interaction, teacher-child ratio as well as monitoring and evaluation of the study characteristics may influence the provision of quality ECDE centres. This in turn would lead for better performance, high completion rates, good participation of learners in class, good problem solving skills and improved living standards.
1.12 Operational Definitions of Terms

**Adequacy/Adequate** : It referred to a state of having enough, sufficient or satisfying materials that are of quality and quantity which can be of use to the children.

**Early childhood** : This referred to early stage of children development and education.

**Environment** : This referred to all things that are in or around the school and may affect learning in one way or another.

**Facilities** : Referred to physical resources such as classrooms, tables, chairs, desks, Charts, play grounds and its equipment without which learning is affected.

**Materials** : Referred to the tangible things or concrete items such as objects, text books, exercise books, pencils and crayons which are used to enhance learning.

**Quality education** : This referred to successful of the child during her/his years of schooling.

**Teacher factors** : This stood for qualities or characteristics that distinguish the teacher as one that is able and performing such as; qualifications, experience, and ability to handle children.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.0 Introduction
In this chapter, the researcher documents what other researchers have said concerning issues that might affect quality of early childhood education in relation to the availability of learning facilities, level of teacher qualities/characteristics and the materials.

2.1 Availability of Learning Facilities
The school environment plays a vital role for young learners’ acquisition of knowledge and skills. It determines how well they learn. Learning may occur anywhere but the positive learning outcomes to be achieved happen in environments that enhance quality learning (Evashon and Faulk, 2011). The environment children learn in affects their moods, ability to form relationships, effectiveness in work or play and even their health. Children’s experiences are limited by their surroundings and the environment they live in. It has a great impact on the way their brains develop (Kovalik & Olsen, 2009). This means that when there is no conducive atmosphere that enhances learning, children will have less experiences of learning hence they may never reach their potential in life.

Children have a right to quality education, which have a learning environment that is safe, healthy, protective, gender sensitive and also ensures adequate facilities and resources (Tina Bruce, 2010). Obiweluzor, (2015) did a study using data from 226 Houston independent schools. These schools were in poor structural shape, used temporary structures rather than permanent structures and this was associated with higher dropout rates. The school’s environment has been shown to influence children’s
attendance and dropout rates. He therefore concludes that the negative physical environment and lack of attention to school facilities brings about performance inadequacies. The learning environments should be set in order to develop children holistically. It should consist of physical, psychosocial and service delivery elements.

According to Tina Bruce (2010), the school environment, both outdoor and indoor should complement each other to enhance quality education. However, it may not be the case with most of our Kenyan schools especially pre-primary schools (Uwezo, 2015). This is due to poor performance among children that has been reported before and it seems no much change has taken place to enhance quality of early learning in pre-primary schools. Poorly constructed buildings, with most of facilities lacking could be the main cause of poor performance in Naivasha. Children’s perform well in an optimistic classroom atmosphere and an environment in which they feel secure, safe, care for and involved. Therefore, it is right to say that academic achievement has a close link with the availability of education facilities and classroom environment hence the current study.

2.1.1 Adequacy of the Classrooms

The physical environment of the entirety of the school, as well as individual classroom can support successful pedagogy. According to ECDE service standard guidelines for Kenya (2006), the classrooms are to be of a standard size of 8 by 6 meters. This shows that classrooms should be spacious to allow free movement of children and avoid injuries. The focal point of the rooms should appear to be more play oriented- one that will promote creativity and divergent thinking (Earthman, 2004). The size of the
classroom should accommodate a maximum of 25 children. The rooms must have proper windows and doors which are lockable, good floors and be appropriate for children with special needs. This is where there are rails, ramps and lower door handles.

The classroom environment therefore will support movement and independence where children are able to determine their own behavior and manage some of their materials (Buchong & Sheffer, 2009). The space is important as it makes children feel secure and able to interact more with peers. The classrooms furniture such as chairs, desks and tables should be of the right size, adequate, attractive and safe (Begi, 2009). In addition, they should be organized and appropriately arranged. This allows for creation of more space which helps children in making the rightful behavioral choices (Kaliska, 2002). When learning centres or corners are strategically placed, it drastically eliminates behavior problems.

The temperature, humility, and ventilation are also key ingredients that affect learning and social behavior (Sanders, 2011). This is because excessive heat is said to cause hostility among children thus becoming adults who are bitter with life. Experts also suggest that class rooms should have warm tones of stronger color (Pile, 1997). Colors used in the interior of the classrooms of an ECDE Centre have a major psychological influence and they affect the way children act and feel. For example, bright colors attract children’s attention. Enough colors should be used to create a cheerful atmosphere. Colors can be coordinated to create a harmonious décor which provides designs on furnishings to bring about the needed accents. Faded colors in classrooms walls and
equipment’s should be avoided as they discourage both children and teachers (Kaliska, 2002).

Lighting is another factor that may affect learning of children. Jago and Tanner (2000) recommend that, a basic classroom be built with a minimum of 72 square feet of windows to let in natural light. Minimally, there should be at least one window in each learning area (Peters, 2002). The rooms should be well lighted to avoid glare and dim light which can cause discomfort and hence interfere with concentration that impact negatively on learners’ performance (Sitati, Mwangi, Bota and Rapongo, 2016).

The classrooms or schools should be in places where noise is not a bother. Too much noise from external or internal sources becomes a hindrance to learning and it affects children’s achievement (Schneider, 2002). When there is too much noise, children become dissatisfied, stressed and achieve less. High levels of noise have been related to increased behavior problems (Schneider, 2002). The classrooms therefore should be built in the right manner in order to cater for the good health of young learners hence having high retention rates.

Buchong and Sheffer (2009) stated that a warm classroom environment can lead to increased academic achievement and a sense of pride and belonging in the school. A classroom that is warm and inviting may include such elements as natural lighting, comfortable temperature setting, pictures, warm paint colors on walls, and the organizational design of desks and resources. The environment of the classroom should include having all resources and areas of the room accessible to all of the students in the
classroom. The students should feel that they are a part of the classroom. A teacher can incorporate family pictures of the students and their families; they can install bookshelves and pillows to create a warm area conducive to learning and exploring. Teachers can also use colors and plants to fill the room with warmth and a homey feel. Students should be allowed to help create classroom rules and procedures at the beginning of the year. This will allow the students to feel that they have a voice in the classroom and that their thoughts and ideas matter. A student who feels secure and confident in his or her classroom environment will more readily express his or her ideas and thoughts during collaborative learning. Classrooms that encourage emotional well-being create an atmosphere for both learning and emotional development. Educational research supports creating an atmosphere of mutual respect where students feel relaxed in asking questions and expressing their thoughts and feelings (Buchong & Sheffer, 2009).

Evanshen and Faulk (2011) suggested that layout and organization of a classroom can also affect student’s academic achievement. It is important to have the classroom set up and organized the first day of school. Welcoming students into a room that is clutter free, warm, and inviting can help students ease into the transition of a new school year and keep them excited about learning. It’s important to make sure that the desks are placed in a way that a good safe flow of student traffic is possible and that chaos and confusion is kept to a minimum. If students are crowded together and have no space to call their own or space to work, motivation and effort may be negatively impacted. Another important factor to consider in laying out a classroom is organizing student resources. Class supplies and resources will need to be laced where students can access them quickly and
easily. Evershen and Faulk recommended that classrooms be organized so resources are easily accessible to students to cut down on lost time and transition time.

In the Kenyan setup, most pre-primary centres drag behind due to the kind of rooms used for learning. Some are very small, poorly done while others are not permanently built yet children use them in the same state. This might impact negatively on their performance. In Kenya, there is emphasis on classrooms doors to be well built and fixed to ensure safety of children and protect them from bad weather conditions. Most of the ECDE schools could have poorly constructed doors, windows and even poorly lit classrooms.

2.1.2 The Playground

The outdoor space or the playground should be appealing to children. It should be well designed and organized. This means that the playground must be big enough to allow children to move freely, run and engage in all sort of play without hindrances. The playground should not have dangerous objects like sharp objects, holes, stagnated water or long grass. It should have short grass, neat, well leveled and fenced for security of the young learners (Begi, 2009).

This ensures that children are comfortable, have ease of movement and are able to use their senses to learn without limitations. Redan, Marlina, Betaubun (2014), asserts that play forms an integral part in children’s learning domains. Children need space where they can move freely and be in a position to perform various activities without being disturbed or disturbing other children (Athey, 1991). More space is therefore considered
beneficial for development, as they can learn through much play which is necessitated by having spacious fields for use by children (Sergiovanni, 2007).

According to Assefa (2014) children should have 75 to 200 square feet of space for outdoor play area while for an indoor play space allocated should be 50 to 100 square feet. The outdoor play equipment both fixed and movable should also be age appropriate, attractive, durable, functional, adequate, relevant and safe as well as well-maintained if they have to utilize the space provided maximally. This shows that play materials should be scaled to different abilities and the activity levels of children (Dusenbury, 2016).

Osho, Aliyu, Okolie & Onifade (2014) argues that it is through having more space that teachers can be able to organize children into smaller manageable groups which in turn creates better learning conditions and chances for children to play, relax and learn in a variety of ways. Most ECDE centres do not have enough space to allow children’s play activities in Naivasha. Even though, the ECDE policy guidelines (2006) stress on having large spaces in schools where children can play and run freely. This includes schools that have been built in congested areas.

According to ECDE service standard guidelines for Kenya (2006), children should be provided with adequate materials to support their acquisition of additional motor, language and thinking skills hence developing independence. Materials also enable children to engage on manipulation of objects hence encourage creativity. Regarding textbooks, it was established by determining the ratio of text books available to the
number of children using the text books during the lesson. The researcher sought to establish whether all textbooks required were available and adequate for the pupils’ population. The materials in use should have no sharp edges, smooth to enhance safety of young users and should be manipulated easily by children hence ensuring functionality of equipment and other play materials and therefore recorded on the observation schedule by the researcher.

2.2 Level of ECDE teacher Characteristics/Qualities

Teacher’s actions in the ECDE Centre have a more pronounced impact at the pre-school because of the developmental stages the children go through (Lillie, 1975). Lillie further argues that the kind of relationship teachers establish with the young learners affects how children learn, what they learn and do and the types of group adjustment they make children to consider them as their role model and people they can learn from. Even though children come from different backgrounds, teachers create a conducive atmosphere where children can invent increasingly more autonomous forms of moral.

2.2.1 Academic Qualifications

The teacher must be a custodian of knowledge and its impartation if at all the child will acquire quality education. According to Mwende (2014), the teacher is seen as being knowledgeable in the field of early childhood, who have well organized reservoir of knowledge about what children are like, how they grow in the stages of development, what they need as well as the nature of the world in which those children are trying to learn and fit. Teachers have a responsibility to promote proper learning experiences
which involves reinforcing the learners. Teachers should reinforce children to make them appreciate the learning and feel energized to move on with the lesson (Nsubuga, 2003). Teachers do facilitate the learning process by arranging the environment for children thus motivating them to work hard in education. This is because each child’s environment must be arranged for him or her to motivate them to learn. This means that ECE teachers are stage setters hence must be able to know teaching and learning materials and the methods to use in teaching.

The teacher on the other hand is viewed as a custodian of knowledge. Learners copy what the teacher does. The teacher therefore should be ready to demonstrate his own will to learning and changing, Cranton (1994). He needs to help the learners to question their own ways that would promote change of the learner’s worldview. This is the reason why the study aimed at determining the influence of staffing on the quality of education in pre-school centres and its influence on pre-school pupils. They should provide the right environment that entails (physical, social and emotional) opportunities for exploration and guidance conducive to the optimal development of children (Nasibi Were, 2003).

2.2.2 Training
According to Mwende (2014), learning and teaching is very important at pre-school since it lays foundation for the whole education of the child. A poor start leads to deficiency in the final product of a system in spite of length of time spend in school. Communication skills are also very important in giving children quality learning. Teachers must have
good communication skills to show the mastery of the content or the subject matter, speaking fluently and at a reasonable pace (Nsubuga, 2003).

Metzger (1996), stress that effective teachers should emphasize on how to learn rather than what to learn. Children may never know a particular fact but they could be always willing to learn. Teachers should teach how to read with a genuine comprehension, how to shape an idea, how to master difficult material and how to use writing to clarify thinking. They have good strategies of helping learners to become self-motivated and be responsible for their learning (Sattar, 2013) he also argue that children get highly motivated when they can make choices in line with their personal interests. They should therefore be given chances to think creatively and engage in projects. Generally, communication skills are critical not only in teaching but also in interacting with parents (Adeyemo, 2012). Effective teachers should work to improve children’s communication skills. This is because communication skills have been rated as the most sought after by the employers today (Stewart, 2009). Thus interacting teachers make children understand more of what they learn. This enables them to retain a lot of information hence perform well in academics.

2.2.3 Teacher Experience
The teacher should be experienced, be a role model, encourager and a source of great knowledge. Research shows that more learning takes place when there is interaction amongst learners and their teachers. Boakye-Boaten (2015) report that children’s learning of concepts was always accelerated when they are able to discuss the tasks before them.
Peters (2010) found that when children perform tasks and talk about them, they become extensively knowledgeable. This makes them understand their world so well and have new knowledge and skills. The teacher therefore has to avail learning activities, which provides new experiences for pupils and the opportunity to talk about the experience. Teachers have to talk to children in a more friendly way (Sheldon et al, 2009). An effective teacher pays attention to the classroom physical appearance. For example; be neat, clean and tidy, pleasant, comfortable, bright, decorative with displays and pictures. This will bring about a highly motivated class hence high performance in academics.

Jepleting (2013_ also argues that it is the teachers that will maintain success expectations amongst the learners. This is by making sure that the content to be taught is attractive, remain motivational and give immediate feedback to children. Qualified and effective teachers will therefore impact early childhood learners positively by ensuring quality delivery of education for improved achievement.

2.3 Adequacy of Materials

Pre-primary schools should have adequate materials to help children explore, manipulate and experiment hence gaining new knowledge and skills. Materials should be natural, look current and fresh. This is to project a sense of warmth and arouse children’s interest in learning. They should be safe and foster scaffolding to higher levels of understanding. Children should be exposed to a variety of open-ended materials that heighten their levels of problem solving, inquiry and creativity. Children’s materials should also not be complex, instead allow for appropriate levels of challenge to children. Some of the
materials that schools should have include; text books, charts, picture books/charts, flash
cards, blocks, counters, number cards, models, dolls, crayons, teacher hand books among
others.

Fuller (1986), states that greater availability of text books and reading materials raises the
quality of learning activities and academic achievement. This means that when learning
centres have adequate materials, every child can have an opportunity to access them thus
improve their performance. According to Eshiwani (1987), most schools that perform
better in examinations in Kenya have adequate text books to be used by their pupils. This
means that, most pre-primary schools that perform poorly don’t have relevant materials
such as text books or if available, they are inadequate, to enhance proper learning in
schools.

The learning corners are supposed to be set in a way to promote children’s needs. Small,
comfortable spaces help them to collaborate with peers. The materials should have
storage facilities where they can be kept after use. The device should be at the level that
is within the reach of children, lockable, having shelves where books can be kept safely.
Schools should therefore embrace the idea of learning corners. This will help children to
collaborate as they engage in different learning activities at the various corners set in the
classrooms hence this study.
2.4 Summary

Various studies conducted by different studies in Kenya and the world revealed that improving the quality of education that offered to children in ECDE centres is important as it lays a firm foundation for children. Inadequacy of teaching-learning resources in the ECDE centres and unsuitable facilities affect performance. Schools having poorly constructed facilities such as classrooms which may be semi-permanent or temporal structures affect young learners. This is due to the fact that children may be exposed to harsh weather conditions hence falling ill frequently. This might lead to absenteeism in school and hence compromising on their academic performance. Also when there is lack of or inadequate text books, visual aids and play materials, children become passive learners since they are not fully engaged in learning. If the ECDE centres lack such materials, one of the possible outcomes would be poor performance in early learning centres. Unfortunately, most ECDE centres in some parts of Kenya have inadequate physical facilities and resources. Though this situation has been established in Kitui and Emuhaya, it is not known whether teachers in Nakuru County possess the characteristics associated with quality education. It is also not clear whether the available facilities and materials meet the required standards to ensure quality education.

Most educationists agree that having a rich learning environment with adequate resources, well trained, experienced and knowledgeable teachers, as well as safe physical facilities contribute much to quality early childhood education. It was however not known whether the teachers in Naivasha central zone possessed the characteristics associated with quality education and whether or not the facilities and materials available
meet the required standards that ensured quality in ECE. This study therefore, sought to establish the prevailing situation in ECDE centres in Naivasha with respect to availability of facilities, teacher qualities/characteristics and materials that influenced provision of quality early childhood education hence the gap in the literature which this study sought to fill.
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter presents the description of the research design adopted, location of the study, target population, sampling techniques and sample size, research instruments, pilot study, data collection techniques, data analysis of the study, the logistical and ethical considerations.

3.1 Research Design

The researcher used descriptive survey design. The design was appropriate since it aimed at gathering facts, knowledge, opinions and judgments from head teachers and teachers of various selected ECDE centres. The study used a descriptive design also because it enabled the researcher to collect in-depth information about the population being studied. The design was also able to accommodate large sample size and it was good in generalization of the results. It was also easy to administer and record answers in this design. Descriptive survey is a technique of gathering information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2004). It can be used when gathering information about people’s feelings, opinions, habits or any of the assortment of education or social issues (Orodho and Kombo, 2009). Descriptive survey research design is suitable for this study since interviews and questionnaires will be used to collect information.
3.1.1 Variables of the Study

Dependent and independent variables in the study a described in 3.1.1.1 and 3.1.1.2 respectively.

3.1.1.1 Dependent variable

Quality early childhood education was the dependent variable. When teachers possess the right characteristics which included their academic qualifications, training and experience, as well as sufficient materials and facilities in the classroom and playground, children achieve and succeed in life.

3.1.1.2 Independent variable

The independent variables of this study were:

i). Teacher characteristics: they included academic qualifications, training and experience. The teacher qualifications were measured as follows; the untrained teachers took a value of 1, Certificate – 2, Diploma- 3, Degree (ECE)- 4 and Masters (ECE)-5.

ii). Adequacy of classrooms: This was determined by size of the classrooms to ascertain whether they marched the standards required by the ministry of education; good ventilation, proper lighting and appropriate classroom furniture. The recommended size of classrooms should be 8 by 6 Meters which should accommodate 25 children as given in the ECDE guidelines of Kenya, (2006). The classrooms should have adequate lighting ensured by having big windows to allow for natural light. The classrooms’ ventilation was evaluated against the requirement for ventilation holes to allow fresh air in the rooms even when windows are closed.
Classroom organization and arrangement was also noted to ensure there was enough space for movement hence no injuries to children.

iii). The playground: Was assessed against ministry of education standard measurement requirement. Which requires that a field be large enough for the number of children in each of the centres, so that they can engage freely in play activities and run around safely? The ground should be well leveled to ensure there are no holes or sharp objects as well as fenced for safety of the learners. This was observed on the ground so as to give the necessary comments of conditions that were prevailing at the ECDE centres.

iv). Learning materials: Learning materials such as text books, reading charts, flash cards, picture cards, puzzles, pictures, audio tapes, teachers handbooks, syllabus, colors, crayons and other manipulative materials used for learning were assessed by determining their quality, availability and if they were adequate for children’s use.

Equipment was mainly computers, musical instruments and play related such as swings, slides and beam balance. The researcher determined their functionality and how they were maintained to ensure they could be used by the learners. This made the researcher to observe the available materials in every centre, recording them and then comparing the available materials to the number of children that were using them.

3.2 Location of the Study

The study was carried out in Naivasha Central Zone of Naivasha Sub-county, Nakuru County. Naivasha is one of the Sub-Counties in Nakuru lying North West of Nairobi. The
lower primary classes particularly class two in this region has been linked with poor academic performance among the pupils especially in literacy and numeracy competencies (Uwezo, 2011; 2012; 2013). The poor performance may have emanated from inadequate preparation for learning. This called for the need to investigate the kind of facilities, materials in use and the teacher qualities in order to improve quality of education being offered. In addition, being public pre-primary schools, it was easier for the researcher to gain legal access from the relevant authorities to do the study in that region.

3.3 Target Population

The target population of this study was all the 40 public pre-primary schools in Naivasha central zone, the 40 head teachers/managers and all the 120 ECDE teachers. The public pre-primary centres were targeted since they were the most affected and had been linked with poor academic performance especially in literacy and numeracy competencies (Uwezo, 2011; 2012; 2013).

3.4 Sampling Techniques and Sample Size

The sampling procedure and the sample size of this study are described in 3.4.1 and 3.4.2 respectively.

3.4.1 Sampling Technique

The researcher purposively sampled Naivasha Sub-County central zone. Naivasha was purposively sampled because it had been associated with poor educational performance
and randomly selected. With the high growth in population, many schools have been coming up hence having a high competition in regard to possessing high numbers of children in schools and therefore need to check on facilities in place in order to ensure provision of quality education. The schools were selected using simple random sampling whereby ten ECDE centres were sampled in each category in Naivasha central zone. Simple random sampling was also used for selecting two teachers from each centre. The head teachers of each selected centre were automatically sampled.

3.4.2 Sample Size

Table 3.1: Sampling Frame.

<table>
<thead>
<tr>
<th>Naivasha Central Zone</th>
<th>Target</th>
<th>Sample size</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public schools</td>
<td>40</td>
<td>20</td>
<td>50%</td>
</tr>
<tr>
<td>Head teachers</td>
<td>40</td>
<td>20</td>
<td>50%</td>
</tr>
<tr>
<td>Teachers</td>
<td>120</td>
<td>36</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: Author, 2019

Out of the population of 40 public ECDE centres in Naivasha Central Zone, 20 ECDE centres were sampled which was 50% of the population, 36 ECDE teachers made up 30% of the teacher population and 20 head teachers from the sampled schools which made up 50%. According to Mugenda and Mugenda (2003), a sample size of 50% and above is a good representation of target population hence adequate for analysis. However, when the population size is small relatively large populations are needed to produce reasonable error rates. This means that when the sample size is large the more confident the researcher can be as the data collected is representative of what can happen on wider
scale and therefore less error in generalizing responses to the whole population (Anita Baker, 2012). The researcher therefore decided to use a high percentage of 50% as the sample size for the schools whereby the head teachers automatically took some percentage while ECDE teachers to be sampled were only 30% of the target population.

3.5 Research Instruments

The researcher employed the use of questionnaires which were given to the head teachers and the pre-primary teachers to fill in the information required. Observation schedules were used by the researcher to record information on the facilities and materials available in every ECDE Centre.

3.5.1 Questionnaires for Head Teachers and ECDE Teachers

The questionnaires contained two sections A and B. Section A contained background information of the head teachers and teachers of the schools, including their professional qualifications, training and experience in the field. Section B was used to elicit information regarding the ECDE centres and the issues related to quality of education. The section contained structured and open items/questions.

3.5.2 Observation Schedule for the Researcher

The items in this instrument were used to elicit information that was recorded in regard to the physical facilities such as classrooms, toilets, playground, materials and equipment at the schools. The schedule rated condition of facilities, materials and equipment observed. For example; whether the facilities, materials and equipment were available, enough for
learners, age appropriate, could be easily manipulated, safe for use by children and whether they kept up to the standards described by the Ministry of Education to satisfy the aspect of adequacy.

3.6 Pilot Study

Before the actual study, pre-testing of instruments was done in two selected ECDE centres in Naivasha. This was to enhance content validity of instruments by modifying vague statements in the questionnaires or removing them all together and replacing them with new ones. Two teachers from each of the pre-primary schools were given questionnaires to fill the required information. According to Kothari (2005), a pilot sample should constitute 10.0% of the sampled questionnaires. The purpose of piloting was also to check on suitability and the clarity of the questions on the instruments designed, relevance of the information that was being sought and the language that was used and to test the validity, reliability, credibility and dependability of the instrument.

3.6.1 Validity

To test validity, items were analyzed to check for content validity where the researcher with the help of experts in early childhood education went through each item and the responses given to establish whether the items would generate the required information. Test items that were not adequate in terms of generating the required information were dropped and others suggested that were appropriate in generating the information. Expert judgment of instruments was also sought. This was consistent with the assertions of Creswell et al., (2009) that researchers evaluate content validity by going to a panel of experts and have them identify whether the questions are valid. According to Creswell et
al., (2009), validity means that the individual’s scores from an instrument make sense, are meaningful and enable the researcher to draw good conclusions from the sample being studied to the population. Thus, opinions of the experts assisted to establish content validity.

3.6.2 Reliability
Reliability is a gauge of the level to which a research instrument yields steady results or data after frequent trials (Mugenda & Mugenda, 2003). To ensure that the tools provided accurate and consistent results, the researcher verified the reliability of the tools through test re-test method. The researcher gave the questionnaires to a group of subjects to fill. The filled in questionnaires were then carefully studied and scored manually. After a period of two weeks, another set of the same questionnaires were given again to the same group of subjects. These sets of filled questionnaires were also carefully analyzed. The coefficient was determined using the Spearman's rank order coefficient formula and a correlation coefficient of 0.7 was obtained.

3.7 Data Collection Process
Data collection started with the distribution of questionnaires for the head teachers followed by the pre-primary school teachers. The researcher also took record of what was observed in each of the early learning centres, as pertains to availability of required facilities, teaching and learning resources associated with quality education. The researcher picked the filled in questionnaires before leaving the schools. This process was
conducted for a period of three weeks whereby each pre-primary school was visited and data collected from the respondents.

3.8 Data Analysis Procedures
The researcher read the information recorded thoroughly in order to obtain a feel of the respondents. The raw data was interpreted and analyzed qualitatively by use of themes and presented it in narrative form. The quantitative data were organized and summarized using descriptive statistics specifically frequencies and percentages. Quantitative data was presented using tables.

3.9 Logistical and Ethical Considerations
The logistical and ethical considerations are described in 3.9.1 and 3.9.2.

3.9.1 Logistical Considerations
The researcher obtained an introductory letter from Kenyatta University graduate school. This was used to apply for a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Later the researcher sought authorization from the Director of Education in Naivasha and from the school authorities such as the DICECE Officer and Zonal education officer in charge. The researcher then got permission from the managers/head teachers in each schools that were visited before engaging with them.
3.9.2 Ethical Considerations

The researcher created rapport with the respondents and revealed the purpose of the study. The researcher then gave them assurance of confidentiality of the information they gave and that the information was to be used for academic purposes only. The respondents were not required to fill in their names on questionnaires given. This was to ensure that they were comfortable and honestly gave rightful information.
CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSIONS

4.0 Introduction

This chapter presents results and discussions of the findings on the level and adequacy of attributes associated with quality Early Childhood Education. The data presented covers the respondent’s demographic data including age, gender, academic qualifications and experience, classroom and playground facilities. It suggests possible strategies that may be instrumental in improving the quality of education offered to children in ECDE centres. This chapter presents the study findings according to the objectives. The study objectives were:

(i) To establish the availability of school infrastructure associated with quality education in Naivasha Central zone, Naivasha sub-County.

(ii) To find out the extent to which ECDE teachers possessed characteristics associated with quality education in Naivasha central zone.

(iii) To determine the adequacy of materials that promoted quality education in the learning centres.

4.1 General and Demographic Information

Data was collected using questionnaires from a sample of 36 pre-school teachers and 20 head teachers from the pre-schools. The researcher also utilized an observation schedule to gather data on adequacy of classrooms, the playground and learning materials.
4.1.1 Questionnaire Return Rate

The questionnaire return rate for both head teachers and regular teachers were tabulated in table 4.1 below

Table 4.1 Return rate

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Frequencies</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issued</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Teachers</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Teachers</td>
<td>36</td>
<td>100</td>
</tr>
<tr>
<td>Returned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Teachers</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Teachers</td>
<td>28</td>
<td>77.8</td>
</tr>
<tr>
<td>Not returned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head Teachers</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Teachers</td>
<td>8</td>
<td>22.2</td>
</tr>
</tbody>
</table>

Table 4.1 above show that most of the questionnaires issued to the head teachers and class teachers were returned as indicated by 90% and 77.8% respectively. Only a few were not returned as represented by 10% and 22.2%. This means that the data presented here was given by most of the head teachers and class teachers involved in the study. This is affirmed by Mugenda and Mugenda (2003) who argue that a response rate of 70% and above is good.

4.1.2 Demographic Information

The information presents the default of the head teachers and teachers demographic information was presented in table 4.2 below
Table 4.2: Demographic Attributes of Head Teachers and Class Teachers

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequencies</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Head teachers</td>
<td>Class teachers</td>
</tr>
<tr>
<td>Below 20 years</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21 – 30 years</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>31 – 40 years</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>41 – 50 years</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>51 years and above</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>27</td>
</tr>
</tbody>
</table>

An overall glimpse of the demographic information shows that there was no respondent below 20 years of age. Further, while there were some regular teachers in the age bracket of 21 – 30 years, none the head teachers had this characteristic. As represented in table 4.2, there was no head teacher below 30 years of age. Majority of them were in the age range of 41-50 years representing 55.6% of the total. The age range of 31-40 and 51 years and above had equal number of head teachers as represented by 22.2% of the total. Half of the ECDE teachers were in the age category of 31-40 years as represented by 50% of the total, followed by those that were in the category of 21-30 years represented by 32.1%. A few were in the age category of 41-50 represented by 14.2% and only one
was in the category of 51 years and above. This meant that majority of them were in their most productive age of teaching.

There were more female head teachers than male head teachers in the schools as represented by 55.6% and 44.4% respectively. This meant that there was fair gender representation in the management of the ECD Centers. Almost all the ECDE teachers were females as shown by 96.4% of the total. Only 3.6% of them were males. This was interesting indicating a high level of gender disparity among the ECDE teaching staff in the centres.

4.2 Availability of School Infrastructure Associated with Quality Education

Objective one sought to establish the availability of school infrastructure associated with quality education.

4.2.1 Availability and Condition of the Classrooms

Regarding the availability of classrooms in schools that were studied in the zone, the researcher observed their nature and condition. Table 4.3 presents the findings on the availability and condition of classrooms used for teaching-learning purposes.
As presented in the table 4.3, most of the classrooms used for teaching-learning activities were permanent in 75% of schools visited. A quarter (25%) of the schools studied had semi-permanent classrooms. This meant that most schools in the region had permanent buildings which were used for teaching-learning purposes. A significant number of schools (25%) however, had semi-permanent classrooms. This might have paused challenges to children enrolled in those schools, a situation that could compromise on quality of their education. It was established that in Naivasha sub-county, most schools (75%) had permanent buildings with a few (25%) of them having semi-permanent ones. This showed that some schools still require more upgrading to fit the standards required by the ministry of education.

Therefore the situation in some schools is below the required standards of infrastructure as provided by ECDE services standard guidelines of Kenya (2006). This implies that learning outcomes may have been affected by the prevailing circumstances leading to poor performance. This inference is consistent with that of Schindler (2006) who
observed that learning may occur anywhere but positive learning outcomes are achieved happen in environments that enhance quality learning.

Branham (2004) also asserted that schools which had poor structural shape, used temporal structures rather than permanent structures were associated with higher dropout rates. The school’s environment has been shown to influence children’s attendance and dropout rates. Branham (2004) therefore concluded that the negative physical environment and lack of attention to school facilities brings about performance inadequacies.

4.2.2 Size of the Classroom in Comparison to the Number of Learners

Table 4.4 presents the findings on the size of the classrooms in all schools sampled in relation to the number of children.

Table 4.4: Size of the Classrooms

<table>
<thead>
<tr>
<th>Size</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard but congested</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Standard</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>Below standard</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total number of schools</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

In table 4.4 above shows that only 45% of the classrooms were of standard size as compared to the number of learners. 30% were of standard size but congested. The remaining 25% were not of standard size. This shows that learning could have been
affected as most children were not comfortable. Most schools in the region had classes that were below the expected standards. The situation could make the learners to perform poorly due to the kind of rooms used for learning where by some were very small, poorly done while others not permanently built, yet children used them in the same condition. This therefore implied that most schools did not keep up to the standards as described in the ECDE service guidelines of Kenya (2006).

The findings concur with ECDE service standard guidelines for Kenya (2006), the classroom of a standard size should be 8 by 6 meters to accommodate a maximum of 25 children. The focal point of the rooms should appear to be more play oriented one that will promote creativity and divergent thinking (Earthman, 1996). Regarding the size of the classrooms, the ECDE service standard guidelines for Kenya (2006) gives a standard size of 8 by 6 metres which can accommodate a maximum of 25 children. This ensures that classrooms are spacious to allow for free movement of children.

4.2.3 Conduciveness of the Classroom Environment

Figure 4.1 provides findings on the classroom environment in relation to early learning.
In Figure 4.1 illustrate that most 12(60%) of the classroom environment was not conducive for quality learning. The remaining 8(40%) of the classrooms’ environment were conducive. This meant that majority of children learned in uncomfortable classrooms which could impact on them negatively. Such classrooms might not guarantee positive outcomes in children’s performance. The findings contradict what other studies have shown regarding quality learning environment. Schindler (2006) assert that the environment children learn in affects their moods, ability to form relationships, effectiveness in work or play and even their health. Hence children’s experiences are limited by their surroundings and the environment they live in. Environment has a great impact on the way their brains develop (Santrock, 2011). This means that when there is no conducive atmosphere that enhances quality learning, children might have less experience hence may never reach their potential in life. The poor environment could have made them fail in accessing quality learning.
The learning environment should be set in order to develop children holistically. It should consist of physical, psychosocial and service delivery elements. According to Tina Bruce (2010), the school environment, both outdoor and indoor should complement each other to enhance quality education. Colors used in the interior of the classrooms of an ECDE Centre have a major psychological influence and they affect the way children act and feel. For example, bright colors attract children’s attention. Proper lighting, big windows and organized rooms could also enhance quality learning. The classroom environment therefore would support movement and independence where children are able to determine their own behavior and manage some of their materials (Cook, Tessier, Klein, 1996, p.297).

4.2.4 Condition of the Classroom Furniture

Table 4.5 shows the condition or nature of the classrooms in terms of availability and appropriateness of furniture in schools studied.

<table>
<thead>
<tr>
<th>Condition</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Inadequate</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>Collect size</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Incorrect size</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>Appropriate</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Inappropriate</td>
<td>16</td>
<td>80</td>
</tr>
</tbody>
</table>
Data in table 4.5 shows that most of the classroom furniture (80%) was not adequate. Similar percentages also indicate that most furniture was neither of the right size nor appropriate. Only 20% of the schools had adequate, collect size and appropriate furniture. This implies that the furniture being used was likely to compromise comfort, learning and safety of young pupils/children. The finding therefore implied that the condition of the furniture in almost all schools could impact negatively on learners performance. This was because the schools did not have the furniture that could be suitable for quality learning of children.

The current study agrees with that of Begi (2009) who argues that the classroom furniture such as chairs, desks and tables should be of the right size, furnished, attractive and safe. In addition, they should be organized and appropriately arranged. This could create space for children to move freely as they interact with peers as well as avoid injuries.

4.2.5 Adequacy of the Playground

Figure 4.2 presents the findings on the adequacy of the playground in different schools sampled.
Statistics presented in Figure 4.2 show that most 17(85%) of the playgrounds were adequate. A few 3(15%) of the playgrounds were inadequate. From this the researcher concluded that the schools could have had enough play space for the learners to engage in play activities and could run around safely. The playgrounds’ were fenced, had been leveled and thus looked appropriate, attractive and generally adequate to guarantee safety of children.

The findings on adequacy of the playground agree with Evanshen (2009), who argue that that play is one of the important ways through which children learn and develop to be responsible people in the society. This gives impression that children could utilize the space provided leading to proper growth and development.
The current findings harmonize with that one of Earthman (2004) who assert that children need space where they can move freely and be in a position to perform various activities without being disturbed or disturbing other children. More space is therefore considered beneficial for development, as they can learn through much play which is necessitated by having spacious fields for use by children (Sergiovanni, 2007). This ensures that children are comfortable, have ease of movement and are able to use their senses to learn without limitations.

Regarding the adequacy of the playground, it should be well designed and organized (Begi, 2009). This means that the playground must be big enough to allow children to move freely, run and engage in all sort of play without hindrances. It should have short grass, neat, leveled and fenced for security of the young learners (Begi, 2009). An overall glimpse of the data regarding adequacy of the playground show that almost all of the schools studied had adequate space for children to engage in play activities.

4.2.6 Adequacy of Indoor Space

Information contained in Figure 4.3 presents findings on indoor space in all schools sampled.
In Figure 4.3, less than half 8(40%) of the indoor space was adequate but in most schools 12(60%) had inadequate indoor space. This demonstrated that the schools may have failed to provide the adequate indoor space so that children learn comfortably. This contradicted what other studies have shown.

The findings is supported by that of Cook, Tessier & Klein (1996), who states that adequate space supports movement and independence where children are able to determine their own behavior and manage themselves when doing some activities. The space is important as it makes children feel secure and able to interact more with peers. Also, Sitati and Mwangi (2016Mwende (2014)), argue that through having more space children can have better learning conditions and environment for them to play, relax and learn in a variety of ways. This shows that children could not do a lot of activities in
classrooms as space was a great challenge hence could impact negatively on their academic performance.

Having space that can accommodate all the learners in school is considered beneficial for development (Sergiovanni, 2007). According to ECDE service standard guidelines for Kenya (2006), children should learn in a class that is spacious enough. The standard measurement ought to be 8 by 6 metres which can accommodate twenty five children. In such space children would learn and engage in many activities which may impact positively on their performance. The spacious rooms also help children to move freely as they engage in learning activities hence making it so easy to gain new concepts.

4.3 ECDE Teachers Characteristics Associated with Quality Education

Objective two sought to find out the extent to which teachers possessed characteristics associated with quality education. This was established by determining the level of teachers training, their qualifications and experience in teaching. Regarding teacher characteristics associated with quality education, the study show that while there were some regular teachers with a certificate level of education and a teaching experience of five years and below, none of the head teachers had these characteristics. Table 4.6 presents data on head teachers and regular teachers characteristics associated with quality education.
### Table 4.6: Teachers Characteristics Associated with Quality Education

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Head Teachers</th>
<th>Class Teachers</th>
<th>Head Teachers (%)</th>
<th>Class Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(F)</td>
<td>(F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Academic qualifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters Degree</td>
<td>2</td>
<td>0</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>2</td>
<td>1</td>
<td>11.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Diploma</td>
<td>14</td>
<td>15</td>
<td>77.8</td>
<td>53.6</td>
</tr>
<tr>
<td>Certificate</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>42.8</td>
</tr>
<tr>
<td>Untrained</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Experience in Years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above 10 years</td>
<td>14</td>
<td>8</td>
<td>77.8</td>
<td>28.6</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>3</td>
<td>9</td>
<td>16.7</td>
<td>32.1</td>
</tr>
<tr>
<td>1 -5 years</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>35.7</td>
</tr>
<tr>
<td>Below 1 year</td>
<td>1</td>
<td>1</td>
<td>5.6</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Most of the head teachers (77.8%) had diploma qualification. A few had bachelors and master’s degree qualification (11.1% and 11.1%) respectively. There was none with certificate qualification. Most of the ECDE teachers (53.6%) had diploma qualification. Some (42.8%) had Certificate qualification. Only 3.6% had bachelor’s degree qualification with none of them having a master’s degree. Most of them therefore met the minimum qualification of certificate in teaching. In regard to experience, 77.8% of the head teachers had experience of more than 10 years. 16.7% had experience of 6-10 years and only 5.6% had experience of below one year and no one had experience of 1-5 years. This show that most of the head teachers were experienced in running the schools.
About 28.6% of the ECDE teachers had experience of above 10 years, 32.1% had an experience of 6-10 years and 35.7% had an experience of 1-5 years. The remaining 3.6% had an experience of less than a year. This implied that majority of them had adequate teaching experience.

The current findings agrees with Mwende (2014), who argues that, a teacher who is seen as knowledgeable in the field of early childhood, has a well-organized reservoir of knowledge about what children are like, how they grow in the stages of development, what they need as well as the nature of the world in which those children are trying to learn and fit. Teachers have a responsibility to promote proper learning experiences which involves reinforcing the learners. Teachers can reinforce children so as to make them appreciate the learning and feel energized to move on with the lesson (Nsubuga, 2003). The teacher must be a custodian of knowledge and its impartation if at all the child will acquire quality education. Teachers do facilitate the learning process by arranging the environment for children thus motivating them to work hard in education. This is because each child’s environment must be arranged for him or her to motivate them to learn (Nasibi Were, 2003).

Teachers therefore have a responsibility to promote proper learning experiences which involves reinforcing the learners. Teachers should reinforce children to make them appreciate the learning and feel energized to move on with the lesson (Nsubuga, 2003). ECE teachers are stage setters, so they must be able to know teaching and learning materials and the methods to use in teaching. They should provide the right environment
that entails (physical, social and emotional) opportunities for exploration and guidance, conducive to the optimal development of children (Nasibi Were, 2003).

4.3.1 Challenges Faced by Head Teachers in Acquisition of Learning Materials

In regard to teacher’s performance, the head teachers complained a lot on financial challenges that made them not to develop their ECDE learning centres, hire more teachers to avoid congestion in some classes and acquire more materials for children. The table below presents the challenges that the head teachers were facing in acquiring learning materials for their ECDE centres.

Figure 4.4: Challenges Faced by Headteachers

<table>
<thead>
<tr>
<th>Challenges faced by Headteachers</th>
<th>Financial Challenges</th>
<th>Challenges in acquisition of materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Figure 4.4 all the head teachers 18(100%) faced two great challenges, that is, financial challenge and challenge in acquisition of materials. This implies that learning and teaching were compromised due to the fact that more time was used to complete a
task since materials were less and shared by many children. The inadequacy of materials experienced in schools makes passive learners thus they are not actively involved in most of activities that are learning oriented. This situation could have interfered with quality learning leading to poor academic outcome.

4.4 Adequacy of Materials that Promoted Quality Education in the Learning Centres.

Objective three sought to determine the adequacy of materials that promoted quality learning. This was to establish whether the schools had enough, quality, age appropriate, attractive and a variety of materials. The ECDE centres should have adequate materials to help children explore, manipulate and experiment hence gaining new knowledge and skills. Materials should be natural, look current and fresh. This is to project a sense of warmth and arouse children’s interest in learning. Materials should be safe and foster scaffolding to higher levels of understanding. Children should be exposed to a variety of open-ended materials that heighten their levels of problem solving, inquiry and creativity hence leading to positive outcomes.

4.4.1 Ratio of Textbooks to ECDE Learners

Regarding text books found, the ratio of books in various schools included 1:3, 1:4, 1:5, 1:6, and 1:10. Text books are of great importance as they carry the content learners need in order to gain different concepts that would shape their lives. With the kind of ratio given, it could be hard for the learners to achieve in their academics. Table 4.7 presents
the ratio of text books that were being used in comparison to the number of children in their learning centres.

Table 4.7: Ratio of Text to ECDE Learner

<table>
<thead>
<tr>
<th>Ratio</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:10</td>
<td>1</td>
<td>5.6</td>
</tr>
<tr>
<td>1:6</td>
<td>1</td>
<td>5.6</td>
</tr>
<tr>
<td>1:5</td>
<td>1</td>
<td>5.6</td>
</tr>
<tr>
<td>1:4</td>
<td>7</td>
<td>38.8</td>
</tr>
<tr>
<td>1:3</td>
<td>8</td>
<td>44.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As illustrated in the above table, in most schools (44.4%) three children were sharing one textbook. This ratio of textbooks to learners (1:3) in the zone, was the best followed by 1:4 found in 7 (38.8%) of the schools. The rest of the schools recorded serious shortage of textbooks with one having a ratio of 1:10. This demonstrated a clear shortage of text books in the learning centers. The results concur with Eshiwani (1987), who concluded that most schools that perform better in Kenya have been found to have adequate text books for use by their pupils.

The currents finding concur with that of Fuller (1986), who states that greater availability of text books and reading materials raises the quality of learning activities and academic achievement. The finding therefore meant that when learning centres have inadequate
reading or learning materials, children would not have had an opportunity to access them thus could not improve on their performance.

### 4.4.2 Maintenance of Equipment and Materials

School play equipment, materials and all learning materials should be stored appropriately to enhance their maintenance. This ensures that they can be used for long, avoiding breakdown hence children could have them at their disposal. The data in regard to the manner in which equipment and materials were maintained is presented in Figure 4.5

![Maintenance of equipment and materials](image)

**Figure 4.5: Maintenance of Equipment and Materials**

More than half 11(55%) of the available equipment and materials in most of the learning centers were maintained. The remaining 9(45%) showed that equipment and materials were not maintained. This meant that there could be a problem in utilization of equipment
and materials once they break down or children could not use them when needed because of poor maintenance.

4.4.3 Adequacy of Teaching Aids

Teaching aids are necessary in learning centres for teachers to impart the relevant knowledge, skills and attitudes. They guide teachers on content to be delivered to pupils. Information on adequacy of the teaching aids in schools that were studied was provided in Figure 4.6.

![Adequacy of teaching aids](chart.png)

**Figure 4.6: Adequacy of Teaching Aids**

In Figure 4.6 show that most 12(60%) of the ECDE centres had inadequate teaching aids while the remaining 8(40%) had adequate teaching aids. From these findings, more than half of the learning centres faced a challenge with teaching aids which would impact negatively on the performance.
4.4.4 Analysis of the Available Play Equipment and Materials

Information on availability of the play equipment and materials was provided in table 4.8.

Table 4.8: Analysis of the Available Play Equipment and Materials

<table>
<thead>
<tr>
<th>Equipment/material</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyres</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td>Balls</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Bean bags</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Shakers</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Mats</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Swings</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>Slides</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Blocks</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>Sacs</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Ropes</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

From table 4.8, most of the ECD centers had balls, tyres and swings as represented by 90%, 85% and 70% respectively. Some had sacs, shakers and bean bags as shown by 55%, 45% and 50% respectively. A few had slides, ropes and mats as given by 35%, 20% and 10% respectively. This figure shows that there were some play materials and equipment that were very common in almost all schools. However, about half of the schools did not have some of the play equipment like slides, ropes and blocks. Some materials were missing for example; beam balances, merry go rounds, Wendy houses and sand area for sand play. This would have affected children’s play activities thus reducing
their activity level. This means that when learning centres have adequate materials, every child can have an opportunity to access them thus may become creative hence can improve their performance.

The outdoor play equipment both fixed and movable should first be available in learning centres, also appropriate, attractive, durable, functional, adequate, relevant and safe as well as maintained if they have to utilize them (Dusenbury, 2016). This ensures that children are comfortable, have ease of movement and are able to use their senses to learn without limitations. Evanshen & Faulk (2011) assert that play forms an integral part in children’s learning domains. Children need space where they can move freely and be in a position to perform various activities without being disturbed or disturbing other children (Dunsenbury, 2016).

4.4.5 Analysis of the Available Learning Materials

Regarding the availability of the learning materials, the researcher recorded all materials that were found in various learning centres, which gave an impression that the schools lacked adequate materials for use in schools. Learning materials availability in schools play a big role in ensuring that learners are occupied and can learn new concepts through the content given and by use of learning materials. Table 4.9 was used to present data on learning materials available in various schools under study.
Table 4.9: Analysis of the Available Learning Materials

<table>
<thead>
<tr>
<th>Materials</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Charts</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>Flashcards</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td>Pictures</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Drawings</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Pencils</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Crayons</td>
<td>19</td>
<td>95</td>
</tr>
</tbody>
</table>

Table 4.9 show that all 20 (100%) of the ECD centers had pencils. Most of them had crayons, books, flash cards and charts as represented by 95%, 90%, 75% and 70% respectively. A few of them had drawings on walls as represented by 10%. Hence the available learning materials were not of a wide variety except the common writing materials i.e. pencils and exercise books. In all schools sampled, there were no computers which could be used by learners to acquire technological skills. Drawing materials such as colors for coloring, modeling materials, counters, wall freeze and fishing game tools were also missing. This could interfere with quality learning leading to poor performance in schools.

4.4.6 Analysis of Availability of the Learning Corners

The learning corners are supposed to be set in a way to promote children’s needs. Small, comfortable spaces help them to collaborate with peers. The materials should have storage facilities where they can be kept after use. Schools should therefore embrace the
idea of learning corners. This will help children to collaborate as they engage in different learning activities at the various corners set in the classrooms. The findings on availability of the learning corners in the different schools were presented in table 4.10.

Table 4.10: Availability of Learning Corners in Schools

<table>
<thead>
<tr>
<th>Available Learning Corners</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools with Learning corners</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Schools without learning corners</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Total (schools)</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

From table 4.10 almost all (90%) ECDE centers had no learning corners for example; shop corner, Language, creative, science and nature corner. Only 10% of ECDE centres had the learning corners. This would have contributed to poor quality of learning and teaching in the ECDE centres in the zone.

The findings agrees with that of Kaliska (2002) who states that, when learning corners are strategically placed, it can drastically eliminate behavior problem hence necessitate good performance in academics. Schools should therefore embrace the idea of learning corners. This will help children to collaborate as they engage in different learning activities at the various corners set in the classrooms or outside classrooms.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction
This chapter contains the summary of the major research findings, conclusions based on the findings and recommendations as discussed according to research objectives.

5.1 Summary of Research Findings
This section presents the summary of research findings as guided by the objectives which included: establishing the availability of school infrastructure associated with quality education, finding out the extent to which teachers possessed characteristics associated with quality education and determining adequacy of materials that promoted quality education in the learning centres in Naivasha central zone, Naivasha sub-county, Nakuru County.

5.1.1 The Availability of School Infrastructure Associated with Quality Education
The study established that most of the classrooms that were used for teaching - learning purposes were permanently built but a quarter of them were semi-permanent. This implies a good number of children learned in infrastructural conditions that did not meet the required standards for quality early childhood development. Regarding classrooms’ sizes, about half of them were of standard-size as compared to the number of learners; more than quarter were of standard-size but congested while a quarter were not of standard size. From the findings, it may be inferred that learning was negatively affected
as most children were not comfortable due to congestion and poor in construction of the classrooms in which children learned.

With regard to learning environment, most schools did not have conducive classroom environment to enable children learn appropriately. This means that majority of the children learned in an atmosphere that was un-conducive to learning. Such children might have limited experiences of learning hence they may never reach their potential in life. This therefore implies the quality of that learning of children was compromised because of poor learning environment in the classrooms.

The findings also show that most of the furniture used was inadequate, not of the right size and inappropriate. Few of them met the required standards for quality education. This implies that children were not comfortable when in class, condition that could impact negatively on their performance.

The study established that playgrounds were adequate in most schools. This means at least children could freely engage in outdoor play and gain social, emotional, cognitive and physical benefits that result from such play.

With regard to indoor space, the study established that it was inadequate in most schools. This firstly means that, children could not move freely in their classrooms as they engage in learning activities, hence poor acquisition of concepts and exploitation of their full potential. Secondly, it implies there could be more time wasting as teachers reach every
child while engaging in learning activities due to congestion. This could therefore impact negatively on children.

### 5.1.2 Teachers Characteristics Associated with Quality Education

Findings on the extent to which ECDE teachers possessed characteristics associated with quality education showed that most of the head teachers had diploma qualification, few had bachelors and masters degree qualification while there was no one with Certificate qualification.

More than half of the ECDE teachers had diploma qualification, some with certificate qualification while only a few had bachelors degree qualification with no one having a masters degree qualification. Most of them therefore met the minimum qualification of Certificate in teaching.

Over three quarters of school head teachers had experience of more than 10 years, less than a quarter had experience of 6-10 years while only a few of them had experience of below one year and lastly no one had experience of 1-5 years. It meant that most of them had experience in running the schools. On the other hand, more than half of the ECDE teachers had an experience of 1-5 years, some had an experience of 6-10 years whereas others had an experience of above 10 years and yet a few had an experience of less than 1 year of service. This showed that majority of them had adequate teaching experience. Therefore, majority of the ECDE teachers had the required training characteristics associated with quality early childhood education.
5.1.3 Adequacy of Materials that Promoted Quality Education in the Learning Centres

Findings of the study on adequacy of materials that promoted quality education in the learning centers revealed two great challenges which included financial challenge and the acquisition of materials for use by teachers and learners due to inadequacy. This was an indication that teaching and learning was compromised in the schools. The great shortage of text books in the learning centres was demonstrated by high textbook to learner ratio. This seemed to be a big problem that affected the learning centres since some children had to wait for others to read first in order to use the same books. About the maintenance of available equipment and materials, it was clear that in most of the centers they had been maintained.

In some centers however, there was improper maintenance. This meant that most learners could not use some of the materials whenever they wanted as they could not function efficiently due to poor maintenance. Most of the ECDE teachers reported that they had inadequate teaching aids. This could have affected the quality of learning and teaching in the centers.

On average, a number of materials that were being used were found to be appropriate. The most common materials in the ECD centers were balls, tyres and swings whereas some had sacs, shakers and bean bags and a few of them had slides, ropes and mats. Therefore, the available equipment and materials were not of a wide variety. All the ECD centers had pencils. In most learning centres, crayons, exercise books, flash cards and
charts were also available but only a few of them had wall drawings. Almost all the ECDE centers did not have the learning corners except a few that had them. This could have contributed to poor quality of teaching and learning in the ECDE centers.

5.2 Conclusions

Based on the findings of the study presented, the researcher made the following conclusions:

Firstly, most of the schools had infrastructure that was good for the purpose of learning. However, not all were of the required standard. This implied that learning of the children could be negatively affected leading to poor performance.

Secondly, the schools’ environment was not conducive as regards most aspects in schools that were sampled. The variables which included; the condition of classroom furniture, indoor space, standards of the rooms in comparison with the number of children, lighting of the rooms and also ventilations. This meant that learning might have been compromised due to conditions that prevailed in classrooms where learning took place. This means that learning could be negatively affected as most children were not comfortable in such environment. Hence the study established inadequacy of school environment associated with quality education.

Thirdly, most of the playgrounds were found to be adequate for the learners in the schools. Majority of the schools had adequate outdoor but inadequate indoor space
associated with quality education. This meant that children might have lacked opportunity to engage in some learning activities that could have impacted positively in their learning.

Fourthly, majority of the head teachers in this zone were qualified and had enough experience to run the ECDE centres. In addition majority of the ECDE teachers had the required training, qualification and experience to handle learners.

Therefore, most of them possessed the required characteristics associated with quality early childhood education. This implies that children could have accessed quality education in order to reach their potential in life.

Fifthly, there was a great challenge with teaching-learning materials in the learning centres which included textbooks, teaching aids and also play materials for effective learning. This inadequacy implies a possibility of children failing to access quality education.

This study therefore concludes that the ECDE teachers would have been largely able to use the few available learning materials in their schools to help learners engage in various activities during learning lessons in spite of the inadequacies that existed.
5.3 Recommendations

The following recommendations are made:

5.3.1 Policy Recommendations

i. The national government through the ministry of education (MOEST) should direct funds to schools while considering the ECDE centres to enable the teachers and learners to access adequate facilities, equipment and materials. Funds will ensure that the schools build standard classrooms, fix play equipment on play grounds, purchase quality and durable equipment and materials for learning.

ii. The County government of Nakuru in collaboration with the stakeholders should ensure improved learning environment in schools so that children can have access to quality learning experiences in the ECDE centres in the zone. This means that the classrooms should be of the right size and also accommodate the right number of learners to avoid congestion in the rooms hence making them comfortable as they study.

iii. The county government of Nakuru should hire more ECDE teachers to cater for the high teacher - child ratio thus improving on performance. This could give teachers ample time to deal with each learner and enhance good performance.

iv. The county government should also start more teacher training centres and create awareness on ECDE so that they can have more teachers enrolled in ECDE field.

v. The county government should take action to purchase and distribute books to their schools. This could help to reduce the high ratio of textbooks to the number of children hence improve on the quality of education provided to the learners.
5.3.2 Recommendations to the Teachers

i. The largely available space in the schools should be utilized to promote exploratory and discovery learning among the learners. The space should not be empty but should have different types of necessary equipment for play and materials that should make children be engaged in activities to promote creativity in them.

ii. The head teachers should initiate income generating programs that can support ECDE centres in their schools. For example; the income can be used to purchase teaching and learning aids in order to help improve on the inadequacy of materials hence improve performance.

iii. ECDE teachers should acquire wide variety of improvised equipment and materials for children’s play and learning under the support of the parents and the local community.

iv. The learning centres’ management should ensure that there are learning corners in each classroom or in a given location in school compound for children to make use of, and encourage acquisition of creative skills in children.

v. The school management in collaboration with other stake holders should ensure that there is an adequate material associated with quality education that can be used to enhance proper acquisition of concepts which leads to good performance.

5.4 Recommendations for Further Research

There is need for a study on the effects of poor teacher-child ratio on quality early childhood development and education. The present study focused on adequacy of teacher characteristics, classroom facilities and materials associated with quality early childhood
development and education up to ECDE level in Naivasha sub-county, central zone. Further studies could be carried out in other parts of the country in order to establish the conditions in schools with an aim of improving them for quality education.
REFERENCES


Glewwe et al. (2013). “School resources and educational outcomes in developing countries.” Education Policy in Developing Countries. USA: University of Chicago.


APPENDICES

APPENDIX I: QUESTIONNAIRE FOR HEAD TEACHERS

INSTRUCTIONS

Kindly feel free to answer all questions as frankly as possible

Responses to these questions will be treated confidentially and will only be used for purposes of writing the report of this study. You need not write your name on the questionnaire, neither your name nor that of your school will appear in the report.

PART A: DEMOGRAPHIC INFORMATION

Instructions

Please fill or tick in the spaces provided.

a) Your age

   i) Below 20 years
   ii) 21 -30 years
   iii) 31-40 years
   iv) 41-50 years
   v) Above 50 years

b) Kindly indicate your gender.

   Male
   Female

c) What are your highest academic qualifications (tick).

   i). CPE
   ii). KCE
iii). KCPE  □
iv). KCSE  □

d) Any other (specify) ........................................................................................................

........................................................................................................................................

e) Indicate by a tick (√) your highest professional qualifications.
i). Certificate in ECDE  □
ii). Diploma in ECDE  □
iii). P1 Certificate  □
iv). Diploma in teacher education (DTE)  □
v). Degree (Bed ECE).  □

f) Any other (specify) ........................................................................................................
g) For how long have you been teaching?
i) Below one year  □
ii) 1-5 years  □
iii) 6-10 years  □
iv) More than 10 years.  □

PART B: INFORMATION ABOUT THE ECDE CENTRE/SCHOOL

1. a) How many trained and untrained teachers does the centre have?

   Trained .................................................................

   Untrained .............................................................

b) From your observation, what is the difference in content delivery between the trained and untrained teachers?

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c) Do the untrained teachers encounter challenges that trained teachers do not?

(i) Yes  (ii) No

If yes, please explain your answer

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2. What challenges do you face in the following:

(a) The acquisition of learning materials to be used in early childhood classes.
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........................................................................................................................................................................

(b) The usage of materials by pre-primary school teachers and learners in the classrooms?
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........................................................................................................................................................................
........................................................................................................................................................................

3. What is the ratio of text books used in the ECDE classes in relation to pupils?..............
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........................................................................................................................................................................

4. Are the play equipment and classroom material well maintained to allow for proper functioning and easy manipulation by children?
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........................................................
APPENDIX II: QUESTIONNAIRE FOR ECDE SCHOOL TEACHERS.

INSTRUCTIONS

Kindly feel free to answer all questions as frankly as possible

Responses to these questions will be treated confidentially and will only be used for purposes of writing the report of this study. You need not neither write your name on the questionnaire, nor that of your school will appear in the report.

PART A: DEMOGRAPHIC INFORMATION

Instructions

Please fill or tick in the spaces provided.

a) Kindly indicate your age. (tick)
   i). Below 20 years  
   ii). 21 -30 years  
   iii). 31-40 years  
   iv). 41-50 years  
   v). Above 50 years

b) Kindly indicate your gender. (tick)
   Male  
   Female

c) What is your highest academic qualifications
   i). CPE  
   ii). KCE  
   iii). KCPE
iv). KCSE

d) Any other (specify) ........................................................................................................................................
......................................................................................................................................................
......................................................................................................................................................

e) What is your highest professional qualification? (tick).

a) Certificate in ECDE

b) Diploma in ECDE

c) P1 Certificate

d) Diploma in teacher education (DTE)

e) Degree (Bed ECE).

f) Any other (specify)
......................................................................................................................................................
......................................................................................................................................................

f) For how long have you been teaching in early childhood? (tick)

i) Below 1 year

ii) 1-5 years

iii) 6-10 years

iv) Above 10 years
PART B: INFORMATION CONCERNING THE ECDE CENTRE

1. Do you have enough teaching aids that support your lessons as you teach?

2. Are the teaching-learning materials adequate to enhance quality of the content given to children?

3. Do your children share text books in the classroom? ..................................................

   If yes, what is the ratio of text books to children? ............................................

   1 book per 2 children

   1 book per 3 children

   1 book per 4 children

   Other specify.................................................................

4. Are materials you use in your class age appropriate? Explain your answer.

   ..................................................................................................................

   ..................................................................................................................

5. Can the materials you use be easily manipulated by the young learners?

   ..................................................................................................................

   ..................................................................................................................

5. Is the space provided both for indoor and outdoor activities enough for children’s activities? Please explain your answer.

   ..................................................................................................................

   ..................................................................................................................
APPENDIX III: OBSERVATION SCHEDULE

The researcher used observation schedule (checklist) to record information on the available resources and their conditions in the ECDE centres.

1. Describe the state of classrooms showing whether they are permanent, semi-permanent or temporarily build…………………………………………………………………………………………

2. Comment on the size of the classrooms……………………………………………………………………………………………………………………

3. Adequacy of classrooms’ lighting.
……………………………………………………………………………………………………………………………………………………………………………………

4. Adequacy of free space in the classroom………………………………………………………………………………………………………………

5. Adequacy of classrooms’ ventilation.
……………………………………………………………………………………………………………………………………………………………………………………

6. Adequacy of the furniture in use i.e. tables, desks, chairs. Describe their state.
……………………………………………………………………………………………………………………………………………………………………………………

7. Give the total number of children in the classroom in relation to the size of the rooms …………………………………………………………………………………………………………………………………………………………………

8. Adequacy of the playground in terms of; size, leveling, free of sharp objects and fencing…………………………………………………………………………………………………………………………………………
9. List the available play equipment and materials and comment on their conditions.

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10. Give the number of course books e.g. English, Maths, Social studies.

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11. Give the ratio of textbooks in relation to the number of children.

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12. Availability of learning corners and their conditions

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13. List down other learning materials found in classroom e.g. picture, letter and number charts, flash cards.

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14. Describe the teaching-learning materials available for use.

.................................................................

.................................................................
APPENDIX IV: APPROVAL OF RESEARCH

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

Internal Memo

FROM: Dean, Graduate School
TO: Kiyo Isaac K.
C/o Early Childhood Studies Dept.

DATE: 13th February, 2018
REF: E55/OL/23274/2013

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 10th January, 2018 entitled “Adequacy of Teacher Characteristics, Classroom Facilities and Materials Associated with Quality Early Childhood Development and Education in Nakuru County, Kenya”.

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University’s Website under Graduate School webpage downloads.

Thank you.

ELIJAH MUTUA
FOR: DEAN, GRADUATE SCHOOL

C.c. Chairman, Department of Early Childhood Studies

Supervisors:

   1. Dr. Mary Ndani
   C/o Department of Early Childhood Studies
   Kenyatta University
APPENDIX V: RESEARCH AUTHORIZATION LETTER FROM GRADUATE SCHOOL

KENYATTAA
UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844,
00100
NAIROBI, KENYA
Tel. 8710901 Ext.
57530

Our Ref: E55/0L/23274/2013

DATE: 13th February, 2018

Director General,
National Commission for Science,
Technology
and Innovation
P.O. Box 30623-
00100
NAIROBI
Dear Sir/ Madam,


I write to introduce Mr. Kiyo Isaac K. who is a Postgraduate Student of this University. He is registered for M.Ed degree programme in the Department of Early Childhood Studies.

Mr. Kiyo Isaac K. intends to conduct research for a M.Ed Project Proposal entitled, "Adequacy of Teacher Characteristics, Classroom Facilities and Materials Associated with Quality Early Childhood Development and Education in Nakuru County, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

LM/Jnn
APPENDIX VI: RESEARCH AUTHORIZATION FROM MINISTRY OF EDUCATION

MINISTRY OF EDUCATION

DISTRICT EDUCATION OFFICE,
NAIVASHA DISTRICT,
P. O. BOX 2053 – 20117.
NAIVASHA
29th March, 2018.

Ref: MOE/NVS/ GEN/112/192

Isaac Kariuki Kiyo
Kenyatta University
P.O. Box 43844- 00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your request to conduct a research on “Adequacy of teachers characteristics, classroom facilities and materials associated with quality early childhood development and education in Naivasha Central Zone”, authority is hereby granted to visit schools and interact with the school communities.

You will however be required to give a copy of your findings to this office on completion of your studies.


STEPHEN KOMO
FOR SUB-COUNTY DIRECTOR OF EDUCATION OFFICER,
NAIVASHA

MOE-ISO 9001:2008 Certified
APPENDIX VII: AUTHORIZATION LETTER FROM NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,
0713 788787,0725404245
Fax: +254-20-318251318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref: No. NACOSTI/P/18/11152/21716                      Date: 12th March, 2018

Isaac Kariuki Kiyo
Kenyatta University
P.O Box: 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Adequacy of teacher
characteristics, classroom facilities and materials associated with quality early childhood
development and education in Nakuru County, Kenya” I am pleased to inform you that you
have been authorized to undertake research in Nakuru County for the period ending 12th
March, 2019.

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

Kindly note that, as an applicant who has been licensed under the Science, Technology and
Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final
research report to the Commission within one year of completion. The soft copy of the same
should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:
The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

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APPENDIX VIII: RESEARCH PERMIT

CONDITIONS
1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.

THIS IS TO CERTIFY THAT:
MR. ISAAC KARIUKI KIYO of KENYATTA UNIVERSITY, 24787-520 Nairobi, has been permitted to conduct research in Nakuru County
on the topic: ADEQUACY OF TEACHER CHARACTERISTICS, CLASSROOM FACILITIES AND MATERIALS ASSOCIATED WITH QUALITY EARLY CHILDHOOD DEVELOPMENT AND EDUCATION IN NAKURU COUNTY, KENYA
for the period ending:
12th March, 2019

Applicant’s Signature

Permit No: NACOSTI/P/18/11152/21716
Date Of Issue: 12th March, 2018
Fee Recieved: Ksh 1000

Director General
National Commission for Science, Technology & Innovation